



**REPUBLIC OF MOZAMBIQUE**

**MINISTRY OF PUBLIC WORKS, HOUSING AND WATER RESOURCES**

**NATIONAL ROADS ADMINISTRATION (ANE)**

**INTEGRATED FEEDER ROAD DEVELOPMENT PROJECT**

**(P158231)**



**ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK**

**(ESMF)**

**[Updated Version Under the Additional Financing [P171093]]**

## EXECUTIVE SUMMARY

### Introduction

Through the financial support the World Bank (WB) and the GoM has since 2018 been implementing the Integrated Feeder Roads Development Project (IFRDP) in order to enhance mobility in select rural areas in support of inclusive agriculture and other livelihoods of local communities, whilst ensuring efficient mobility of people and freights along the connected main national corridors, with specific focus in two provinces- Nampula and Zambézia, in northern and central regions of Mozambique respectively.

In early 2019 Mozambique has been hit by two tropical cyclones- Idai (in central regional) and Kenneth (northern region). The tropical cyclone Idai impacted the Sofala, Manica, Zambézia and Tete provinces, while the cyclone Kenneth hit the Cabo Delgado and Nampula provinces. Both events have resulted in severe negative impacts on road infrastructures and people.

To address the impacts on the cyclone, the GoM has requested the WB the activation of the Immediate Response Mechanism (IRM), and the Bank has responded to the GoM request by activating the project component 5 with \$35 million, by withdrawing the amount from project component 1 of the IFRDP (which covered Zambézia and Nampula provinces) to cover for immediate needs. In addition to this, the Bank has made an additional amount of \$ 110 million for project component 1. In the view of the response to the cyclones' impacts, the project will be expanded to cover four additional provinces (Sofala, Manica, Tete and Cabo Delgado) to support the restoration of affected infrastructure and enable communications between and within provinces.

This ESMF was updated to accommodate project changes (geographic scope) under the Additional Financing (AF). The ESMF will serve as a tool to guide the identification and mitigation of potential environmental and social impacts associated with the project at subproject level. The ESMF is prepared in compliance with the Bank's OP 4.01 and relevant Mozambican policies on environmental assessment. The ESMF is an appropriate document which sets out guidelines and procedures for assessing potential environmental and social impacts of specific projects for a proactive identification of impacts at strategic level.

### ***Objectives of the ESMF***

The present ESMF intends to (i) provide technical and managerial inputs and guidance into the design of rural road in Nampula and Zambézia provinces and in natural disaster affected roads in Sofala, Manica, Tete and Cabo Delgado provinces, through identification of key environmental and social issues related to the project; (ii) advance mitigation measures of project potential impacts and concerns and; (iii) devise opportunities to enhance project benefits.

The specific tasks in drafting/updating the present ESMF include: (i) Review GoM existing policies, regulations, operational guidelines and institutional arrangements to address and mitigate environmental and social impacts of national roads; (ii) Assess the compatibility of the core principles of GoM policies with policies of the donor agencies, identify gaps, and present recommendations for addressing the gaps; (iii) Describe the tools and procedural steps to assess the environmental and social issues for project-related activities, and describe stepwise the corresponding management requirements in the entire project cycle; (iv) Prepare a screening and consultation framework for environmental and social assessment of the proposed sub-projects; (v) Prepare an exemplary matrix of mitigation measures to manage the identified impacts. (vi) Identify practical, feasible, effective measures to offset or to reduce adverse *environmental* and social impacts to acceptable level, and

ways to enhance positive impacts; (vii) where applicable, also address secondary, induced and cumulative impacts that may be associated with the forthcoming road construction activities.; (viii) and make specific reference to the public consultation process and the consultation framework, describing adequate participatory mechanisms particularly with respect to local employment, gender issues, empowerment and local control instruments. The specific aims of the AF for the IFRDP is to replenish and expand the geographic coverage of project component 1 from two to additional four provinces.

#### *Approach to the ESMF*

The approach used to prepare the present ESMF include the following:

- Literature review - of existing policies and legislation in Mozambique, of World Bank Safeguard Policies, other ESMF in the areas of roads development in Mozambique, including the parent IFRDP project as well as those ESMF of similar projects undertaken in Mozambique;
- Policy analysis - analysis of relevant national policies and legislation that are likely to have an impact on the implementation of the IFRDP;
- Interviews with key informants - from relevant Ministries, Provincial Directorates, Municipalities, and World Bank staff;
- Public Consultation process – Public meetings were held in the targeted provinces with an aim to gather public views on the proposed project as well as the likely environmental and social impacts.

#### **Project Description**

The Integrated Feeder Road Development Project (IFRDP) is a nation-wide rural road project, with initial implementation area in Zambézia and Nampula Provinces. Due to the Tropical Cyclone Idai and Kenneth it has been expanded to the affected areas in Sofala, Manica, Tete and Cabo Delgado provinces. Although Zambézia and Nampula are the most populated provinces and highly productive areas, road infrastructure development is weak and most of the roads in the area, including some classified roads, are frequently in unsatisfactory conditions, and become inaccessible during rainy seasons due to poor maintenance.

#### *Project Location*

The original project designed covered two provinces (Zambézia and Nampula), as the first stage for what would be a national wide rural roads project. One year into project implementation an emergency response was activated and the project expanded into additional four provinces (Sofala, Manica, Tete and Cabo Delgado). Under the original project design, the selection of exact roads to benefit from the project is based on the criteria of poverty and agriculture data and on flood risk in each district. For that reason, in the Zambézia province the project targets roads in four districts (Lugela, Morrumbala, Maganja da Costa and Pebane), whereas in Nampula, the targeted districts include Memba, Erati/Namapa, Monapo, Mecubúri and Moma. The proposed roads are gravel road (unclassified) from 2 to 4 meters wide and an extension of more than 50 km, with several hydrological structures that includes bridges and culverts. The maps below illustrate the target areas of the parent project.

Under the AF, the project will target the most hit provinces by cyclone Idai (Sofala, Manica and Tete provinces) and Kenneth (Cabo Delgado province). The exact locations for implementation of the AF related activities are not known, but the Roads Administration Authority (ANE), the project

implementing agency, has conducted a preliminary assessment of the impacts of the cyclones and potential roads to benefit from the AF. Of this assessment, it was noted that the cyclones impacted the primary roads associated with the IFRDP in an estimate of over 3,490 Km of road network in the affected provinces. The selection of specific target roads will be based on the criteria of poverty and agriculture potential used in the original project, a criteria agreed upon between ANE and the World Bank. For the cyclone Idai, AF activities will focus on Cabo Delgado province, specifically in the Macomia district.

### *Project Components*

The parent project design consists of five components, interrelated in nature and integrated in the road development network in the target provinces. Construction and maintenance components are among the most critical of the project and can be combined to facilitate the tender process. It is important to stress that the component description is undergoing work at ANE: The project components are as follow:

*Component 1: Rehabilitation and Maintenance of Feeder Roads (Estimated cost US\$80 million, of which US\$60 million will be financed by IDA)*

This component will finance rehabilitation works on parts of secondary and (classified and unclassified) rural roads in targeted districts in Zambézia and Nampula Provinces, including design studies and supervision activities, and support the extension of the Zambézia ABMS into Nampula Province.

*Component 2: Rehabilitation of Primary Road Network (Estimated cost US\$80 million, of which US\$70million will be financed by the IDA fund)*

This component will support rehabilitation of the connected primary road network of approximately 70km to enhance connectivity to not only roads but also final markets or economic destinations. The intervention will include, among others, road rehabilitation, improvement of road safety facilities, improvement of intersections, and rehabilitation or reconstruction of culverts. Road sections to be rehabilitated under the component were selected to be N1 and N10 highways: Quelimane to Namacurra (70 km).

*Component 3: Pilot Rural Transport Services (Estimated cost US\$10 million, of which US\$5 million will be financed by IDA)*

Component 3 will support a pilot rural transport services program to improve mobility and access to economic and social services to all population groups in the selected areas. It will include the identification of current transport service availability and potential market barriers to private service providers. The pilot rural transport services program would benefit local communities near road improvement investments through expanded market opportunities to sell agricultural produce and purchase advanced inputs, as well as other benefits. The pilot would also use ICT-based solutions to connect services and end-users in a reliable and cost-effective manner. The pilot rural transport services program will give special attention to improvement of women's accessibility.

*Component 4: Capacity Building and Project Administration (Estimated cost US\$15 million, financed by IDA)*

This component would finance knowledge development and institutional capacity-building activities through the provision of goods, consulting, and non-consulting services and training, building on the

institutional strengthening activities of the previous project, comprising, among others, the Road Safety Assessment and Implementation, Public-Private Partnerships for road concessions and Climate resilience.

This component will also provide support for improved project management in regards to implementation and supervision of the project, social and environmental safeguards, mitigation of gender gaps, and citizen engagement. The impact evaluation on the socioeconomic benefits of the project interventions will be assisted.

#### *Component 5: Zero-budget Contingency Component*

This component will facilitate access to rapid financing by allowing reallocation of uncommitted project funds in the event of a natural disaster either by a formal declaration of a national or regional state of emergency or upon a formal request from the GoM. The component 5 is a result of the implementation of the component 1, 2 and 3, need to be better integrated into the overall project.

#### *Proposed changes under the Additional Financing*

The parent project development objective will not change. The results framework and monitoring indicators will be revised to reflect the increased project scope. The project will continue to have same five components, but components 1 and 4 will be scaled up to include new activities, and geographic coverage. Specifically, component 1 will be split into two subcomponents- emergency and non-emergency works. The increased scope of the project and the proposed restructuring will be reflected in the project components as follows:

**Component 1:** rehabilitation and Maintenance of Feeder Roads: The proposal is to split into two subcomponents, including:

Financing rehabilitation and maintenance works, as well as designing studies and supervision activities in four *Subcomponent 1.1*. Emergency works. This sub-component will replenish disbursement that were reallocated towards the CERC in the aftermath of the cyclones Idai and Kenneth to restore road connectivity. Emergency works include repairs/replacement to the drainage system, structures (bridges, drifts), and pavement;

*Subcomponent 1.2*. Non-emergency works. The nature of civil works/interventions envisaged under this subcomponent is similar to and will not change from the originally designed works under component 1 of the project. The only change here is the expansion of the geographic coverage of the project. The parent project was limited to two provinces of Zambézia and Nampula. With additional provinces affected by cyclones Idai and Kenneth- Sofala, Manica, Tete and Cabo Delgado.

**Component 4:** Capacity building and project administration: This will be scaled up to include additional activities related to climate resilient designs.

#### **Institutional and legal framework**

The ESMF was prepared in strict compliance with the national legal framework, WB policies and relevant international standards. This chapter provides relevant legal environmental and social instruments (national and international) applicable to the project. Additionally, it includes description of the institutional framework, namely, relevant government bodies and authorities with power and jurisdiction over the project.

### *Relevant National Roads Authority*

The **Ministry of Public Works, Housing and Water Resources (MOPHRH)** is the Central Body of the State that ensures the fulfillment of the Government's mission in the areas of public works, building materials, roads and bridges, urbanization, housing, water resources, water supply, and sanitation. In the area of roads and bridges, the MOPHRH is responsible to: (i) Propose and implement the road and bridge policy; (ii) Manage the public road and bridge network; (iii) Ensure the balanced development, unity and complementarity of the national road network; (iv) Promote the integration, participation and training of public and private agents in the planning, development, financing and management of roads and bridges; (v) Promote public-private partnerships in the construction, maintenance and conservation of roads and bridges; (vi) Regulate the use of the national road and bridge network and their partial protection zones; (vii) Update the register and classification of roads; and (viii) Establish regulations and standards in the fields operations and maintenance of roads and bridges. The MOPHRH also oversees works of other agencies relevant for the project- the National Roads Fund (FA) and the National Road Administration (ANE). **FE** raise and manage funds applied in: (i) regular roads maintenance; (ii) bridges maintenance; (iii) roads rehabilitation; (iii) roads improvement; and (iv) roads safety. Agencies benefiting from these funds include ANE, local governments (municipalities and districts). **ANE** is an operational agency, and it is actually responsible for executing roads and bridges projects.

### *Relevant Environmental and social Authority*

The Ministry of Land, Environment and Rural Development (MITADER), is the central body overseeing environmental matters. At the provincial level, MITADER is represented by the Provincial Directorates of Land and, Environment and Rural Development (DPTADER). At the district level, MITADER is represented by the Planning and Infrastructure District Services. MITADER monitors Environmental and Social Impact Assessment (ESIA) applications, through the Environment National Directorate (DINAB), at a national level, and through the DPTADER at a provincial level. Likewise, MITADER manages and monitor environmental quality including pollution control, water, soils and air quality, noise emissions and waste management, are also a part of MITADER's attributions. Though the National Directorate of Land, MITADER is also involved in establishing, implementing and oversight, monitoring of policy use policy and practice, including resettlement aspects. Conservation areas falls under the responsibility of the National Administration of Conservation Areas (ANAC) within MITADER (in 2014). The Ministry of Tourism and Culture, oversees among others, cultural and archaeological resources. It directs and controls the delivery of State policy, programs and plans in the area of culture.

### *Environmental Impact assessment*

- **National Environmental Policy (Resolution No. 5/95)**- Provides the basis for various other environmental legislation. The instrument has been enacted to ensure sustainable development, while maintaining an acceptable balance between socio-economic development and environmental protection. It stipulates that the integration of environmental considerations in the socioeconomic planning, the management of the country's natural resources and the protection of ecosystems are essential ecological processes. The relevance of this instrument for the project is that the provision contained in it should be reflected in the project to minimize the project impacts on natural resources and ecosystems.
- **Environmental Law (Law No. 20/97)**- This establishes the basis for environmental management as pre-requisite for country's sustainable development. In terms of scope, this

is applicable to public and private activities directly or indirectly affecting environment. The project conformity with this provision is critical to contribute to country's sustainable development.

- **Regulation for Environmental Impact Assessment-ESIA (Decree No. 54/2015)**- It defines the fundamental instruments for environmental management is the ESIA, which aims at mitigating the negative impacts that certain projects, in the public and private sectors, may cause to the natural and socio-economic environment, through the undertaking of environmental studies prior to commencement of the projects. This also sets out the environmental impact assessment process, required environmental studies, public participation process, studies review process, project environmental viability decision process and environmental license emission. So any project should be submitted to a formal ESIA process, in accordance with this regulation. So, for IFRDP, an environmental license needs to be obtained from MITADER, and the issuance of the environmental license precedes any other license or permit required for the sub-projects.
- **Regulation on the Environmental Audit Process (Decree No. 25/2011)** – Relates to the need and process for an environmental audit. It indicates that an environmental audit as a documented and objective instrument for management and systematic assessment of the management system and relevant documentation implemented to ensure protection of the environment. Its objective is to assess compliance of work and operational processes with the environmental management plan, including the environmental legal requirements in force, as approved for a particular project. The proposed project (IFRDP) should require an independent environmental audits, without prejudice to the public that may be requested under this decree.
- **Regulation for Environmental Inspections (Decree No. 11/2006)**- It governs the supervision, control and verification of compliance with environmental protection rules in the country. It may happen that, during projects implementation, MITADER carries out inspections in order to verify compliance with environmental legislation and sites management instruments (Environmental and Social Management Plan- ESMP). ANE shall allow for and facilitate the undertaking of such inspections.
- **Procedures on environmental licensing (Ministerial Diploma No. 129/2006)** – stipulates the environmental license procedures, its format, and outline and contents of an environmental impact assessment report. It aims to standardize process and the procedures followed by various players in the environmental impact assessment process. The IFRDP Environmental and Social Impact Assessment (ESIA) reports for various sub-projects, should align with the provision of this regulation.
- **Public Participation methodologies and procedures (Ministerial Diploma No. 130/2006)**- Defines the basic principles related to public participation, methodologies and procedures. Considers public participation as an interactive process that initiates at the design stage and continues through the life time of the project. It defines that Public Participation Process (PPP) for ESIA must conform with the guidelines provided in this Ministerial Diploma.

## **World Bank Policies**

The WB operations are governed by a comprehensive set of environmental and social policies and procedures, applicable to all Bank financed operations. Central to these are the ten policies (also known as Environmental and Social Safeguard Policies) that are critical to ensuring that potentially

adverse environmental and social consequences are identified, minimized and mitigated. Safeguard policies are mechanisms for integration of environmental and social issues into projects decision making.

The Bank Safeguard Policies integrates environmental and social analysis into project preparation, including project selection, siting, and design decisions. In most cases, and this analysis should form part of the overall feasibility study. This facilitates incorporation of the findings into selection of sites and technology, designs and implementation plans. They provide numerous opportunities for coordinating environmental and social work in the country, and should be linked to other environmental strategies, action plans, and free-standing projects. They provide a formal mechanism for inter-agency coordination and for addressing the concerns of affected groups and local NGOs. They can also help strengthen environmental and social management capability in the country and Bank staff should take advantage of opportunities to use them for that purpose. The Table below provides an overview the referred policies and the rationale for their application

*World Bank Safeguard Instruments Triggered by the IFRDP*

Nr.	Safeguard policy	Triggered	Rationale
1	OP 4.01: Environmental Assessment	Yes	The policy is triggered due to the physical interventions that will be implemented during the rural road rehabilitation activities. The project is not expected to result in significant, negative or irreversible impacts. Due to the nature of interventions, some sub-projects could result in temporary, site-specific adverse environmental impacts. The ESMF includes methodology to apply an environmental and social screening process that will guide in determining the potential environmental and social impacts of sub-projects and in the application of appropriate mitigation measures. Site-specific ESMPs will be prepared for each sub-project prior to construction during project implementation.
2	OP 4.04: Natural Habitats	Yes	The policy is triggered as the project will be implemented in a region with conservation areas and high ecological hot spots such as Gilé Game Reserve, Mecubúri Forest Reserve, as well as some important wetlands. While none of the sub-projects are expected transit these hot spots, any protected areas or critical natural habitats (forests or wetlands, etc.) within or near to the sub-project areas will be noted in the site-specific ESMPs. A provision to protect these areas will be included in site specific sub projects ESIA's ESMPs.
3	OP 4.09: Pest Management	No	The project is not expected or facilitate purchases of agriculture inputs; therefore, the policy is not triggered. However, the implementation of IFRDP will facilitate movement of goods and people to high productive areas of Zambézia and Nampula, thus movement of agriculture inputs such as pesticides and fertilizers may increase.
4	OP 4.11: Physical Cultural Resources	Yes	The policy is triggered. Chance find procedures will be included in the site specific ESMPs.
5	Involuntary Resettlement OP 4.12:	Yes	This policy is triggered. A minor and temporary land acquisition will be necessary for the ancillary works and during the implementation all the is expected that the informal markets that are around the site specific sub-project. A Resettlement Framework policy done for IFRDP is dealing with it more deeply.
6	OP 4.10: Indigenous People	No	The policy is not triggered as indigenous people as defined in the policy are not present in project areas.
7	OP 4.36: Forestry	No	The Policy is not triggered. Although Zambézia and Nampula are on the major forest areas in Mozambique, the project will target existing roads. Improved road may facilitate access to forest area; therefore, illegal logging and hunting may increase – these issues are covered by triggering OP4.01 and OP4.04. A provision to avoid encroachment to these areas will be included in site specific sub project ESIA's and ESMPs.



Nr.	Safeguard policy	Triggered	Rationale
8	OP 4.37: Safety of Dams	No	The policy is not triggered as SFD IV projects under IDA financing will not include construction of dams as defined in the policy
9	OP 7.50: Projects on International Waterways	No	The policy is not triggered as the project will not undertake any activities in the catchment areas of international waterways and shared aquifers.
10	OP 7.60: Projects in Disputed Areas	No	The policy is not triggered as project activities will not be implemented in any disputed areas.

### **Gap analysis between national instruments and World Bank Policies**

The development of the Mozambican legislation on environment management is much in line with the World Bank environmental policies. The World Bank Operational Policy unequivocally makes sufficient provision for project for environmental and social instruments. The Operational Policy OP4.01.

The Mozambican land law gives a provision on the land occupation and rights to use the land. In any situation that the land has to be expropriated the procedures between the national legislation and the Bank operation differ. The Bank take into account the land value in calculation of the compensation. In the Bank procedures it considers the Voluntary Land Donation. Minor gaps can be encountered between the Mozambican and World Bank as developed new requirement on the Gender Based Violence (GBV) and Child Abuse/Exploitation (CAE) as well as labor influx specifically for the road sector, while Mozambique legislation is more general for all sectors. In Mozambique the GBV is covered under the Law Nr 29/2009 on Domestic Violence Committed against Women and the National Plan of Action for the Fight and Prevention of Violence against Women (2008-2012) in form of sexual exploitation and abuse. The road Sector Authority on their social clause refer to the need that contractor shall avoid gender based violence and children abuse in the work site. Additional potential differences can be on the categorization process. The Bank has the ESMF tools to categorize the project, while the Mozambican legislation the categorization is made on the bases of the screening process undertaken for each sub-project. In that case road sector's categorization may differ from the process of the World bank. WB Safeguard Policies Implications on IFRDP.

### **Potential negative environmental and social impacts and mitigation measures**

From environmental standpoint, activities under component 1 specifically the rehabilitation and upgrading of existing roads are likely to result in a number of environmental and social effects of moderate magnitude. Potentially negative environmental and social impacts are likely to be associated to construction activities during project implementation and will be localized, temporary and of easy management provided an effective Environmental and Social Management Plan is in Place. in nature. Project's implementation in Tropical Cyclone Zones will ensure that no additional environmental degradation occurs, and infrastructures shall be built to withstand future extreme weather conditions. The expected environmental and social impacts will be localized, and adequate mitigation measures will be in place. The potential negative environmental impacts may include depletion of productive land due to soil erosion and compaction from construction vehicles and machinery, soil and water body contamination due to oils and lubricants spills impacting ground and surface water quality, depletion of vegetation, fauna disturbance, solid waste and sewerage generation, dust and noise emissions, as well as potential risks to the community health and safety and also occupational health and safety risks to the construction workers and communities living in the vicinities of the targeted roads. Contractors will be required to prepare and implement effective Contractor's Environmental and Social Management Plans C-ESMP) as well as Occupational Health

and Safety Plans (OHSP) and have qualified staff to lead the implementation of such plans to mitigate negative environmental and social effects of projects' activities.

From social perspective the project is expected to bring about positive income, namely the restoration of connectivity and the local economy. Nonetheless, project activities are likely (especially the anticipated civil works) to result in temporary or permanent acquisition of land/ or loss of access to natural resources and means of livelihood. Social disruptions, increase in communicable diseases, labor influx, increase in cases of gender based violence are some of social impacts that shall be taken into consideration during projects implementation.

In sum, the nature of expected environmental and social impacts of AF proposed activities are similar to those within the scope of the parent project activities. Component 4 is in general Technical Assistance and activities under this component are not likely to result in any environmental and social impacts.

### **Framework for ESMF implementation**

There are more similarities than differences between the Mozambique laws (Decree 54/2015 on the Environmental Impact Assessment process) and the Bank's OP 4.01 on Environmental Assessment, although the World Bank policy provides robust instruments for environmental and social management as described in section on "gap analysis between national instruments and the World Bank Policies".

To make a determination of the environmental and social assessment requirements, all IFRDP subprojects shall be subject to a review and screening process. This review and screening will be particularly relevant for planned activities under components 1 and 2. To ensure consistency in the application of review and screening process, standard formats were developed attached to the report.

### **Environmental screening**

Both the Bank policy (OP 4.01) and the government laws on environmental licensing (as previously presented in details) provides that a project environmental and social screening be conducted as the initial step towards acquiring a project environmental license. The aim of environmental and social screening include the following: (i) Determine the level of environmental work required (i.e. whether an ESMP is required or not; whether the application of simple mitigation measures will suffice; or whether no additional environmental work is required); (ii) Determine appropriate mitigation measures for addressing adverse impacts; (iii) Incorporate mitigation measures into the development plans; (iv) Determine which subproject activities are likely to have potential negative environmental and social impacts; (v) Determine if there will be land acquisition, impact on assets, loss of livelihood, and/ or restricted access to natural resources; (vi) Indicate the need for a Resettlement Action Plan (RAP), which would be prepared in line with the Resettlement Policy Framework (RPF); (vii) Facilitate the review and approval of the screening results regarding any potential rehabilitation and improvement (equipment and proposals; and h) Provide guidelines for monitoring environmental and social parameters during project activities.

The IFRDF safeguards team (this imply ANE) shall utilize the information obtained from the screening exercise to determine the project category, and this should be conducted also based on the Bank OP 4.01, and before the final subproject categorization is submitted to the Bank for review and approval. The diagram below provides detailed account of subproject categorization process within ANE and its linkage with the World Bank.

## **Implementation Arrangement**

ANE shall be the responsible agency for implementing and ensuring compliance with ESMF and other environmental and social instruments at sub-project level. Under the present structure, the Department of Monitoring within ANE at the national level is tasked with the responsibility for environmental and social matters. Under the IFRDP, a dedicated unit within ANE shall be established, and this shall be responsible for environmental and social surveillance, project management, coordination and capacity support to ANE's delegations at provincial level. Relevant agencies at district level, shall also be included and involved in planning and implementation of environmental and social safeguards functions. In project target areas, ANE delegation has a focal point for cross cutting issues, including environmental and social issues. Nonetheless, the mandate of the focal point remains unclear.

At the level, the District Services of Planning and Infrastructure (SDPIs) are the units responsible for dealing with environmental, but in all cases, the bureaucratic processes relating to ESIA/ESMP are dealt with by DPTADER at provincial level. To role of SDPIs at district level on environmental and social matters is unclear, and the agencies have very limited involvement.

## **Public Participation Process**

Public participation for Environmental Assessment Process is regulated under the public consultation directives approved by MITADER. Based on this, public consultations shall be held for subproject under categories A+, A and B. A call for public consultation should be made fifteen days (15) prior to the meeting, using the most common means of communication such as newspaper, TV, national radio and community radios (local), in order to reach the majority of the target people.

For the preparation of the present ESMF in 2017 (for the parent project), consultation meetings were held in two provinces (Nampula and Zambézia) originally covered by the IFRDP. Similar exercise was carried out in regard to the updating of the ESMF under the AF, whose meetings were conducted in each of the four target provinces (Manica, Cabo Delgado, Tete and Sofala).

## **Cost Estimate for Implementing the ESMF**

The IFRDP implementation is at initial stage of the project conception and design. Therefore, the number location and extension of the sub-projects are not known, which makes the determination of ESMF cost challenging. The estimates for safeguards implementation presented under the present section is based on consultation with ANE and FE, and based in history of previous project implementation. It was assumed that the total number of IFRDP subproject will be in the region of 45 in 6 target provinces. For each subproject, it was assumed, and based on history that the implementation of the environmental and social instruments would be around 2.5 to 10% of the total project cost, depending on the surrounding landscape and land use in the vicinities of the targeted roads. Additionally, the cost-estimate takes into account the intensity of the works to be done. Some costs are per each subproject, and others are aggregated by provinces. Further, it was assumed that the total budget allocated per district would be around 10 million USD. Thus, the cost estimates for the preparation of the ESIA, ESMP and RAP for category B is around 30 thousand per each sub-project and it was assumed that a total of 45 sub-project may be selected, and the implementation of the environmental and social instruments will be part of the contractor and cost. At this stage the estimates will cover the following budget lines:

- Preparation of the instruments;

- Institutional capacity building for ANE HdQ, ANE Delegates, SDPI on safeguards monitoring;
- Implementation of ESIA and ESMPP/RAP and ARAP (this also covers the ESMF implementation- disclosure and consultation);
- Operation of the GRM and the resettlement committees;
- Implementation of GBV mitigation measures
- Environmental license permits'
- Environmental auditing and monitoring process by DPTADER

### Environmental and Social Safeguard Budget

Activities to be funded under the ESMF	Costs ( 10 <sup>3</sup> US\$)	Nº of sub-projects/districts	Total ( 10 <sup>3</sup> US\$)
Screening by ANE/DPTADER	1.00	45	45.00
Elaboration of the ESIA and ESMP for each sub-project	30.00	45	1,350.00
Implementation of the ESIA and ESMP	150.00	6	900.00
HIV/AIDs Service provider	40.00	6	240.00
GRM Implementation	20.00	45	900.00
Service provider for GBV mitigation measures Implementation	40.00	6	240.00
Training ANE HQ/ANE Delegation/SDPI/DPTADER	30.00	6	180.00
Institutional capacity building at ANE HQ/provincial and district level	50.00	6	300.00
Environmental permitting	10.00	45	450.00
Supervision and monitoring by ANE/DPTADER/SDPI	3.00	45	135.00
Environmental Audit DPTADER/ANE	7.50	45	337.50
Grand Total			5,077.50

The implementation of the ESMF includes the elaboration of the ESIA and ESMP for each sub-project in both provinces as well as the mitigation measures implementation by the Contractor, and monitoring and evaluation process done by ANE and DPTADER, thus totaling around 5.1 million USD.

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## LIST OF ABBREVIATIONS AND ACCRONYMS

<b>ANE</b>	Administração Nacional de Estradas
<b>AF</b>	Additional Financing
<b>ARAP</b>	Abbreviated Resettlement Action Plan
<b>CAE</b>	Child Abuse/Exploitation
<b>DINOTER</b>	National Directorate of Territorial Planning and Resettlement
<b>DPTADER</b>	Provincial Directorate for Land, Environment and Rural Development
<b>EA</b>	Environmental Assessment
<b>EIA</b>	Environmental Impact Assessment
<b>ESMF</b>	Environmental and Social Management Framework
<b>ESMP</b>	Environmental Simplified Management Plan
<b>EHSG</b>	Environment, Health and Safety Guidelines
<b>FE</b>	Fundo de Estradas
<b>GoM</b>	Government of Mozambique
<b>GBV</b>	Gender Based Violence
<b>GRM</b>	Grievance Redress Mechanism
<b>IBRD</b>	International Bank for Reconstruction and Development
<b>ICR</b>	Implementation Completion Report
<b>IDA</b>	International Development Association
<b>IFC</b>	International Finance Corporation
<b>IFRDP</b>	Integrated Feeder Roads Development Project
<b>IGA</b>	Income Generating Activities
<b>INGC</b>	Instituto Nacional de Gestão de Calamidades
<b>INATER</b>	Instituto Nacional de Transportes Terrestres
<b>IRM</b>	Immediate Response Mechanism
<b>MTC</b>	Ministério de Transporte e Comunicações
<b>MASA</b>	Ministério da Agricultura e Segurança Alimentar
<b>MIC</b>	Ministry of Industry and Trade
<b>MIREME</b>	Ministry of Mineral Resources and Energy
<b>MITADER</b>	Ministério da Terra, Ambiente e Desenvolvimento Rural
<b>MOPHRH</b>	Ministério das Obras Públicas Habitação e Recursos Hídricos
<b>NGOs</b>	Non-Governmental Organizations
<b>OP</b>	Operational Policy
<b>ORPC</b>	Output- and Performance-based Roads Contracts
<b>PQG</b>	Plano Quinquenal do Governo
<b>RAP</b>	Resettlement Action Plan
<b>SDPI</b>	<i>Serviços Distritais de Planeamento e Infra-estruturas</i>
<b>VAC</b>	Violence Against Children
<b>RoW</b>	Right of Way
<b>VLC</b>	Voluntary Land Contribution
<b>WB</b>	World Bank



## 1. INTRODUCTION

Improving the living conditions of the Mozambican population through increased employment, productivity and competitiveness, creating wealth and promoting inclusive development is the key priority of the government of Mozambique- GoM<sup>1</sup>. This priority is materialized, among other things, by sustainable expansion and quality improvement of strategic roads and bridges links to private and associative sector promotion of productive activity and to increase the capacity of the public sector to provide basic social services to the population.

Through the financial support the World Bank (WB), the GoM has since 2018 been implementing the Integrated Feeder Roads Development Project (IFRDP) in order to enhance mobility in select rural areas in support of inclusive agriculture and other livelihoods of local communities, whilst ensuring efficient mobility of people and freights along the connected main national corridors, with specific focus in two provinces- Nampula and Zambézia, in northern and central regions of Mozambique respectively.

In early 2019 Mozambique has been hit two cyclones- Idai (in central regional) and Kenneth (northern region). The cyclone Idai impacted heavily on Sofala, Manica provinces, while the cyclone Kenneth hit particularly the Cabo Delgado province. Both events have resulted in severe negative impacts on road infrastructures and people.

To address the impacts on the cyclone, the GoM has requested the WB the activation of the Immediate Response Mechanism (IRM), and the Bank has responded to the GoM request by activating the project component 5 with \$35 million, by withdrawing the amount from project component 1 of the IFRDP to cover for immediate needs. In addition to this, the Bank has made an additional amount of \$ 110 million for project component 1. In the view of the response to the cyclones' impacts, the project will be expanded to cover four additional provinces (Sofala, Manica, Tete and Cabo Delgado) to support the restoration of affected infrastructure, and enable communications between and within provinces.

This ESMF was updated to accommodate project changes (geographic scope) under the Project Additional Financing. The ESMF will serve as a practical tool to guide the identification and mitigation of potential environmental and social impacts associated with the project at subproject level, and it was prepared in compliance with the Bank's OP 4.01<sup>2</sup> and relevant Mozambican policies on environmental assessment. The ESMF is an appropriate document which sets out guidelines and procedures for assessing potential environmental and social impacts of specific rural road specific projects and can be used in any region in Mozambique.

### 1.1 The objectives of the ESMF

The ESMF intends to (i) provide technical and managerial inputs and guidance into the design of rural road in Nampula and Zambézia provinces and in natural disaster affected roads in Sofala, Manica, Tete and Cabo Delgado provinces, through identification of key environmental and social issues related to the project; (ii) advance mitigation measures of project potential impacts and concerns and; (iii) devise opportunities to enhance project benefits.

The specific tasks in drafting/updating the present ESMF include: (i) (i)Review GoM existing policies, regulations, operational guidelines and institutional arrangements to address and mitigate environmental and social impacts of national roads; (ii) Assess the compatibility of the core principles of GoM policies

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<sup>1</sup> The Government of Mozambique five-year program, (PQG2015-2019)

<sup>2</sup> Description of the policy will be provided later in the report

with policies of the donor agencies, identify gaps, and present recommendations for addressing the gaps; (iii) Describe the tools and procedural steps to assess the environmental and social issues for project-related activities, and describe stepwise the corresponding management requirements in the entire project cycle; (iv) Prepare a screening and consultation framework for environmental and social assessment of the proposed sub-projects; (v) Prepare an exemplary matrix of mitigation measures to manage the identified impacts. (vi) Identify practical, feasible, credible and cost effective measures to offset or to reduce adverse environmental and social impacts to acceptable level, and ways to enhance positive impacts; (vii) where applicable, also address secondary, induced and cumulative impacts that may be associated with the forthcoming road construction activities.; (viii) and make specific reference to the public consultation process and the consultation framework, describing adequate participatory mechanisms particularly with respect to local employment, gender issues, empowerment and local control instruments. The specific aims of the AF for the IFRDP is to replenish and expand the geographic coverage of project component 1 from two to additional four provinces.

## **1.2 Approach to ESMF**

The approach used to prepare the present ESMF include the following:

- Literature review - of existing policies and legislation in Mozambique, of World Bank Safeguard Policies, other ESMF in the areas of roads development in Mozambique, including the parent IFRDP project as well as those ESMF of similar projects undertaken in Mozambique;
- Policy analysis - analysis of relevant national policies and legislation that are likely to have an impact on the implementation of the IFRDP;
- Interviews with key informants - from relevant Ministries, Provincial Directorates, Municipalities, and World Bank staff;
- Public Consultation process – Public meetings were held in the targeted provinces with an aim to gather public views on the proposed project as well as the likely environmental and social impacts.

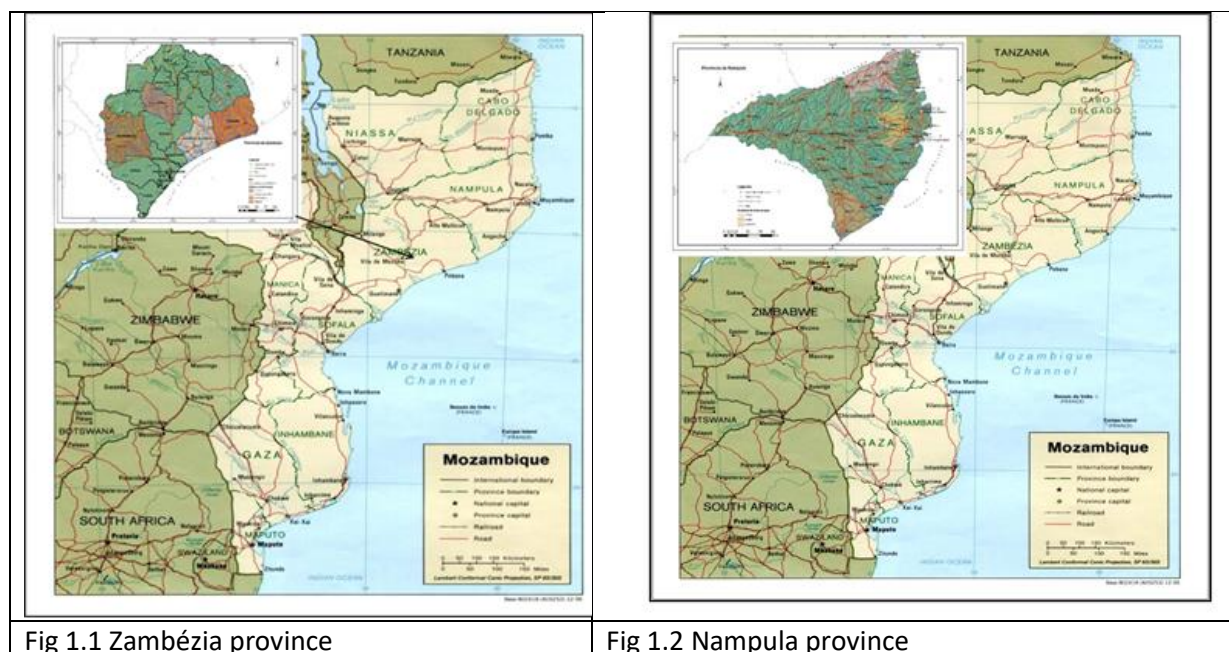
It is of note that public consultation meetings will take place prior to the commencement of the project in the target areas as part of environmental impact assessment at project level, however, prior to approval of the final version of this ESMF, a copy will be made available to the public for comments through ANE in Maputo, the target provinces as well as on the web through the World Bank's Info shop.

## 2. PROJECT DESCRIPTION

The Integrated Feeder Road Development Project (IFRDP) is a national wide rural road project, with initial implementation area in Zambézia and Nampula Provinces. Due to cyclone Idai and Kenneth it has been expanded to the affected areas in Sofala, Manica, Tete and Cabo Delgado provinces (see section 1.1 for detailed information). Although Zambézia and Nampula are the most populated provinces and highly productive areas, road infrastructure development is weak and most of the roads in the area, including some classified roads, are frequently in unsatisfactory conditions, and become inaccessible during rainy seasons due to poor maintenance.

### Project Location

The original project designed covered two provinces (Zambézia and Nampula), as the first stage for what would be a national wide rural roads project. One year into project implementation an emergency response was activated and the project expanded into additional four provinces (Sofala, Manica, Tete and Cabo Delgado). Under the original project design, the selection of exact roads to benefit from the project is based on the criteria of poverty and agriculture data and on flood risk in each district. For that reason, in the Zambézia province the project targets roads in four districts (Lugela, Morrumbala, Maganja da Costa and Pebane), whereas in Nampula, the targeted districts include Memba, Erati/Namapa, Monapo, Mecubúri and Moma. The proposed roads are gravel road (unclassified) from 2 to 4 meters wide and an extension of more than 50 km, with several hydrological structures that includes bridges and culverts. The maps below illustrate the target areas of the parent project.



**Figure 1: Parent project target areas**

Concerning the project location under the AF, and as stated early, this will target the most hit provinces by cyclone Idai (Sofala, Manica and Tete provinces) and Kenneth (Cabo Delgado province). The exact locations for implementation of the AF related activities are unknown, but the Roads Administration Authority (ANE), the project implementing agency, has conducted a preliminary assessment of the impacts of the cyclones and potential roads to benefit from the AF. Of this assessment, it was noted that the cyclones impacted the primary roads associated with the IFRDP in an estimate of over 3,490 Km of road network in the affected provinces. The selection of specific target roads will be based on the criteria

of poverty and agriculture potential used in the original project, a criteria agreed upon between ANE and the World Bank. For the cyclone Idai, AF activities will focus on Cabo Delgado province, specifically in the Macomia district. The pictures below illustrate the cyclone impacts on road infrastructure.



**Figure 2:** Impacts of cyclones Kenneth on road infrastructure in Cabo Delgado

## **Project components**

### *2.1.1.1 Parent project design*

The parent project design consists of five components, interrelated in nature and integrated in the road development network in the target provinces. Construction and maintenance components are among the most critical of the project and can be combined to facilitate the tender process. It is important to stress that the component description is undergoing work at ANE: The project components are as follow:

#### **Component 1: Rehabilitation and Maintenance of Feeder Roads (Estimated cost US\$80 million, of which US\$60 million will be financed by IDA)**

This component will finance rehabilitation works on parts of secondary and (classified and unclassified) rural roads in targeted districts in Zambézia and Nampula Provinces, including design studies and supervision activities, and support the extension of the Zambézia ABMS into Nampula Province. The project design utilizes a multi-criteria analysis to identify around 8 prioritized districts within the two provinces and gives weight to wider economic benefits and financial resource availability. The prioritization criteria could include (a) criticality of the roads in the district for the functioning of the network, (b) proximity to high agriculture potential areas, (c) proximity to high fishery potential areas, (d) current agriculture production, and (e) poverty rate in the district. The analysis assesses both the flood risks, based on flood likelihood maps under various climate change scenarios, and vulnerability functions for bridges, culverts, and road surface. Finally, the prioritized project areas were chosen to ensure close collaboration and coordination with other ongoing and planned development projects in the country to maximize synergy across sectors. Other prioritized districts in the southern Nampula Province were excluded from the project as the European Union is preparing a road rehabilitation project in those districts.

Potential investment options in each district were identified during two workshops with local stakeholders in January 2017 in Quelimane and Nampula. The workshops discussed the potential investment options in each district considering a combination of the following engineering solutions: (a) upgrade to surface treatment, (b) upgrade to gravel road, (c) rehabilitation of earth roads, (d) cleaning and repair of bridges, and (e) replacement of culverts. The workshops proposed the five potential investment options under a budget constraint. The economic viability of each option was assessed with the DMU approach considering benefits from climate resilience. Final engineering designs will be

prepared based on the results of this analysis and engineering site surveys. An output and performance-based ABMS approach will be introduced to ensure sustainability of rural road infrastructure.

The ABMS has been applied in the districts in Nampula and has been shown to help maintain rural roads in a good condition for the long run. Typically, the ABMS has a contract term of 5 years. The project will review and improve the contract modality and apply it to the rural road network in the target districts together with rehabilitation works identified in the above analysis. For the additional fund the above criteria will be used.

**Component 2: Rehabilitation of Primary Road Network (Estimated cost US\$80 million, of which US\$70million will be financed by the IDA fund)**

This component will support rehabilitation of the connected primary road network of approximately 70km to enhance connectivity to not only roads but also final markets or economic destinations. The intervention will include, among others, road rehabilitation, improvement of road safety facilities, improvement of intersections, and rehabilitation or reconstruction of culverts. The project will utilize the OPRC approach to implement rehabilitation and maintenance works. Road sections to be rehabilitated under the component were selected based on the results of the network-based criticality analysis carried out for the district prioritization for the Component 1. The preliminary results of the analysis prioritized the following section on the N1 and N10 highways: Quelimane to Namacurra (70 km). The engineering project designs were prepared by the ANE and will be updated, if necessary, considering further surface deteriorations by the time of the effectiveness of the project.

The project plans to adopt the OPRC approach to implement rehabilitation and maintenance works. OPRC has been widely proven as an effective approach in technical and financial sustainability; OPRC can provide better service quality at a cheaper cost compared to conventional contracting for a project life-cycle period. This approach has been applied on a pilot basis into the ongoing RBMMPII roadworks in the Gaza province, which were contracted in January 2017, and lessons learned from that experience will be incorporated into the rehabilitation and maintenance works of primary roads under Component 2.

**Component 3: Pilot Rural Transport Services (Estimated cost US\$10 million, of which US\$5 million will be financed by IDA)**

Component 3 will support a pilot rural transport services program to improve mobility and access to economic and social services to all population groups in the selected areas. It will include the identification of current transport service availability and potential market barriers to private service providers. The pilot rural transport services program would benefit local communities near road improvement investments through expanded market opportunities to sell agricultural produce and purchase advanced inputs, as well as other benefits. The pilot would also use ICT-based solutions to connect services and end-users in a reliable and cost-effective manner. The pilot rural transport services program will give special attention to improvement of women's accessibility. Given that women and men have different mobility patterns related to mode, affordability, quality of transport, and social norms, diagnostics will be conducted on mobility barriers to women's access to economic opportunities and services. The diagnostic will inform the pilot on rural transport services, so that both women's and men's needs can be considered. The pilot will be designed to contribute to elimination of identified barriers for women's mobility.

**Component 4: Capacity Building and Project Administration (Estimated cost US\$15 million, financed by IDA)**

This component would finance knowledge development and institutional capacity-building activities through the provision of goods, consulting, and non-consulting services and training, building on the

institutional strengthening activities of the previous project, comprising, among others, the following areas:

- **Road asset management:** In support to the RF, the activities would include, among others, (a) improvement of the existing Pavement Management System (PMS) by including feeder roads into the system at the subnational level; (b) updating road condition data; and (c) expanding an internal model to enable PMS to carry out a climate resilience analysis;
- **Road safety:** The project will assist the ANE and INATTER with implementation of the activities identified by the National Road Safety Policy prepared by the GoM, including, among others, (a) development of a Road Accident Data Management System; (b) provision of road safety equipment and materials for enforcement and education; (c) a study on introduction of scoring system for drivers; (d) improvement of engineering standards for road safety and road safety audit capacity; and (e) road safety risk assessment of the selected primary road sections; and
- **PPP:** This would support ANE and the RF carrying out, among others, (a) review of the existing highway concession projects; and (b) a feasibility study of potential national highway concession projects.
- **Climate resilience:** This would assist ANE, the RF and INGC with, (a) development of a geo-spatial screening tool to identify most critical and vulnerable transport assets to climate change impacts. This tool would be managed in conjunction with the INGC and MTC; and (b) extension of the DMU approach and climate resilience analysis of road infrastructure projects to the entire country.

This component will also provide support for improved project management in regards to implementation and supervision of the project, social and environmental safeguards, mitigation of gender gaps, and citizen engagement. The impact evaluation on the socioeconomic benefits of the project interventions will be assisted. It will support the capacity of the institutions involved in the implementation of the project at national, provincial and district level, as well as enable them to implement to the project. It is expected that the training on the specific contract models, such as OPRC and ABMS, will be done for each level of administration based on the needs.

#### **Component 5: Zero-budget Contingency Component**

This component will facilitate access to rapid financing by allowing reallocation of uncommitted project funds in the event of a natural disaster either by a formal declaration of a national or regional state of emergency or upon a formal request from the GoM. The component 5 is a result of the implementation of the component 1, 2 and 3, need to be better integrated into the overall project.

##### *2.1.1.2 Proposed changes under the Additional Financing*

The parent project development objective will not change. The results framework and monitoring indicators will be revised to reflect the increased project scope. The project will continue to have same five components, but components 1 and 4 will be scaled up to include new activities, and geographic coverage. Specifically, component 1 will be split into two subcomponents- emergency and non-emergency works. The increased scope of the project and the proposed restructuring will be reflected in the project components as follows:

**Component 1:** rehabilitation and Maintenance of Feeder Roads: The proposal is to split into two subcomponents, including:

This component will finance rehabilitation and maintenance works, as well as design studies and supervision activities in four *Subcomponent 1.1*. Emergency works. This sub-component will replenish disbursement that were reallocated towards the CERC in the aftermath of the cyclones Idai and Kenneth to restore road connectivity. Emergency works include repairs/replacement to the drainage system, structures (bridges, drifts), and pavement;

*Subcomponent 1.2*. Non-emergency works. The nature of civil works/interventions envisaged under this subcomponent is similar to and will not change from the originally designed works under component 1 of the project. The only change here is the expansion of the geographic coverage of the project. The parent project was limited to two provinces of Zambézia and Nampula. With additional provinces affected by cyclones Idai and Kenneth- Sofala, Manica, Tete and Cabo Delgado.

**Component 4:** Capacity building and project administration: This will be scaled up to include additional activities related to climate resilient designs.

#### *2.1.1.3 Additional Financing negative list*

Under the AF, the following subprojects are not eligible for funding:

- Any sub project that trigger safeguard policies other than OP 4.01, OP 4.04, OP4.11 and OP 4.12
- Any sub projects proposal that are assigned category A as result of environmental and social screening;
- Any sub projects proposal that have potential to involve significant impacts on PCRs
- Sub-projects requiring permanent land acquisition
- Sub-projects that involve involuntary resettlement
- Sub-projects that will have permanent impacts on livelihoods of people
- Sub-projects with permanent impacts of assets
- Use of land that has disputed ownership, tenure or user rights
- Any projects that are known to lead to GBV and/or Child labor
- Any subprojects proposals that have potential to involve significant conversion, clearance or degradation of critical natural habitats, forests, environmentally sensitive areas, significant biodiversity and/or protected conservation zones, rare or endangered species; alter coastal process or disrupt breeding sites such as retaining walls or seawalls;

#### **Anticipated environmental and social impacts**

From environmental standpoint, the project is expected result in a number of environmental and social effects of moderate magnitude. Potentially negative environmental and social impacts are likely to be associated to construction activities during project implementation and will be localized, temporary and of easy management provided an effective Environmental and Social Management Plan is in Place. in nature. Project's implementation in Tropical Cyclone Zones will ensure that no additional environmental degradation occurs, and infrastructures shall be built to withstand future extreme weather conditions. The expected environmental and social impacts will be localized, and adequate mitigation measures will be in place. The potential negative environmental impacts may include depletion of productive land due to soil erosion and compaction from construction vehicles and machinery, soil and water body contamination due to oils and lubricants spills impacting ground and surface water quality, depletion of

vegetation, fauna disturbance, solid waste and sewerage generation, dust and noise emissions, as well as potential risks to the community health and safety and also occupational health and safety risks to the construction workers and communities living in the vicinities of the targeted roads. Contractors will be required to prepare and implement effective Contractor's Environmental and Social Management Plans (C-ESMP) as well as Occupational Health and Safety Plans (OHSP) and have qualified staff to lead the implementation of such plans to mitigate negative environmental and social effects of projects' activities.

From social perspective the project is expected to bring about positive income, namely the restoration of connectivity and the local economy. Nonetheless, project activities are likely (especially the anticipated civil works) to result in temporary or permanent acquisition of land/ or loss of access to natural resources and means of livelihood. Social disruptions, increase in communicable diseases, labor influx, increase in cases of gender based violence are some of social impacts that shall be taken into consideration during projects implementation.

In sum, the nature of expected environmental and social impacts of AF proposed activities are similar to those within the scope of the parent project activities.



### 3. INSTITUTIONAL AND LEGAL FRAMEWORKS

The ESMF was drafted in strict compliance with the national legal framework, WB policies and relevant international standards. This chapter provides relevant legal environmental and social instruments (national and international) applicable to the project. Additionally, it includes description of the institutional framework, namely, relevant government bodies and authorities with power and jurisdiction over the project.

#### **Institutional framework**

##### *3.1.1.1 Relevant national roads authorities*

The **Ministry of Public Works, Housing and Water Resources** (MOPHRH) is the Central Body of the State that ensures the fulfillment of the Government's mission in the areas of public works, building materials, roads and bridges, urbanization, housing, water resources, water supply. and sanitation. In the area of roads and bridges, the MOPHRH is responsible to: (i) Propose and implement the road and bridge policy; (ii) Manage the public road and bridge network; (iii) Ensure the balanced development, unity and complementarity of the national road network; (iv) Promote the integration, participation and training of public and private agents in the planning, development, financing and management of roads and bridges; (v) Promote public-private partnerships in the construction, maintenance and conservation of roads and bridges; (vi) Regulate the use of the national road and bridge network and their partial protection zones; (vii) Update the register and classification of roads; and (viii) Establish regulations and standards in the fields operations and maintenance of roads and bridges. The MOPHRH also oversees works of other agencies relevant for the project- the National Roads Fund (FA) and the National Road Administration (ANE).

**FE** was established as coordinating<sup>3</sup> agency responsible to raise and manage funds applied in: (i) regular roads maintenance; (ii) bridges maintenance; (iii) roads rehabilitation; (iii) roads improvement; and (iv) roads safety. Agencies benefiting from these funds include ANE, local governments (municipalities and districts). **ANE** is an operational agency, and it is actually responsible for executing roads and bridges projects.

##### *3.1.1.2 Relevant national environmental and social authorities*

The Ministry of Land, Environment and Rural Development (MITADER), is the central body overseeing environmental matters. At the provincial level, MITADER is represented by the Provincial Directorates of Land and, Environment and Rural Development (DPTADER). At the district level, MITADER is represented by the Planning and Infrastructure District Services. MITADER monitors Environmental and Social Impact Assessment (ESIA) applications, through the Environment National Directorate (DINAB), at a national level, and through the DPTADER at a provincial level. Likewise, MITADER manages and monitor environmental quality, notably aspects as pollution control, water, soils and air quality, noise emissions and waste management, are also a part of MITADER's attributions. Though the National Directorate of Land, MITADER is also involved in establishing, implementing and oversight, monitoring of policy use policy and practice, including resettlement aspects.

Issues of water, air and soil pollution control are managed by the National Agency for the Control of Environmental Quality (AQUA). Conservation areas falls under the responsibility of the National Administration of Conservation Areas (ANAC) within MITADER (in 2014). The Ministry of Tourism and

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<sup>3</sup> It comprises both government (MOPHRH, Ministry of Transport and Communication, Ministry of Home Affairs) and private entities (private sector organizations and research and academic agencies)

Culture, oversees among others, cultural and archaeological resources. It directs and controls the delivery of State policy, programs and plans in the area of culture.

### **National environmental and social legal frameworks**

The constitution of the Republic of Mozambique lays the ground for what is today the applicable environmental and social legal instruments. It provides that all the citizens have the right to a balanced and the duty to protect it<sup>4</sup>. It also provides that the state is required to ensure: (i) the promotion of initiatives to ensure ecological balance and environmental preservation, and (ii) the implementation of policies to prevent and control pollution and integrate environmental concerns in all sectorial policies so as to guarantee the citizen the right to live in a balanced environment supported by sustainable development. The proposed project will be required to observe the legal requirements (both biophysical and social) that may be relevant to the project throughout its life cycle. Relevant environmental and social instruments and regulations required are presented in the next subsections. These subsections describe the regulations, major provision and its relevance for the project.

#### *3.1.1.3 Environmental assessment*

- **National Environmental Policy (Resolution No. 5/95)**- Provides the basis for various other environmental legislation. The instrument has been enacted to ensure sustainable development, while maintaining an acceptable balance between socio-economic development and environmental protection. It stipulates that the integration of environmental considerations in the socioeconomic planning, the management of the country's natural resources and the protection of ecosystems are essential ecological processes. The relevance of this instrument for the project is that the provision contained in it should be reflected in the project to minimize the project impacts on natural resources and ecosystems.
- **Environmental Law (Law No. 20/97)**- This establishes the basis for environmental management as pre-requisite for country's sustainable development. In terms of scope, this is applicable to public and private activities directly or indirectly affecting environment. The project conformity with this provision is critical to contribute to country's sustainable development.
- **Regulation for Environmental Impact Assessment-ESIA (Decree No. 54/2015)**- It defines the fundamental instruments for environmental management is the ESIA, which aims at mitigating the negative impacts that certain projects, in the public and private sectors, may cause to the natural and socio-economic environment, through the undertaking of environmental studies prior to commencement of the projects. This also sets out the environmental impact assessment process, required environmental studies, public participation process, studies review process, project environmental viability decision process and environmental license emission. So any project should be submitted to a formal ESIA process, in accordance with this regulation. So, for IFRDP, an environmental license needs to be obtained from MITADER, and the issuance of the environmental license precedes any other license or permit required for the sub-projects.
- **Regulation on the Environmental Audit Process (Decree No. 25/2011)** – Relates to the need and process for an environmental audit. It indicates that an environmental audit as a documented and objective instrument for management and systematic assessment of the management system and relevant documentation implemented to ensure protection of the environment. Its objective is to assess compliance of work and operational processes with the environmental management plan, including the environmental legal requirements in force, as approved for a

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<sup>4</sup> Article 90

particular project. The proposed project (IFRDP) should require an independent environmental audits, without prejudice to the public that may be requested under this decree.

- **Regulation for Environmental Inspections (Decree No. 11/2006)**- It governs the supervision, control and verification of compliance with environmental protection rules in the country. It may happen that, during projects implementation, MITADER carries out inspections in order to verify compliance with environmental legislation and sites management instruments (Environmental and Social Management Plan- ESMP). ANE shall allow for and facilitate the undertaking of such inspections.
- **Procedures on environmental licensing (Ministerial Diploma No. 129/2006)** – stipulates the environmental license procedures, its format, and outline and contents of an environmental impact assessment report. It aims to standardize process and the procedures followed by various players in the environmental impact assessment process. The IFRDP Environmental and Social Impact Assessment (ESIA) reports for various sub-projects, should align with the provision of this regulation.
- **Public Participation methodologies and procedures (Ministerial Diploma No. 130/2006)**-Defines the basic principles related to public participation, methodologies and procedures. Considers public participation as an interactive process that initiates at the design stage and continues through the life time of the project. It defines that Public Participation Process (PPP) for ESIA must conform with the guidelines provided in this Ministerial Diploma.

#### 3.1.1.4 Air quality

- **Environmental law (Law No. 20/97)** - Establishes the maximum standard of toxic substances allowed for discharge into the air. The emissions are further stipulated in the Decree No. 18/2004. This law is relevant for the project given the permitted level of emissions by law, so as not to harm the environment.
- **Regulation for Environmental Standards and Effluent Emission (Decree No. 18/2004 (as amended by Decree No.67/2010))** - Establishes parameters for the maintenance of air quality; patterns of emission of gaseous pollutants for various industries; and standards for emission of gaseous pollutants from mobile sources - including light and heavy vehicles. The IFRDP shall comply with the air quality standards, considering the admissible emissions by law, so as not to harm the environment

#### 3.1.1.5 Water quality

- **Water quality for human consumption (Ministerial Diploma n. 180 / 2004)** - Define water quality standards for human consumption and define measures for its control, in order to protect public health Any project must meet water quality standards for human consumption
- **Water Policy (Resolution No. 46/2007)** – It provides aspects of sanitation in urban areas, peri-urban and rural areas, hydrologic networks, development of new hydraulic infrastructure and integrated management of water resources with the participation of interested parties
- **Water user use (Law No. 16/91)** – The policy seeks to protect ecological balance and environment. The use of water requires concession- permanent or long term water uses; or a water license- short term water uses. Licenses are issued for a period of 5 renewable years, while concessions may go up to 50 renewable years. The law provides that any activity with the

potential of contaminating or degrading public waters, in particular the discharge of effluent, is subject to a special authorization to be issued by the Regional Water Administration and payment of a fee. If the project requires the abstraction of water from natural sources, a water license must be obtained from the competent authority (Regional Administration of the Waters). If the project requires the discharge of effluents into water bodies (such as may be required by construction camps), a license must be obtained.

- **Environmental Quality Standards and Effluent Emissions Decree No. 18/2004** –this defines that when an industrial effluent is discharged into the environment, the final effluent must comply with discharge standards established. The law also incorporates discharge of domestic effluents

#### *3.1.1.6 Waste management*

- **Pollution (Law No. 20/97)**- The law forbids the production and deposition of any toxic or polluting substances on soils, sub-soils, water or the atmosphere, as well as forbidding any activities which are likely to accelerate any form of environmental degradation beyond the legally established limits. The project needs to include measures to prevent pollution throughout its life cycle. Project compliance with regulation is critical.
- **Regulation on urban solid waste management (Decree No. 94/2014)** - Establishes the legal framework for the management of municipal solid waste. The key objective is to establish rules for the production, collection or disposal of municipal solid waste in order to minimize their negative impacts on health and on the environment. Municipal solid waste, in accordance with this Regulation, is classified according to the NM339 Mozambican Standard - Solid Waste - Classification. Waste management obligations are assigned to Municipal Councils and District Governments in their respective areas of jurisdiction.
- **Hazardous Waste Management (Decree No. 83/2014)** - Establishes the legal framework for the hazardous waste management. The key objective is to lay down rules for the production, collection or disposal of hazardous waste in order to minimize the negative impacts on health and on the environment. MITADER is responsible for hazardous waste management, especially in licensing of management units. Only registered and licensed entities may collect and transport the waste outside the limits of the facilities. The project must conform to the regulation's requirements related to management of hazardous wastes during construction work and operation.

#### *3.1.1.7 Land use and rights*

- **Land Policy (Resolution No. 10/95)** – it sets out that the State must provide the land for each family to build or possess their own habitation, and is responsible for land use and physical planning, although plans can be made by the private sector. The principle of this policy must be incorporated into the IFRDP.
- **Land use rights (Law No. 19/1997)** – establishes the rights of land use, including details on customary rights and procedures for acquisition and use of land titles by communities and individuals. It law recognizes and protects the rights acquired through inheritance and occupation (customary rights and duties of good faith), except for legally defined reserves or areas where land has been legally transferred to another person or institution. It provides that the 15 m corridor surrounding secondary and tertiary roads, and the 30 m corridor for primary roads, is defined as public domain. The land use in this corridor is thus reserved for the road infrastructure.

The project compliance with this provision is critical and it should inform the resettlement and compensation process, if applicable.

- **Protection Zones (Decree No. 66/98)** – It is a regulation that defines total protection areas, set aside for nature conservation and State defense, as well as partial protection areas, where land use titles may not be granted, and where activities cannot be implemented without a license. Partial protection areas, which include, amongst others: 50 m strip of land along lakes and rivers, 250 m strip of land surrounding dams and reservoirs, 100 m strip of land along the seafront and estuaries, a strip of 2 km along the terrestrial border. A 15 m corridor surrounding secondary and tertiary roads, and 30 m corridor for primary roads, is also considered a partial protection zone and the land use in this corridor is thus reserved for the road infrastructure. There is also a 50 m corridor protection for the railway lines. This regulation defines total and partial protection zones. In these zones, land use is restricted. The project should consider the interferences with these protection zones. This regulation states that the construction of power lines should be deployed as a partial protection zone with a 50 m confining strip. These provision should be applied only in the context of the current project on roads.
- **Regulation for the Resettlement Process Resulting from Economic Activities (Decree No 31/2012)** –Stipulates rules and basic principles for resettlement processes from the implementation of public or private economic activities. Equally, it provides that the Resettlement Plan is part of the ESIA process and that its approval precedes the issuance of the environmental license. This regulation states that if a project results in physical or economic resettlement, a Resettlement Plan needs to be developed as part of the ESIA process and approved.
- **Technical Guideline of Planning and Implementation Process of Resettlement Plans (Ministerial Diploma No. 156/2014)** - It provides the operation of the Regulations on the Resettlement Process and facilitates greater involvement and rapprochement between all parties involved, so that the resettlement does not have a social destructive character, but takes the opportunity to develop well-structured and standardized new housing centers. It sets the conceptual framework for development of Resettlement Action Plans. It equally presents guidelines of the process and identifies the different steps that characterize the development and implementation of the resettlement plan, and sets out the content and the results required for each phase. The regulation provides that if a project results in physical or economic resettlement, it is necessary to develop a Resettlement Plan, as part of the ESIA process, and approved as defined in this Regulation. This plan identifies all potential affected people by the project and characterizes all the affected improvements.
- **Technical Monitoring Commission Regulation (Ministerial Diploma No. 155/2014)** - Establishes the organization and functioning of the actors in the monitoring and supervision of resettlement.
- **Territorial Planning (Decree No. 23/2008)**- It establishes regulatory territorial planning measures and procedures, to ensure the rational and sustainable use of natural resources, regional potentials, infrastructure and urban centers, and to promote the national cohesion and safety of the population. It deals with issues of procedures for expropriation of private property for national public interest reasons. The regulation provides that expropriation for territorial planning is considered to be of public interest, if it aims to acquire areas to build economic or social infrastructure with great social positive impacts. Additional, it states that expropriation should be preceded by just compensation. Most likely, the project will require expropriation of land and land rights in the project area. The expropriation process should abide by the requirements stated in this regulation, namely the principle of just compensation for losses of

property or goods. Expropriation requires the issuance of a declaration of public interest for the project

- **Guidelines for the Expropriation Process Resulting from Territorial Planning (Ministerial Diploma No. 181/2010)** –Sets procedures for the expropriation processes resulting from territorial planning, including procedures for the issuance of a declaration of public interest, compensations for expropriation (including calculation methods) and the expropriation process itself. Expropriation of land and land rights within the project area must follow the procedures established in these guidelines.

#### *3.1.1.8 Cultural heritage*

- **Cultural Heritage (Law No. 10/88)**- This seeks to protect material and non-material assets of the Mozambican cultural heritage. Material cultural assets include: monuments, groups of buildings with historic, artistic or scientific importance, places or locations (with archaeological, historic, aesthetic, ethnologic or anthropologic interest) and natural elements (physical and biological formations with particular interest from an aesthetic or scientific point of view). If archaeological objects are found during sub-projects implementation, this law shall apply and subcontractor shall communicate the finding to appropriate cultural heritage agency, immediately.

#### *3.1.1.9 Biodiversity*

- **Biodiversity protection (Law No. 20/97)**- covers aspects of guarantee the protection of biological resources, particularly of plant or animal species threatened with extinction or that, by their genetic value, ecological, cultural or scientific, require special attention and this issue is to extend their habitats, especially those built in areas of environmental protection. The IFRDP must ensure diversity protection.
- **Forest and wild life protection (Law No. 10/99)**- Provides the fundamentals and basic rules on protection, conservation and sustainable use of forest and wildlife resources. Defines protection zones as territorial delimited areas, representative of the national natural heritage, designated for their biodiversity and fragile ecosystems or the conservation of animal and plant species. It ensure that that all activities that result in changes to land, disturbance to flora or fauna as well as water pollution are forbidden within national parks<sup>5</sup>. The protection of forests and fauna under the IFRDP is paramount. The Decree No. 12/2002 approves the regulation of the Law 10/99 and applies to protection, conservation, use, exploration and production activities of fauna and flora resources. Includes the commerce, transport, storage and primary artisanal or industrial transformation of these resources.
- **Conservation areas (Law No. 16/2014)** - It stipulates that all activities that could result in changes to land and vegetation cover, or that could disturb flora, fauna and ecological processes up to the point of compromising their maintenance, are forbidden within national parks, except if required for scientific reasons or management needs. It also indicates that activities can be approved within conservation areas, provided that a management plan is developed and approved.

#### *3.1.1.10 Labor safety*

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<sup>5</sup> There have been new developments, and these provision have been revoked under the new Conservation Areas Law (Law 16/2014, of June 20th), which is further discussed in the report

- **Protection of Workers with HIV/AIDS (Law nº 5/2002)**- It sets out general principles that aim to ensure that all employees and job applicants are not discriminated against in the workplace or when applying for jobs, for being suspected of having or having HIV/AIDS. Under the law, an employee who is infected with HIV/AIDS in the workplace, in connection with their professional occupation, in addition to the compensation which one is entitled to have, one must have adequate health care guaranteed to relieve one's health status, according with the labor law and other applicable legislation, funded by the employer. Under same law, it is prohibited to test for HIV/AIDS in workers, job seekers, candidates to evaluate the training or promotion candidates at the request of employers, without the employee's or job seeker consent. The project must ensure that workers involved in the project, are aware of the law, and where workers are infected, they shall be placed in positions compatible with their residual capacities.
- **Labor inspection (Decree nº 45/2009)** -This Regulation lays down the rules on inspections, under the control of the legality of work. It states the employer's responsibility for the prevention of occupational health and safety risks of the employee. It is critical that these provision are enforced under the IFRDP, especially with respect to contractors involved in different subprojects.
- **Labor relations (Law Nº 23 /2007)** - This law governs work relations between employers and domestic and foreign workers in all industries. The law includes principles of safety, hygiene and health of workers. Under the law, any employer must provide to their employees, good physical condition, environmental and moral work, inform them about the risks of their work and instruct them about compliance with the standards for hygiene and safety at work. The employer must also provide first aid to workers in the event of accidents, sudden illness, poisoning or feeling unwell. This law shall be applied under the IFRDP, especially to all contractors operating under various subprojects.

## World Bank policies

The WB operations are governed by a comprehensive set of environmental and social policies and procedures, applicable to all Bank financed operations. Central to these are the ten policies (also known as Environmental and Social Safeguard Policies) that are critical to ensuring that potentially adverse environmental and social consequences are identified, minimized and mitigated. Safeguard policies are mechanisms for integration of environmental and social issues into projects decision making.

The Bank Safeguard Policies integrates environmental and social analysis into project preparation, including project selection, siting, and design decisions. In most cases, and this analysis should form part of the overall feasibility study. This facilitates incorporation of the findings into selection of sites and technology, designs and implementation plans. They provide numerous opportunities for coordinating environmental and social work in the country, and should be linked to other environmental strategies, action plans, and free-standing projects. They provide a formal mechanism for inter-agency coordination and for addressing the concerns of affected groups and local NGOs. They can also help strengthen environmental and social management capability in the country and Bank staff should take advantage of opportunities to use them for that purpose. The Table below provides an overview the referred policies and the rationale for their application (triggered) to the IFRDP.

**Table 1:** WB Safeguards triggered by the IFRDP

Nr.	Safeguard policy	Triggered	Rationale
1	OP 4.01: Environmental Assessment	Yes	The policy is triggered due to the physical interventions that will be implemented during the rural road rehabilitation activities. The project is not expected to result in significant, negative or irreversible impacts. Due to the nature of interventions, some sub-projects could result in temporary, site-specific adverse environmental impacts. The ESMF includes methodology to apply an environmental and social screening process that will guide in determining the potential environmental and social impacts of sub-projects and in the application of appropriate mitigation measures. Site-specific ESMPs will be prepared for each sub-project prior to construction during project implementation.
2	OP 4.04: Natural Habitats	Yes	The policy is triggered as the project will be implemented in a region with conservation areas and high ecological hot spots such as Gilé Game Reserve, Mecubúri Forest Reserve, as well as some important wetlands. While none of the sub-projects are expected transit these hot spots, any protected areas or critical natural habitats (forests or wetlands, etc.) within or near to the sub-project areas will be noted in the site-specific ESMPs. A provision to protect these areas will be included in site specific sub projects ESAs ESMPs.
3	OP 4.09: Pest Management	No	The project is not expected or facilitate purchases of agriculture inputs; therefore, the policy is not triggered. However, the implementation of IFRDP will facilitate movement of goods and people to high productive areas of Zambézia and Nampula, thus movement of agriculture inputs such as pesticides and fertilizers may increase.
4	OP 4.11: Physical Cultural Resources	Yes	The policy is triggered. Chance find procedures will be included in the site specific ESMPs.
5	Involuntary Resettlement OP 4.12:	Yes	This policy is triggered. A minor and temporary land acquisition will be necessary for the ancillary works and during the implementation all the is expected that the informal markets that are around the site specific sub-project. A Resettlement Framework policy done for IFRDP is dealing with it more deeply.
6	OP 4.10: Indigenous People	No	The policy is not triggered as indigenous people as defined in the policy are not present in project areas.
7	OP 4.36: Forestry	No	The Policy is not triggered. Although Zambézia and Nampula are on the major forest areas in Mozambique, the project will target existing roads. Improved road may facilitate access to forest area; therefore, illegal logging and hunting may increase – these issues are covered by triggering OP4.01 and OP4.04. A provision to avoid encroachment to these areas will be included in site specific sub project ESAs and ESMPs.
8	OP 4.37: Safety of Dams	No	The policy is not triggered as SFD IV projects under IDA financing will not include construction of dams as defined in the policy
9	OP 7.50: Projects on International Waterways	No	The policy is not triggered as the project will not undertake any activities in the catchment areas of international waterways and shared aquifers.
10	OP 7.60: Projects in Disputed Areas	No	The policy is not triggered as project activities will not be implemented in any disputed areas.

The next sections describe the WB safeguard policies and its relation with the Mozambican legislation

#### *Environmental Assessment (OP/BP 4.01)*

The World Bank's environmental assessment operational policy requires that all proposed Bank-funded programs/projects, no matter the source of funding be screened for potential environmental and social impacts. The policy is triggered if a project is likely to have any adverse environmental and social risks and impacts in its area of influence. Similarly, each proposed sub-project activity is required to undergo the same social and environmental screening process to qualify for funding. This is done through the



systematic use of the Environmental and Social Screening Form (ESSF). Under OP/BP 4.01, the Bank classifies proposed sub-projects into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of their potential environmental and social impacts:

**Category A:** This is the Category for programs/projects likely to have significant adverse environmental and social impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Environmental and Social Impact Assessment (ESIA) for a Category A project examines the project's potential negative and positive environmental and social impacts, compares them with those of feasible alternatives (including the “without project” situation), and recommends any measures needed to prevent, minimize, mitigate or compensate for adverse impacts and improve environmental and social performance. For a Category A project, the borrower is responsible for preparing safeguards documents, normally either an Environmental and Social Management Framework (ESMF) when the physical footprint of a project is unknown by appraisal, or an Environmental and Social Impact Assessment (ESIA with an Environmental and Social Management Plan [ESMP]), or an Environmental Audit/Risk Assessment whenever the physical footprint of a project activity is known prior to appraisal. It should be noted that if a proposed sub-project under IFRDP is subsequently screened as Environment Category A under OP4.01, it will not be eligible for IFRDP financing.

**Category B:** Is for programs/projects with potential adverse environmental and social impacts on human populations or environmentally and socially important areas, including wetlands; forests, grasslands, and other natural habitats. Impacts under Category B are less adverse and more easily mitigated than those of Category “A” projects. These impacts are sites specific and easier to deal with; few if any of them are irreversible; and in most cases, appropriate mitigation measures can be readily designed. The scope of ESIA for a category “B” project may vary from project to project, but it is narrower than that of a category “A” ESIA. Like Category A ESIA, it examines the project's potential negative and positive environmental and social impacts and recommends any measures needed to prevent, minimize, mitigate or compensate for adverse impacts while improving the project environmental and social performance. For simple Category B projects with very limited/low social and environmental impacts the preparation of Environmental and Social Management Plan (ESMP) that builds upon an ESMF might be sufficient. By the same token, the preparation of CDAPs that build on the PF will suffice. All sub-projects considered for IFRDP financing are expected to screen as Category B under OP4.01.

**Category C:** Is for programs/projects likely to have minimal or no adverse environmental and social impacts. Beyond screening, no further ESMF/ESIA or ESMP or RPF/RAP action is required for a Category “C” project. Nonetheless, being a category C project doesn’t necessarily prevent a project from ensuring adequate monitoring of both environmental and social aspects of projects that are beyond safeguards.

**Category FI:** A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in sub-projects that may result in adverse environmental and social impacts.

The Mozambican regulation on the environmental evaluation under the new decree 54/15 in line with the screening process of the World Bank Safeguard for environmental assessment. World Bank has identified four categories. The newly approved regulation for ESIA in Mozambique has four categories, category A, has been divided into two (A+ and A) and both requires a full ESIA due to the impacts that the project may cause to the environment, B and C. The difference between the A+ and A is on evaluation process due to the magnitude and significance of the A+ project.

*Involuntary Resettlement (OP/BP 4.12)*

Land acquisition under the project may be necessary to enlarge the existing road and accommodate the traffic during the rehabilitation. The need of land will be identified during sub-project screening that under the World Bank Safeguard Policy (OP/BP 4.12 - "Involuntary Resettlement") might require resettlement or compensation. This operational policy will be well dealt in the Resettlement Framework policy.

#### *Natural Habitats (OP/BP 4.04)*

This policy applies to activities, which could have a potential impact on important natural habitats outside and inside formally protected areas. Significant conversion of natural habitats is allowed under this policy if there are no viable alternatives, but the affected natural habitat needs to be compensated by an ecologically similar area of the same or larger size and the area needs to be better managed and protected. While protected areas and forests exist in Nampula and Zambézia, neither project activities within protected areas nor forest clearance are allowed under this project; however, the policy is triggered because some project roads do cross some sensitive natural habitats such as wetlands and rivers that have to be protected during the construction phase. The ESMF has made some provisions to ensure that adequate measures are considered to minimize the negative impacts that may occur

#### *Cultural Resources (OP/BP 4.11)*

This policy applies to sub-projects where important physical cultural resources (i.e. archaeological sites, special architecture, important cemeteries, forests or where unique immaterial cultural resources) exist or are affected. In case none of these physical cultural resources exists in a sub-project area, the bidding documents and the contractor contracts need to include a "Chance Find Procedure", which specifies that in case that during construction/installation an important artefact is found, construction should be stopped and the responsible Mozambican authorities be warned and involved in an investigation of the site. Construction/installation can only resume after the green light has been given by the responsible Mozambican authorities. The ESMF has made some provisions to ensure that adequate measures are considered to minimize the negative impacts that may occur. Especially because it is normal in Mozambique and many other African countries and beyond to find forests that have special value for local communities, groups or families. The importance of identifying and recognizing such forests in project development and particularly in forests and other agricultural programs/projects has been part of the standard practice and is streamlined in this ESMF document and related RPF.

Safeguards review begins with screening at the time of project identification. Scoping and preparation of the Safeguards Instruments occur as integral parts of the pre-feasibility and feasibility studies. The final instruments are sent to the Bank by the Borrower prior to appraisal. If the instruments are satisfactory to both borrower and the Bank, it forms the basis for the Bank's decision on safeguards clearance and the safeguards condition to be negotiated with the borrower, some or all of which are incorporated into the loan agreement. Supervision includes monitoring the project's environmental and social performance and compliance with relevant conditions agreed on between the Bank and the borrower. After implementation is complete, the Bank's Implementation Completion Report (ICR) includes evaluation of both the impacts that actually occurred and the effectiveness of mitigation measures of safeguards issues. The Operations Evaluation Department (OED) again audits selected projects possibly some years after the ICR.

Screening is carried out at the time of identification. Projects are assigned to one of four categories above, on the basis of the nature, magnitude and sensitivity of the environmental issues, and so designated in the Initial Executive Project Summary (IEPS). The IFRDP is classified as environmental Category B according to the Bank's OP 4.01. The projects are expected to have positive environmental

and social impacts, with relatively minor and localized negative impacts. The ESMF has been developed to ensure environmental and social due diligence for sub-projects.

### Gap analysis between national instruments and World Policies

The development of the Mozambican legislation on environment management is much in line with the World Bank environmental policies. The World Bank Operational Policy unequivocally makes sufficient provision for project for environmental and social instruments. The Operational Policy OP4.01.

The Mozambican land law gives a provision on the land occupation and rights to use the land. In any situation that the land has to be expropriated the procedures between the national legislation and the Bank operation differ. The Bank take into account the land value in calculation of the compensation. In the Bank procedures it considers the Voluntary Land Donation. Minor gaps can be encountered between the Mozambican and World Bank as developed new requirement on the Gender Based Violence (GBV) and Child Abuse/Exploitation (CAE) as well as labor influx specifically for the road sector, while Mozambique legislation is more general for all sectors. In Mozambique the GBV is covered under the Law Nr 29/2009 on Domestic Violence Committed against Women and the National Plan of Action for the Fight and Prevention of Violence against Women (2008-2012) in form of sexual exploitation and abuse. The road Sector Authority on their social clause refer to the need that contractor shall avoid gender based violence and children abuse in the work site. Additional potential differences can be on the categorization process. The Bank has the ESMF tools to category the project, while the Mozambican legislation the categorization will be given on the bases of the screening process that will be done for each sub-project. In that case the categorization may differ from the process of the World bank. WB Safeguard Policies Implications on IFRDP The next table summarizes the existing Gap of the main legislation for the ESMF implementation.

**Table 2:** Comparison between Mozambican legislation and the World Bank policies

Issue	Mozambique legislation	World Bank Operation Policy	Mitigation measures to be given
Project categorization	EIA required by Environment Law Nº 20/97 of October 7, 2007, and Decree Nº 54/2015. The Regulation for the EIA process classifies the projects into 4 categories: A full EIA, a+ category subject to review by professional assessors) is also required for Category A. A Simplified EIA is required for category B and category C only a best practices guidelines	Under the OP 4.01, a full EIA is required for all projects screened as Category A. For Category B projects, some form of environmental assessment is required, usually less rigorous than a full EIA and often taking the form of an Environmental and Social Management Plan (ESMP). Beyond screening, no further ESMF/ESIA or ESMP or RPF/RAP action is required for a Category "C" project and a project is classified as Category FI if it involves investment of Bank funds through a financial intermediary When the project location is not known the Bank requires the elaboration of the ESMF and RPF, instruments that guides the further development of EIA, ESMP, RAP/A-RAP	Despite minor differences there are no conflicts between the two sets of legislation. The Mozambican legislation does not have any instruments above the project. The instruments are only prepared for the implementation of the project that the site is known.
Environmental authority must provide an environmental permit for projects prior to	The issuing of an environmental license shall precede any other required license.	Includes the intangible cost of expropriation	OP 4.01 requires the approval and disclosure of EIAs by the relevant government authority

Issue	Mozambique legislation	World Bank Operation Policy	Mitigation measures to be given
appraisal.			
Land expropriation	Access to land is regulated by the Land Law. In a case of expropriation for the public interest, the owner of the land is compensated for the development made, no land value is added	The Bank under OP 4.12 provides the procedures for compensation mechanism. Land shall be given a value to be compensated. Also there is a provision for Voluntary Land Donation	The Mozambican law did not have a Voluntary Land Donation and no provision to land. Lost land shall be replaced by the same portion of land with same condition
National guidelines and standards exist for Occupational Health and Safety (OHS).	OHS legislation in place; (Law No. 23/2007 of 1 August 2007) and implementation the responsibility of Ministries of Labor and, Health. Safety standards guidelines for Environmental Quality and Effluent Emission are in place (Degree No. 18/2004 of 2 June 2004. and the implementation is under responsibility of MITADER.	The guidelines for OHS provided under the WB Occupational, Health, and Safety Guidelines should be applied for all infrastructure projects.	Guidelines and standards exist for Occupational Health and Safety (OHS). OHS legislation in place; (Law No. 23/2007 of 1 August 2007) and implementation the responsibility of Ministries of Labor and, Health. Safety standards guidelines for Environmental Quality and Effluent Emission are in place (Degree No. 18/2004 of 2 June 2004. and the implementation is under responsibility of MITADER.  The guidelines for OHS provided under the WB Occupational, Health, and Safety Guidelines should be applied for all infrastructure projects.
Gender Biased Violence procedures	GBV is covered under the Law Nr 29/2009 on Domestic Violence. No specific procedures for GBV in the road sector	The Bank have developed procedures to deal with GBV in the infra-structure projects. And a channel for submission of the complaint and assistance must be in place.	Mozambique has a law that is no clearly translated into action for specific sector. There for the Bank procedures will be implemented for the project

## 4. PROJECT AREA BASELINE CONDITIONS

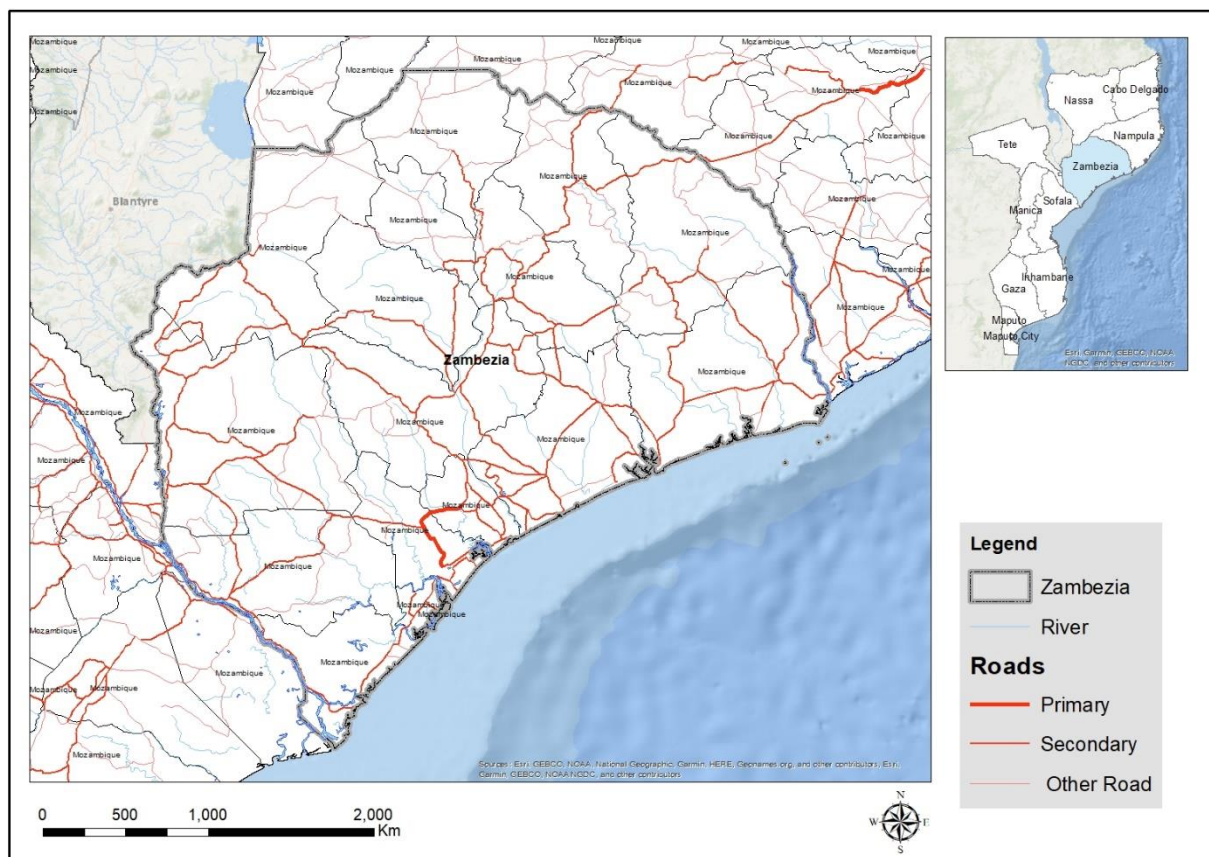
### 4.1 Biophysical description

#### 4.1.1.1 *Zambézia*

With an estimated population of 5,110,787, Zambézia is the second most populous province in Mozambique after Nampula with over 18% of the country's population. With a surface area of 105,008 km<sup>2</sup>, Zambézia is relatively sparsely populated with a much lower density of 48.7 people per square kilometer (i.e. lower than that of Nampula but much higher compared to the other provinces in the country). Much of the surface area of Zambézia Province is drained by the Zambezi River. Much of the coast consists of mangrove swamps, while inland areas comprise most forest.

The Capital City of Zambézia is Quelimane, and the province comprises 16 districts (i.e. Alto Molócuè, Chinde, Gilé District, Gurué, Ile, Inhassunge, Lugela, Maganja da Costa, Milange, Mocuba, Mopeia, Morrumbala, Namacurra, Namarroi, Nicoadala, and Pebane).

The key notable attribute of the Zambézia Province is the Zambezi River and the extensive floodplains along its banks, as well as the vast Zambezi Delta at the estuary by the Indian ocean (nearest town to the estuary is Luabo). Together with its many tributaries, the Zambezi River forms the fourth largest river basin of the African continent. A large strip of the Zambezi River Delta contains clearly visible evidence of center-pivot irrigation meaning that connectivity to market centers through improvement of access roads would contribute significantly to poverty alleviation of the beneficiary communities.



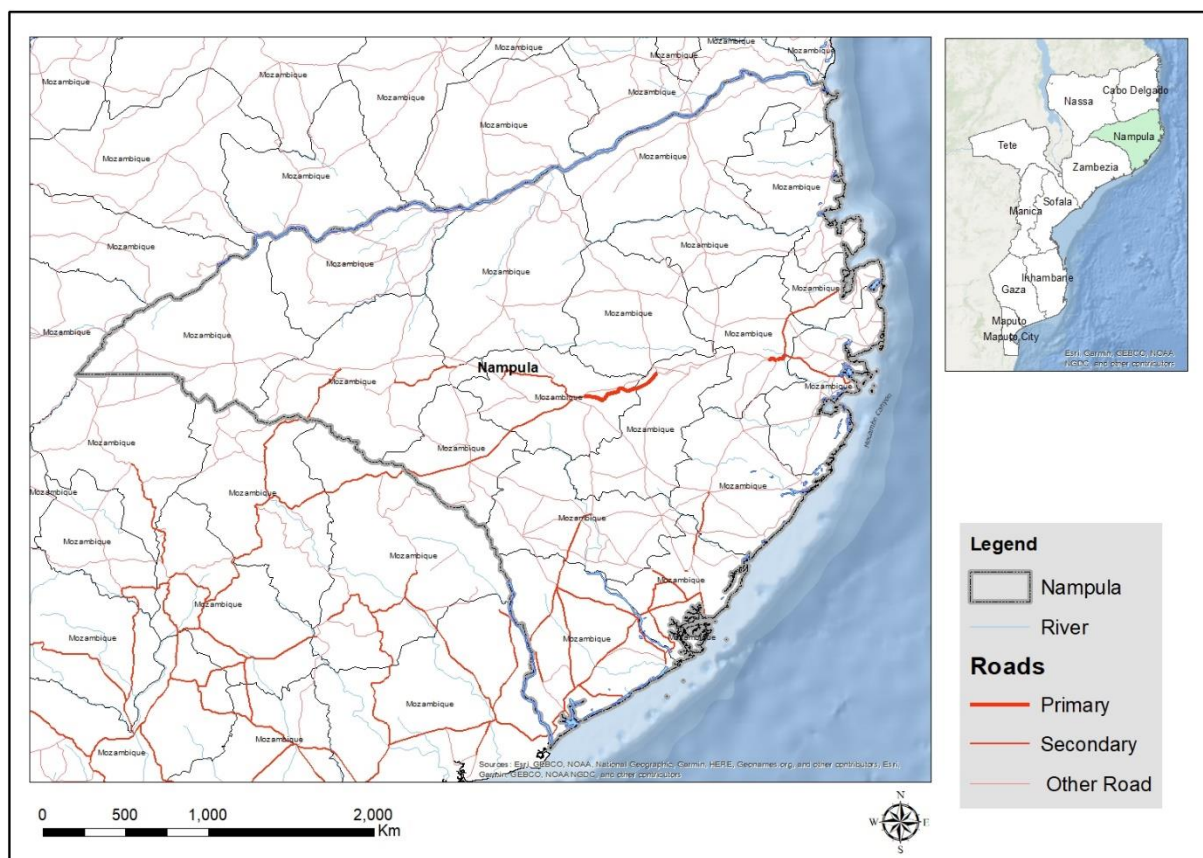
Picture 1 - Geographic localization of Zambézia province

#### 4.1.1.2 Nampula

The population of Nampula has been estimated at 6,102,867 according to the 2017 census, and this makes Nampula the most populous province in Mozambique with over 21% of the total population of the country (i.e. 28,861,863.00 people). In terms of surface area, Nampula covers 81,606 km<sup>2</sup> of the surface area of Mozambique (799,380km<sup>2</sup>), thus, becoming the fourth biggest province after Niassa (129,056km<sup>2</sup>, 16% of Mozambique), Zambézia (105,008km<sup>2</sup>; 13%), Tete (100,007km<sup>2</sup>; 13%) and Cabo Delgado (82,625km<sup>2</sup>; 10%). Nampula's population density is of 74.8 people per km<sup>2</sup> being second only to Maputo City at 3,670.57/km<sup>2</sup> and Maputo Province at 96.20 individuals per square kilometer. So even given the relatively very high population and density, Nampula is relatively undisturbed. The lower Zambezi in Mozambique is the most productive and biologically diverse tropical floodplain in Africa. It is typified by a broad floodplain, often with many parallel channels and shifting sandbanks, while the coastal portion includes extensive grasslands and freshwater swamps, dunes and mangroves. The Zambezi River delta at the confluence of the river with the Indian Ocean is one such important agricultural area. Combined with the high rainfall and water resources in the area, the potential for the expansion of irrigated agriculture (i.e. conversion of the smallholder farmers into commercial agriculture) is vast. Nampula's vast areas of fertile agricultural lands can be exploited for commercial agriculture, hence the need for improved roads to ensure transportation of the agricultural products from the production sites to the markets.

Nampula is a coastal province with two predominant seasons: a warm rainy December-March season and a temperate/dry April-November season. While the rainfall is normally around 656–901 mm in most parts of the province, it reaches up to 1,160–1,390 mm in the southern tips of Malema and Ribaué (National Meteorology Institute 2007). Evapo-transpiration averages 1000 to 1400 mm (Métier, 2005). During the rainy season during February to March, cyclones do affect parts of the coastline.

One key attribute of Nampula is Port of Nacala, a city located in the northern parts of the Province, at a distance of about 200 km from the city of Nampula. The Port of Nacala has the third largest harbor in the Mozambique after Maputo and Beira and is considered the deepest port on the east coast of Africa. Unlike Beira and Manica, Nacala is a railway terminal that connects with Malawi, and is also located strategically to provide access to the port to landlocked neighboring countries. Nacala is located in a region with sub-humid tropical climate with a dry season. The dry and cold season is from May to November, while the hot and humid season is from December to April. Average annual temperatures range 23.5°C in July which is the coldest month, to an average of around 27.6°C in December. Nacala is influenced by the monsoon winds, with north winds prevailing from October to February, and south winds from March to September. The city is located in the area of influence of cyclones originating in the Indian Ocean, but is not often hit by tropical cyclones, but by tropical depressions with heavy rains. Nacala is affected by severe soil erosion, particularly in the non-urbanized informal settlement areas, and, together with other northern districts of Nampula, Nacala was heavily under the influence of the Tropical Cyclone Kenneth which affected Mozambique in the first Trimester of 2019.



Picture 2 - Geographic localization of Nampula province

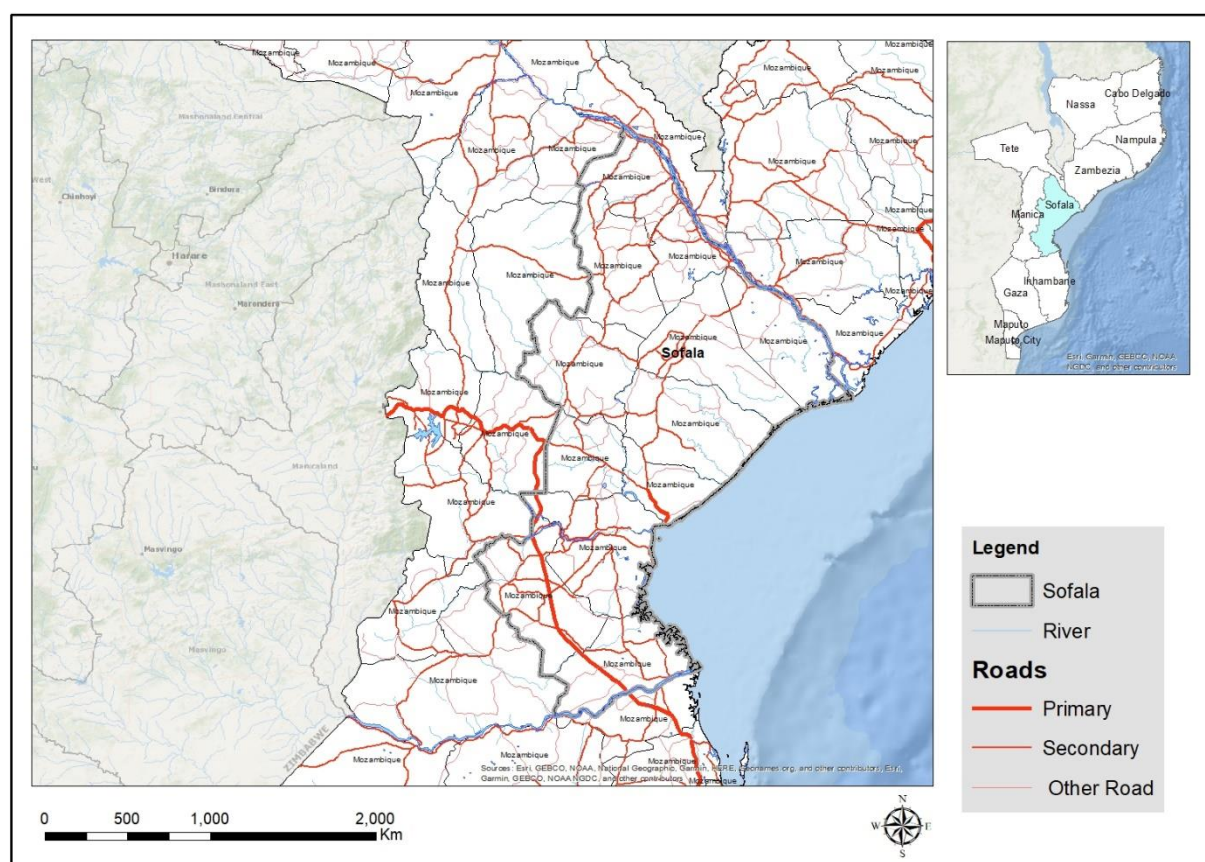
#### 4.1.1.3 Sofala

Sofala Province has a population of 2,221,803 inhabitants (Census of 2017) distributed in 13 districts namely: Búzi, Caia, Chemba, Cheringoma, Chibabava, Dondo, Gorongosa, Machanga, Maringué, Marromeu, Muanza and Nhamatanda. The total surface area of Sofala is around 68,018 km<sup>2</sup> (i.e. 9% of the country's surface area) with a population density of 32.7 individuals per square kilometer, making the province relatively sparsely distributed. A sparsely distributed population combined with good rainfall and good conditions for agriculture (fertile soils) bode well for the expansion of irrigation and market access in this province. There are two distinct climatic seasons in the project's area: a hot rainy season from December to March and a cooler drier season from April to November, with rainfall recorded in all months of the year.

The City of Beira is the capital of the Sofala Province, located in central region of Mozambique and it is the second largest capital city in the country. Beira City is located below the sea level and as a result tends to experience problems soil erosion. Trade and commerce and economic growth continue to increase in Beira, while informal trade is also increasing exponentially. The Beira Port, the Development Corridor and the Sena Railway Line, as well as the city's geographical location make Beira economically attractive given its strategic position in linking the central and northern regions of the country. This strategic location is equally of importance to Mozambique's landlocked neighboring countries, which make use of both the Beira Corridor and the Port for communication and transportation of goods and services to and through the country.



Ecologically important areas in Sofala Province include the isolated Gorongosa Mountain Rift Valley Complex, which rises to 1,863m in the southern-most Mozambican sector of the African Rift Valley, as well as the Beira Corridor and the Buzi River floodplain. Orographic rainfall provides the mountain with an annual rainfall of over 2,000mm per year. The mountain supports tropical to montane rainforest on its summits with heath grasslands. Endemic and near-endemic plants and animals occur within the mountainous habitats. Examples include the Green headed Oriole (*Oriolus chlorocephalus*) sub- species, characterized by a white wing patch found on the Gorongosa Mountain, the Dappled-mountain Robin (*Modulatrix orostruthus*), the Chirinda Apalis (*Apalis chirindensis*) a restricted range species, Swynnerton's Forest Robin (*Swynnertonia swynnertonii*) and separate subspecies of the Whitebreasted Alethe (*Alethe fuelleborni*). A variety of wetland habitats occur in the Rift Valley including rivers, lakes, temporary pans, reed swamps, floodplain grassland and palm savanna. The diversity of habitats in the Rift Valley makes it one of the finest wildlife grazing ecosystems in Africa as reflected by the spectacular wildlife that inhabited the Valley prior to the armed conflict.



Picture 3 - Geographic localization of Sofala province

#### 4.1.1.4 Manica

Manica Province covers an area of 61,661 km<sup>2</sup> and a total population of **1,911,237** (Census of 2017), distributed in three Municipalities (Catandica, Manica and Chimoio), and nine districts (Bárue, Gondola, Guro, Machaze, Macossa, Manica, Mossurize, Sussundenga and Tambara). The population of Manica represents 7% of the country's population, with the surface area of the province (61,661km<sup>2</sup>) covering 7% of that of the country, and a population density of 31 people per square kilometer, making Manica relatively sparsely populated. This, combined with very high rainfall and good agricultural soils, makes it

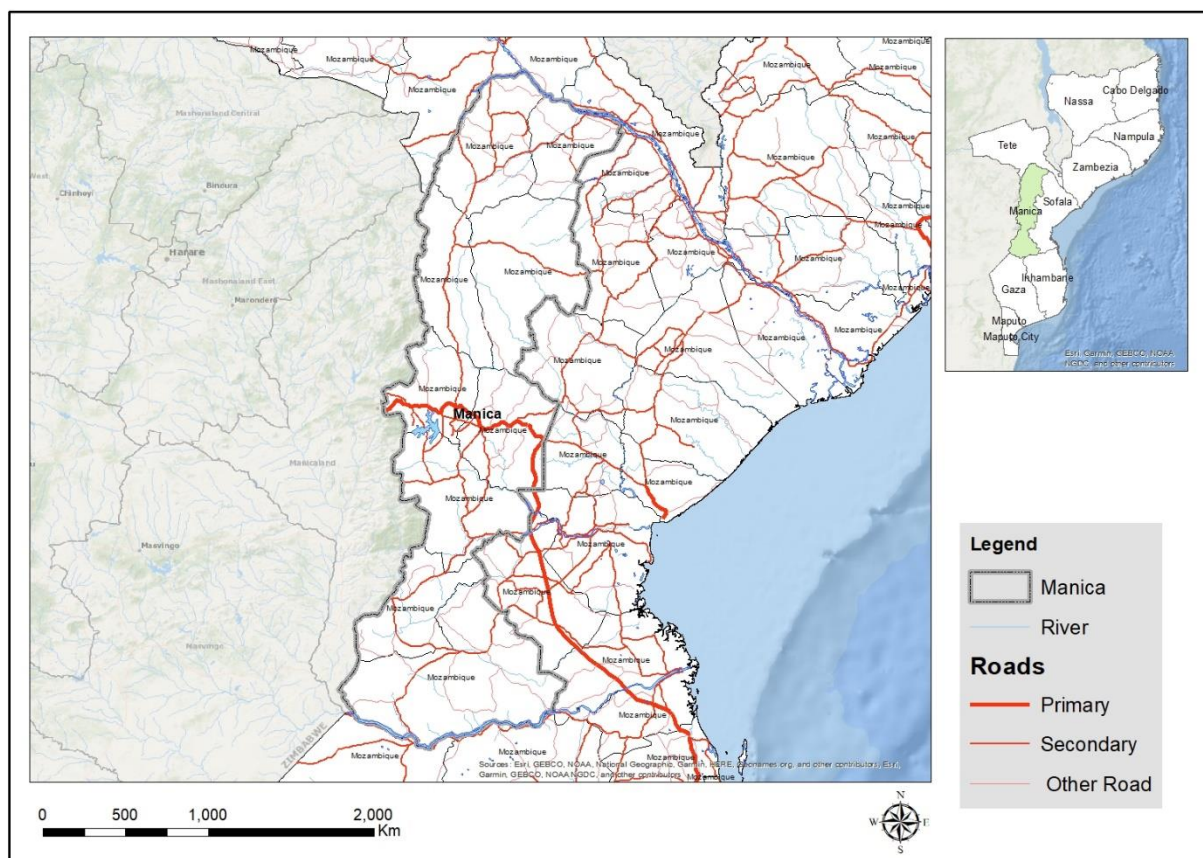


adequate for implementation of agriculture in the province in the form of the smallholder irrigation and therefore the need for effective roads system for transportation of agricultural products to the markets.

Manica Province is characterized by a tropical climate, with two distinct seasons: a rainy season from September to March, and a dry season from April to August. Because of its altitude and relief, Manica in general has relatively high rainfall. The Province consists of three topographic areas, namely mountains, plateaus and plains. The mountains are located mainly in the far West, with generally higher altitudes of more than 1,000 m near the border with Zimbabwe. The soils in Manica Province are mainly brown and clayey soils and red clay-sandy soils. Manica is rich in water resources with the Zambezi River flowing in the far north, the Púnguè and Buzi in the central region, and the Save River flowing in the south of the province.

The key economic activities in areas around Manica province are centered primarily around agriculture, with a focus on food and cash crops; commercial activities, which are dominated by the informal market, focused on consumables needed by individuals and households); fishing; and timber exploitation, amongst others. Chimoio is the capital of Manica Province and is the fifth-largest city in Mozambique. The Chimoio area is also the major producer of bananas, located in Gondola.

The key sensitive areas in the Manica Province include the **Chimanimani Massif**, which forms part of the great eastern escarpment along the Mozambique-Zimbabwe border and comprises a high diversity of habitats and species. Nearly 1,000 vascular plant species have been recorded for the Chimanimani Mountains and three species of *^* and two species of *Protea* are considered endemic. Large mammals are well represented although populations are depleted, meaning that their abundance is low. Two amphibians and one reptile species are considered endemic. Over 160 bird species have been recorded for Chimanimani (Dutton & Dutton 1975), some of which are considered endemic to the Afro-montane regions of eastern Africa. The massif belongs to the Chimanimani National Park in Sussundenga District. It also includes four forest reserves: Tsetsera, Moribane, Nhahezi and Mahate, which are embraced by the project of transboundary conservation area of Chimanimani along with the National Park.



Picture 4 - Geographic localization of Manica province

#### 4.1.1.5 Tete

The province of Tete is located in the west-central part of the country. The province is crossed by the Zambezi River, and is the site of two of the four bridges crossing the river in Mozambique. Tete has an area of 98,417 km<sup>2</sup> and a population of 2,764,169. The province is composed by 15 districts (Angónia, Cahora-Bassa, Changara, Chifunde, Chiuta, Tete-the capital city of the province, Doa, Macanga, Magoé, Marávia, Marara, Moatize, Mutarara, Tsangano, Zumbo). Two of the districts were recently created in 2013, Doa and Marara. The has 4 municipalities, Moatize, Nhamayábué, Tete e Ulongué.

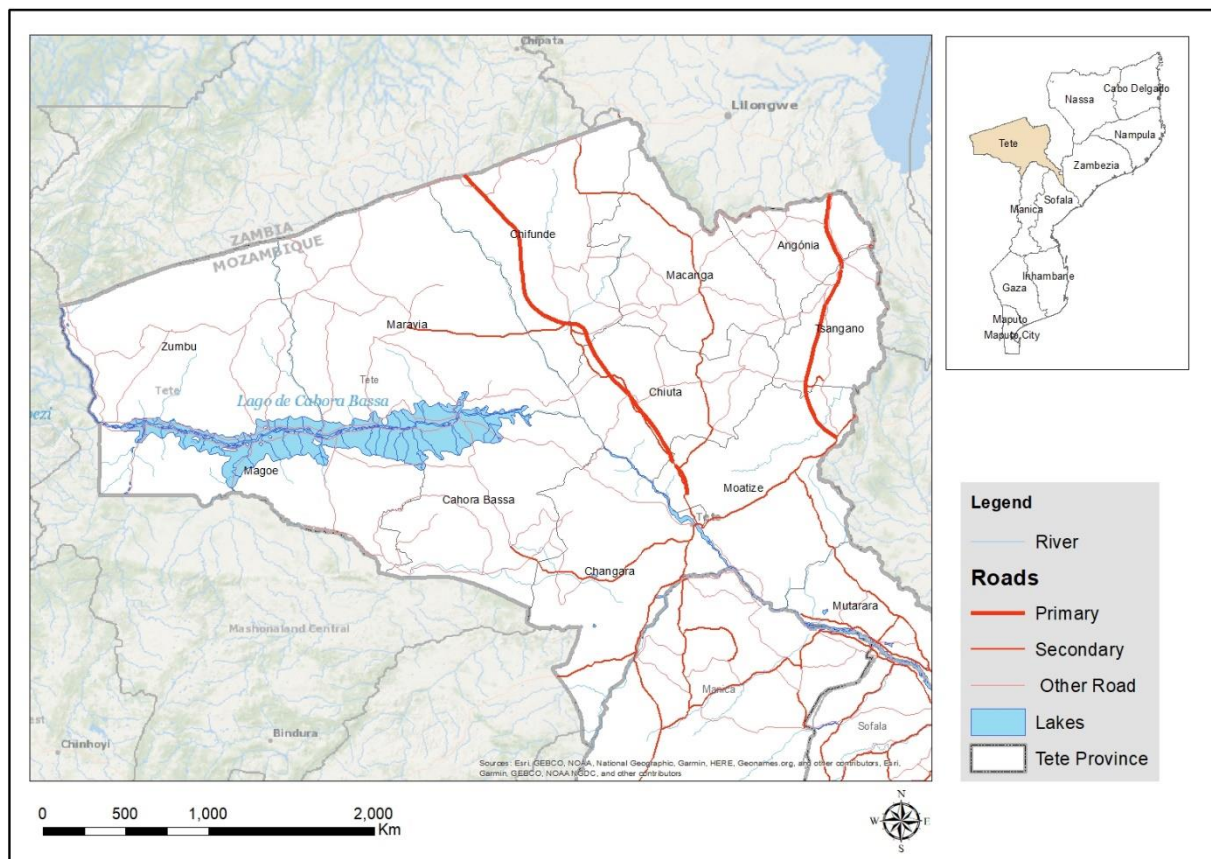
Tete has a hot semi-arid climate (BSH in Köppen climate classification). A province with marked contrasting rainfall varying from fairly dry areas in the southern half to fairly wet in the areas bordering Malawi. Moderate increasing trend in seasonal rainfall due to enhanced rainfall in January. Growing period is fairly short for this latitude, mostly within 2 to 3 months, mostly due to very early end of season conditions more similar to Gaza than to wetter regions of this latitude. El Niño enhances early season rainfall and vegetation cover, but leads also to shorter seasons, while La Niña strongly increases rainfall in January to March, leading to longer growing seasons.

In the north-west, the Zambezi Valley, in the Tete Province, is the hottest area, as well as one of the driest, of the country. In Tete, the heat is intense for many months of the year, and slightly decreases only from May to August; the temperature can reach 45 °C (113 °F) in October and November, while it can exceed 40 °C (104 °F) from December to April. Only 630 mm (25 inches) of rain fall per year.

The geology of the Tete Province is structurally dictated by the regional Zambezi Rift, which trends E-W from the Zambia-Zimbabwe border, then swings SE to S-SE through Tete. The rift was formed in

Proterozoic basement rocks, developing into a zone of active extensional tectonism and sedimentary deposition. The Proterozoic basement comprises of igneous, crystalline rocks, schists and met sediments. The geological structure in the Moatize Basin is dominated by a series of high angle faults, which divide the basin.

The key sensitive area in the Tete Province is the Magoé National Park. The park was proclaimed in October 2013, previously the area was an integral part of the Tchuma Tchato Community wildlife management program. The area in which the Magoé National Park is located, while located in the south bank of the Cahora Bassa lake, is exposed to both floods and droughts, as well as man-made and climate change derived erosion. It has a Mopane forest, dominated mainly by deciduous and semi-deciduous tree species. The riparian and mountain forest formations represent an important habitat for several wildlife species, such as Hippopotamus (*Hippopotamus amphibius*), Leopard (*Panthera pardus*), Elephant (*Loxodonta africana*), Lion (*Panthera leo*), Buffalo (*Syncerus caffer*) among other species protected by law. Roan antelope (*Hippotragus equinus*), threatened across Africa by poaching and habitat loss, also find sanctuary in Magoé National Park.



Picture 5 - Geographic localization of Tete province

#### 4.1.1.6 Cabo Delgado

Cabo Delgado is the northernmost province of Mozambique with an area of 82,625 km<sup>2</sup> and a population of 2,333,278 (2017). The Province border the neighboring country of Tanzania, as well as the provinces of Nampula and Niassa. The region is an ethnic stronghold of the Makonde tribe. Macua and Mwani ethnic groups are also present. Cabo Delgado Province is subdivided into 16 districts (Ancuabe, Balama, Chiúre, Ibo, Macomia, Mecúfi, Meluco, Mocimboa da Praia, Montepuez, Mueda, Muidumbe, Namuno, Nangade, Palma, Pemba-Metuge, Quissanga), and 3 Municipalities (Mocimboa da Praia, Montepuez and Pemba).

The average temperature in Cabo Delgado ranges from 27 °C (81 °F) in January to 23 °C (73 °F) in July. High rainfall province with high number of rain days. Weakly decreasing trend in seasonal rainfall, with reduced rainfall in November-December and fewer rain days. Vegetation cover as a result has a decreasing tendency coming mostly in the early stages of the season. El Niño leads to much enhanced rainfall during October to December, and little to no impact during January to March. Some tendency for shorter El Nino seasons in the south of the province. La Niña has little effect.

Cabo Delgado has poorly drained soils and are often difficult for agriculture. There are very heavy soils along the coast, gray and black with muddy and poorly drained. Sandy soils are moderately washed, predominantly yellow to gray-brown, or with internal sand (feral sandy soils) or sandy coastal dunes (Haplic sandy soils). There are also soils of the coastal dune strip, with texture of sandy to clayey sandy and showing yellowish colors (iron sands). Hydromorphic sandy soils also occur in depressions and lowlands, alternating with higher lands.

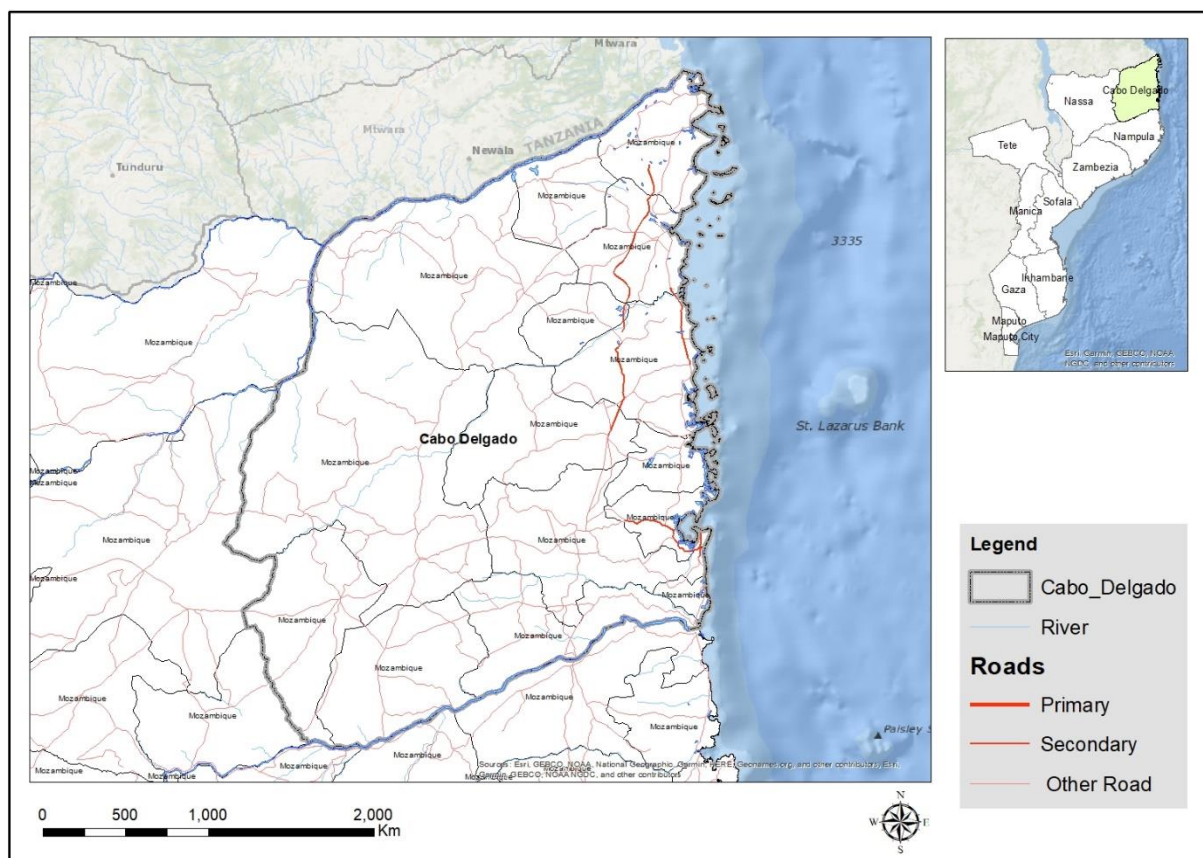
The road network across the province is relatively poor. Of the total roads, 15 percent are classified as primary and 14 percent as secondary roads, while the majority (57 percent) are classified as tertiary roads and the remainder are feeder roads.

The N1 links Cabo Delgado Province with the southern and central parts of the country and also connects the province with Nampula Province (cities of Nacala and Nampula) via the Erati and Nacaroa districts. The N14 links Cabo Delgado Province to Niassa Province. It intersects with the N1 at Miéze, then continues to link the Marrupa and Majune districts in Niassa Province.

The main economic activities of the population are agriculture, livestock, artisanal fishing, commerce and logging. Mining industry is becoming important income source of the province.

The key sensitive area in the Cabo Delgado Province is the Quirimbas National Park (QNP) encompassing the southern part of the Quirimbas Islands, as well as a significant mainland area. The park protects 913,000 hectares of coastal forest, mangroves and coral reefs. On land, there are sparse populations of elephants, lions, leopards, crocodiles and even wild dog. Habitats include mountains, forests, woodland, savannah, mangroves, beaches, coral reefs and sea grass beds. The park contains a rich variety of marine life including sea turtles, dolphins and many species of fish. Three hundred and seventy-five species of fish have been identified, including threatened pipefish and seahorses.

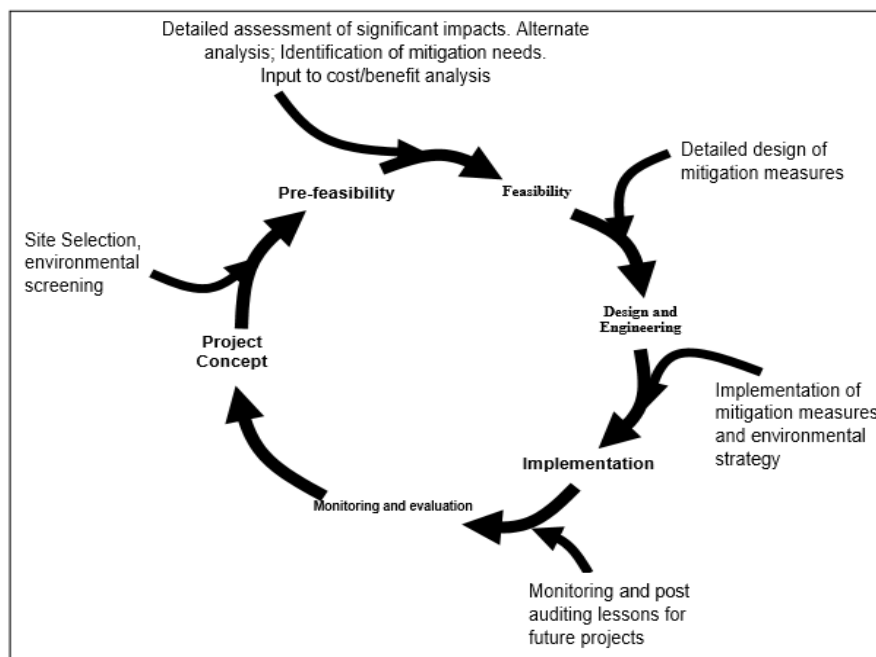




Picture 6 - Geographic localization of Cabo Delgado province

## 5. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The methodology on project environmental and social impact assessment is briefly presented previously in the present report. This chapter presents the project environmental and social benefits and impacts. These benefits and impacts are preliminary at this stage, as they will have to be worked out in detail during implementation of site-specific sub-projects, and through specific studies (ESIA) and management plans (ESMPs). The benefits and impacts are structured around major key project phases- planning, construction and operations. The impacts are presented under two areas of assessment - socioeconomic<sup>6</sup> environment and biophysical<sup>7</sup> environment, and throughout various project stages of the project cycle shows in Figure 1 below.



**Figure 3:** Project social and environmental assessment cycle

To support the assessment of impacts, an extensive literature review of relevant GoM environmental and social regulations and guidelines, World Bank environmental and social safeguard policies, General Environmental, Health and safety Guideline of IFC and ESMF guidelines, was done. Additional a secondary data on biophysical and socio economic information of the targeted provinces were also collected. The desk study was followed by the consultative process at central level, provincial and district level. Two provinces were visited, that included two targeted districts per province. In each of the provinces as well as of the districts the consultant holds a participatory meeting with relevant stakeholders. The participatory process was based mainly in open ended discussions, formal and informal collaboration with stakeholders, this interaction allowed the team to understand the existing environmental issues and challenges the provinces and districts. The work was performed in close cooperation with the project team at ANE, information was gathered on most critical rural roads for the developments of these provinces from the environmental and social concerns of beneficiaries and primary stakeholders, socially deprived community, and women. The institutional arrangement of the

<sup>6</sup> Socio economic environment is concerned with the project impacts and benefits on the society and these may include- health, security, economic activities, employment, finances, etc

<sup>7</sup> It relates to project impacts and benefits on the environment such as on fauna, flora, water, air, soil, landscape

project implementation was analyzed with ANE delegation and DPTADER and a need assessment for the capacity building of these institutions were performed. The environmental impact identification and classification based on the environmental and social matrix below, the consultant knowledge and contributions from the public consultation process.

**Table 3:** Impact assessment matrix

Temporal Distribution of Impacts					
No.	Valued Environmental Components	Project Phases/ Type of Impacts			
		No impact	Positive Impact	Negative Impacts	
				Significant	Insignificant
Pre-Construction Phase					
1	Health and safety				
2	Employment and income generating activities				
3	Real property, heritage, building and equipment				
3	Agriculture, livestock/ breeding				
4	Vegetation and Fauna				
5	Water contamination/ supply				
6	Soil and underground resources				
7	Air pollution				
Construction Phase					
1	Health and safety				
2	Employment and income generating activities				
2	Real property, heritage, building and equipment				
3	Agriculture, livestock/ breeding				
4	Vegetation and Fauna				
5	Water contamination/ supply				
6	Soil and underground resources				
8	Air pollution				
Operation Phase					
1	Health and safety				
2	Water resources and water quality				
3	Soil erosion and land resources				
4	Local air quality				
Decommissioning Phase					
1	Rehabilitation of all borrow pits				
2	Site closure				

The above impacts were assessed against specific variable for potential impacts assessment as provided in Table 4 below:

**Table 4:** Proposed variables for assessment project risks and impacts

Criteria	Description
<b>Type of Impact</b>	<ul style="list-style-type: none"> <li><b>Direct</b> - An impact that appears immediately as a result of an activity of the project. For example, the loss of vegetation is a direct impact of site clearing. The direct impacts would be experienced mainly during the construction process, and include effects on the physical environment, health and safety of the construction workers.</li> </ul>

Criteria	Description
	<ul style="list-style-type: none"> <li>• <b>Indirect</b> - An impact that is related to the project but that arises from an activity of the project at a secondary level. For example, the demand for supplies and services may cause indirect impacts on the local economy by increasing indirect employment opportunities.</li> </ul>
Status	<ul style="list-style-type: none"> <li>• <b>Positive</b></li> <li>• <b>Negative</b></li> </ul>
Duration	<p>The life-time of the impact; this is measured in the context of the life-time of the proposed development. Whether the Impact will be:</p> <ul style="list-style-type: none"> <li>• <b>Intermittent</b> – not occurring at all times.</li> <li>• <b>Temporary</b>-only for a short period.</li> <li>• <b>Short term</b> - the impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase.</li> <li>• <b>Medium term</b> - the impact will last for the period of the construction phase, thereafter it will be entirely negated.</li> <li>• <b>Long term</b> - the impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter</li> <li>• <b>Permanent</b></li> </ul>
Intensity / Severity	<p>Whether or not the intensity (magnitude) of the impact would be high, medium, low or negligible (no impact). An attempt to quantify the impacts on components of the affected environment to be described whether destructive to the alter its functioning or harmless:</p> <ul style="list-style-type: none"> <li>• <b>Negligible</b></li> <li>• <b>Low</b> - where impact alters the affected environment in such a way that natural processes of functions are not affected in any significant way.</li> <li>• <b>Moderate</b> - where the affected environment is altered, however, function and process continue, albeit in a modified manner.</li> <li>• <b>High</b> - where function or process of the environment is seriously altered and disturbed to the extent where it temporarily or permanently ceases</li> </ul>
Spatial Extent	<p>The physical and spatial size of the impact; a description of whether the impact would occur on a scale described as follows:</p> <ul style="list-style-type: none"> <li>• <b>Site</b> - whether the impact will be within limited locale of the project site / study area affecting the whole or measurable portion of the area.</li> <li>• <b>Local</b> - whether the impact will affect the environment or communities along the border of the study area or in the extended area adjacent to the site or perhaps outside the immediate environment.</li> <li>• <b>Regional</b> - whether the impact extends beyond the study area affecting areas on a regional scale</li> </ul>
Likelihood	<p>The probability or likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The probability that a certain impact will in 3fact realize:</p> <ul style="list-style-type: none"> <li>• <b>Uncertain</b> - insufficient information to determine its probability. Because the precautionary principle is followed, this increases the significance of the impact.</li> <li>• <b>Improbable</b> - the unlikelihood of the impact to occur.</li> <li>• <b>Probable</b> - the impact could possibly happen, and mitigation planning should be undertaken.</li> <li>• <b>Highly probable</b> - it is most likely that the impact will occur at some or other stage of the development.</li> <li>• <b>Certain</b> - the impact will take place regardless of any prevention plans, and only mitigation actions can be relied on to contain the effect.</li> </ul>
Sensitivity	<p>Degree of change effected on natural processes or peoples' livelihoods; the sensitivity of the receptor of the impact to change</p> <ul style="list-style-type: none"> <li>• <b>Low</b></li> <li>• <b>Moderate</b></li> <li>• <b>High</b></li> </ul>
Overall Significance	<p>An indication of the importance of the impact to the design and planning of the project in terms of physical extent, intensity and time scale, and therefore indicates the level of mitigation required rated as follows:</p>



Criteria	Description
	<ul style="list-style-type: none"> <li>• <b>Insignificant</b> - if impact is not substantial and does not require any mitigating action.</li> <li>• <b>Low</b> - if impact is of little importance, will not need to be significantly accommodated in the project design, but may require limited mitigation</li> <li>• <b>Moderate</b> - if the impact could have an influence on the environment and livelihoods of households within the study or local area and mitigation is required to reduce the negative impacts to acceptable levels or to enhance positive impacts.</li> <li>• <b>High</b> - where the impact is of great importance and could have a significant impact even with mitigation. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable</li> </ul>

## Project benefits

### 5.1.1.1 Accessibility

Road Projects are generally intended to improve the economic and social welfare of people. The development efforts of the IFRDP, particularly the development of a strategic transportation network will have multi fold beneficial impacts, such as improve accessibility (through quality of road) and reconnection of isolated areas after natural disaster, and reduction in transport cost and travel time, general improvements of communities' living standards, access to markets and resources, including social services such as, education and health facilities. These beneficial impacts will be more visible during and after construction phase.

During operation stage, improved road access will bring in most, if not all localities, an improvement of food security situation, resulting from overall improvement of economic and social activities. Increased road capacity and improved pavements are expected to reduce travel times and lower the costs of vehicle use. At the same time, good and reliable road links will increase access to markets, jobs, education, and health services and reducing transport costs for both freight and passenger. These benefits are expected to persist in the long run on the assumption the rehabilitated roads will be regularly maintained.

### 5.1.1.2 Employment

The project has the potential for employment creation. The sub-projects will probably require a considerable number of both skilled and unskilled workers. The potential for local recruitments is confirmed by secondary data, which indicates that 70 percent of the local people are economically active.

The contractor should procure locally 100% of the unskilled work force and give equal opportunities to both women and men for all project phases (rehabilitation and maintenance). ANE has already a procedure that ensure some form of women promotion in its project by providing that at least 25% the total worker force employed should be women. Incentives to attract women for employment, at local level, should be considered for example specific training and part time work. In emergency situation the number of vulnerably people tend to increase, the project shall establish provide room to employ and minimize impacts over vulnerable people.

### 5.1.1.3 Opportunities of New Income Generating Activities (IGAs)

The project will not only increase the income sources for the local workers, but will stimulate trade in the target areas due to project demand for goods and services. For instance, the contractor camps may require fresh vegetable and fruits to feed the workers. Therefore, the contractor is encouraged to procure good locally. Additional business will be also created by the establishment of informal food and beverage business. As a result, a significant amount of cash from the project workers will be channeled into the

local economy and will generally foster the development of other micro-enterprises. Once an all-year road access is available, local farmers may be encouraged to crop more and be linked to the market in other region. When completed, improved road connectivity will bring about opportunities for the promotion of trade and business. The flow of goods from and to the project influence area will be continuous. Local products could be transported outside markets at low cost, thereby benefiting the agriculture producers.

The local agricultural and horticulture products that used to go rotten and waste previously can be transported to other market and the improved agriculture inputs market be established in the region with all the benefits for the productivity. Thus, an improved road linkage with other markets opens potential opportunities for the agriculture production. In this context, however, care must be taken to channel IGAs to ensure that benefits are equally distributed among the local communities.

#### *5.1.1.4 Enhancement and transfer of skills and Knowledge*

ANE policy on maximize use of local people for construction works lies in the unique chances for the transfer of skills and technical know-how in construction and related technical sectors as well as to reduce the detrimental effect of the influx workers. Considerable number of employed work forces will convert themselves into fully skilled laborers (both women and man) in works such as masonry, gabion wires weaving, construction of dry and foundation walls, slope cutting and stabilization, rock cutting, bio-engineering works etc. These skills will not only benefit the locals by providing long-term employment opportunity, but also contribute to local human resource development in regions that otherwise have restricted opportunities. The project will make sure that both women and men can benefit from this transfer of skills and technical know-how. In this context, vulnerable people shall be also given the opportunities to acquire knowledge on construction activities.

#### *5.1.1.5 Enhancement of Former Environmental issues*

One of the major problems of the gravel and earthen road is dust which directly affects the health of the people living in the vicinity of road projects. This environmental problem is a reality in the Cyclone damaged roads, where primary roads were washed down, and dust nuisance is again a problem (N6, N1 etc.). As applicable and incorporated in the project design, sealed gravel standard or bituminous surface road will substantially reduce the dust nuisance. It will also make easy for vehicle movement thereby reducing amounts gas emission of unborn carbon, oxides of Sulphur and nitrogen. So, school children, health posts, market areas along the road pedestrians etc. will be relieved from dust nuisance. One of the major activities of the road works in the envisaged program is to stabilize slopes through proper drainage management, retaining structures and bio-engineering. The project will treat erosion. Similarly, slope failures and landslides will be stabilized.

#### *5.1.1.6 Improved Access to Services and Decrease in Transportation Cost Roads*

It is expected that, after road rehabilitation and re-connection, will facilitate access to services such as health and education. In addition, the overall vehicle operating cost will be reduced and thereby transportation cost will be decreased. In Mozambique the cost of the transport is not gender biased, all the users pay the same regardless gender and will enjoy the same opportunities. The journey will be comfortable and travel time will be saved. Similarly, the wear and tear of the vehicles will be less; and fuel consumption of the vehicles will also be less, resulting into saving in the hard currency for the import of these commodities. Access to inputs and services is severely constrained without suitable road transportation facilities. In most districts roads are transmittable only during dry season. As a result, and expensive access, the use of inputs and services in agriculture is far below the potential.

Once the road comes into operation, people may have access to many inputs such as seeds, chemical fertilizer, irrigation and technology leading to increased agricultural production and diversification. Crop investment and operation costs are expected to become considerably reduced. Same, for the marketing of the local products, which experienced difficult access to get into the bigger markets. This will enhance economic activities within the project area, through the increased employment opportunities and income level. On other hand, the production area will be opened to the market. Most women are involved in the agriculture trade between the production areas (Sofala, Manica, Tete, Zambézia, Nampula and Cabo Delgado provinces) and the market areas (south of the country), improvement in road quality will have positive impacts in life of these women, as it will decrease timeout and increase their profit. Also, the operation of road will also contribute to raise quality services in social sector as more competent agencies and people will enter into the area to provide the services. Road transportation will also encourage students to attend classes even in distant areas after efficient transportation service.

#### *5.1.1.7 Gender-Specific Benefits*

Agriculture activities are mostly done by women and road transportation will benefit local women by providing improved access to market facilities, more people will enter into the region resulting in increased demand of the agriculture products. Also the local women will have opportunity to be employed by the contractor, in this regard contribute to increase household incomes. With the road quality improved is expected that more efficient road transportation systems will be in place, therefore facilitating or increase mobility from and to the targeted areas. Women, in specific, may therefore get into a better position to attend various service agencies such as hospitals, health clinics, training institutes, women development programs etc. More frequent visit to such organizations will increase women's knowledge and awareness level. Girl students will be encouraged to go to schools that will become easier accessible.

#### *5.1.1.8 Poverty Alleviation*

Road access significantly alleviated poverty by improving economic opportunities and access to services. However, benefits varied depending on the geographical context, such as the regional economy, agricultural potential, proximity to transport networks, market prices, availability of services, as well as social structure and concentration of assets. Natural disaster that affects part of Manica, Sofala, Tete and Cabo Delgado provinces will contribute to the rise of poverty levels among communities. Due to inaccessibility or conditional access to the productive areas, destruction of economic activities (agriculture fields and structures) the cost of products (farming and non-farming products) have raised with all impacts in poverty. Therefore, a combined effort with the improvement on road quality (connectivity) under the project, may contribute to the ongoing poverty alleviation efforts.

### **Project adverse impacts**

The World Bank undertook an initial assessment of project impacts, and based on the findings, the project will result in mitigatable social and environmental impacts. These impacts may include poor drainage conditions in some roads on upland districts and unstable slopes in some areas, and subsequently some adverse effects on local forest, fauna and agricultural lands is also expected. It also noted that depending on the environmental setting, some construction practices are more sensitive in terms of environmental hazards than others. For example, in mountain terrain gradual widening, of a narrow track of typically 2 m width bears much more risks than doing the same in flat terrain. In the first case intensive slope stabilization measures or blasting might be required, all of which may include significant residual risks of failure and cumulative impacts.

In contrast, the second setting may require much more consideration of preventing losses of farmlands and suitable sites for habitation. Similarly, the use of labor and hand tools instead of heavy machinery will result in completely different environmental impacts in certain conditions. Conservation/protection of soils, water resources, fauna and flora need equally be seen in the local context, including other external impacts like rainfall, over-use of certain natural resources, law / order situation etc. The following sub-section gives an overview of potential adverse environmental and social impacts that are likely to occur during the different stages of the road sub projects proposed under IFRDP. The following sections below provide detailed account of each of the identified project adverse impacts.

#### *5.1.1.9 Socioeconomic environment*

##### *5.1.1.10 Land and Property Acquisition, Compensation, Resettlement*

Rehabilitation Road development often requires land. IFRDP will not result in land acquisition for the extension of the road, as it is not part of the project. However, a portion of land under the road reserve land will be needed for safety propose. In spite of the legal provision about the road reserve (15 m each side) these areas are occupied by local communities with permanent or non-permanent infrastructure. Other land acquisition may be needed for establishment of camp site, detour, access to quarries and borrow pits as well as areas for borrow pits. This project has also developed an RPF to provide procedures for any All resettlement, land acquisition and compensation issues. These procedures will be applied for the additional areas under emergencies.

##### *5.1.1.11 Conflicts associated with Road Construction Work Forces*

Occupational Health and Safety (OHS) is an important issue during construction. The occupational health and safety concern arise from the operation of stone crushing, bitumen use, operation of earth moving equipment, use of blasting materials, and all other construction activities. Accidents may occur during the construction and operation of roads causing injuries or loss of property and life. Some common reasons for accidents in rural road works include unsafe excavation, collapse of trenches, injuries from unsafe tools/equipment, lack of protective clothing, debris falling from hill slopes, inappropriate disposal of construction and campsite wastes, electric failures, etc. OHS can only be maintained by stringent awareness training through the contractor, and by providing adequate medical arrangements ready in case of emergency, including provisions for fatal accidents and invalidity. Similarly, OHS issue also covers the quality of living space, facility of clean drinking water, sanitary practices with toilets and solid waste management system etc. within the labor camps. Dust raised by construction activities and blown by air may pose health risks to the workers and inhabitants near the road alignment.

Construction practice should employ dust control practices/measures and construction activities should be scheduled taking this into account. Vector Diseases is another common problem associated with the sudden influx of work personnel. Gathering and contacting local people may lead to transmission of infectious/communicable diseases.

Disease transmission is facilitated by the migration of people, particularly among migrant laborers. If proper sanitary conditions are not maintained in the camps, it may create pool of waters and pile of waste which will attract vermin and vector diseases. Such vectors and new diseases may spread to local population, who are not immune to such diseases. Stagnant water bodies created due to road construction such as borrow-pits and quarries may become breeding sites for disease vectors. This may contribute to increase in number and type of disease vectors and incidence of water-related infectious diseases.

Increased movements of people (from or to outside) 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 countermeasures and highest level of attention are mandatory in road development projects planned in areas with highly affected HIV prevalence, such as Nampula and Zambézia provinces and the additional provinces of Manica and Tete provinces. Effective measures are frequent awareness campaigns, involving both the labor forces and the local communities, and regular health check-ups among both to detect and control transmission of such diseases. Such activities are to be carried out by both specifically engaged NGOs in junction with the contractors who must be obliged for such actions in specific contract clauses. Competition for local water supply and water contamination are other potential sources of conflicts between the work forces and local communities. Extraction of large amount of domestic use waters and surface or groundwater contamination often occurs when an influx of people associated with the road project overloads the local sanitation infrastructure, and encourages the spread of water-borne diseases. Accidents involving spillage of fuel and chemicals may pollute water source and contaminate water supply. Additional OHS mitigation measures, are provided in the General EHS Guidelines.

Cultural and social conflicts may arise when outside workers get in contact with locals of different cultural background. Often conflicts may be associated with increased consume and availability and consumption of alcohol and drugs as well as a Gender Based Violence (GBV) and Child Abuse/Exploitation (CAE). Adequate efforts should be made to maintain social harmony and cooperation among the workers and local residents.

#### *5.1.1.12 Road Safety Impacts*

Road safety issues naturally increase when the upgraded/new roads go into operation. Inherently, roads bear accident risks that may cause adverse effects to the individuals afflicted, and may lead to a variety of direct and indirect environmental damages. Traffic accidents because of negligent crossing or walking, undefined crossing sites, narrow road, low quality shoulder surface, poor visibility, careless driving in high speed, rushing in the roadway, lack of non-motorized lanes, inadequate traffic signs, inappropriate road standards and designs, and by natural disasters, destruction of traffic signs by community's members.

There are many features of a road and its associated structures which influence the risk or the severity of a road. Pertaining parameters include: (i) pavement and shoulder condition, roughness and surface grip; (ii) presence of roadside poles, trees, ditches, steep slopes, and barriers; (iii) signage, markings, intersection layout; (iv) roadside access, parking, and bus stop arrangements; (v) provision of pedestrian, cyclist and other non-motorized road users. (vi) Traffic control and enforcement of traffic rules, (vii) driver's behavior and license system (viii) public safety awareness and educational standards (ix) vehicle maintenance road maintenance;

#### *5.1.1.13 Cultural and Historical Assets*

Cultural heritage can be sites, structures, and remains of archaeological, historical, religious, cultural, and aesthetic value. Cultural heritage is a particular form of expression of human values which serves to record past achievements and discoveries. It is important to assess site to understand the significance of a site, according to its aesthetic, historic, scientific, and social value, in addition to its amenity value. Cultural and historic sites may be threatened by road construction and associated works such as excavation, filling, quarrying and spoil disposal, and unregulated/increased access to cultural heritage sites. It can destroy the sites or alter their character.

Aesthetic impacts on cultural monuments and archaeological sites can occur. Road many result in illegal occupation or encroachment of the culturally and historically important areas (religious sites, graveyards, traditional site) or the land belonging to these sectors. On the other hand, the increased accessibility may attract visitors to these areas which encourage better use, care and conservation of the same.

Additionally, construction activities result in chance finds of previously unknown cultural artefacts for which contractors and supervising engineers should be prepared and know how to contact the proper authorities. It should be noted that such chance finds are unlikely in a project like IFRDP as it is a rehabilitation of existing roads rather than new constructions.

#### *5.1.1.14 Impact on Landscape Aesthetics*

Negative aesthetic impact can commonly result from poor design, faulty identification of likely impacts during the process of environmental assessment. Landscape sores relates particularly to ill-designed or monitored activities resulting from borrow pit and quarrying operations, from landslides that could have been avoided, and from indiscriminate dumping of spoil material.

Deteriorating aquatic systems are equally sources of reduced landscape values, especially when signs and secondary effects of pollutants become evident. A road can be visually attractive or unsightly depending on its physical layout within the surrounding landscape and how far the attention is given to detailed designs, road-side planting and maintenance.

In contrast, road design may lack aesthetical considerations when a landscape is distorted by repellent cuts, repulsive borrow pits, unused quarries, and landslides, all leading to depreciation and loss of scenic values of the site. Road induced activities may lead to the generation and mismanagement of wastes (solid and liquid) in the roadsides and create scars on the landscape. Construction of road may cause loss of or encroachment to unique geological and geographical sites (e.g. wetlands, sensitive ecological terrains), natural beauty spots and scenic sites that attract both domestic and international tourists, and sites of scientific interests. Last but not least the right choice of alignment, taking into account the aesthetic qualities of both natural architectural and cultural sites will help to increase the attractiveness of new road development projects.

#### *5.1.1.15 Biophysical environment*

#### *5.1.1.16 Impacts on the Physical Environment and Land*

The narrow and linear character of roads makes the impact of lost land seem minimal, but when width of RoW is multiplied with its length, total area of land removed from production becomes much significant. According to the Land Law in Mozambique the extension of the road reserve area in rural area is 30 meter on either side from the center line and that for urban areas is 15m. It needs to be noted, however, that the immediate zone of impacts, i.e. the actual formation width of the road, varies from 2 to 4 m. Rehabilitation Road development often requires land. IFRDP will not result in land acquisition for the extension of the road, as it is not part of the project.

However, a portion of land under the road reserve will be needed for safety propose. In spite of the legal provision about the road reserve (15 m each side) these areas are occupied by local communities with permanent or non-permanent infrastructures. Other land acquisition may be needed for establishment of camp site, detour access to quarries and borrow pits as well as areas for borrow pits. This project has also developed a RPF to provide procedures for any resettlement, land acquisition and compensation issues. These procedures will be applied for the additional areas under emergency. Any enforcement and land acquisition beyond this corridor, e.g. in adhering to the 15 m RoW, will invariably incur in a substantial increase in land that has to be acquired and protected from further encroachment. Under the legislative Diploma 109/14.

#### *5.1.1.17 Soil Instability*

Unstable soils, landslides and severe erosion are the major environmental drawbacks associated with most road construction in Mozambique in uplands of Zambézia and Nampula. Consequences of landslides and soil erosion not only affect the safety and serviceability condition of roads but also have chain effects on the farmers (loss of crops or farmland), land (degradation due to silt/debris deposition), water (degradation of quality), river and streams (change in regime), vegetation (loss and impact) and on other infrastructures like reservoirs (siltation). Slope stability can be upset by creation of road cuts or embankments. Excessive steepness of cut slopes, deficiency of drainage, altered and concentrated water flows, and excessive slope loading from spoil disposal can result in landslides. The degree of slope instability increases during the road construction and offer regular sliding during later operational phase as well. Further, it creates a number of partly significant risks for the downhill and/or downstream settlements.

Disturbance during construction (vibration, spoil disposal, borrow and quarry areas operation, slope cutting and exposed surface, construction carried out in rainy season without proper water control and drainage facilities etc.) can upset the often delicate balance between stabilizing factors, such as vegetation and others which seek to destabilize, such as running water. Sometimes, cumulative result of all these may have impacts far beyond the road itself, affecting slopes, streams, rivers, and dams at some distance from the initial impact. Fresh cuts are often vulnerable to wind and rain, instigating erosion. Similarly, haphazard disposal of construction spoils, unsuitable locations of quarry sites and borrow pits, fresh quarrying and borrowing activities, construction carried out in rainy season without proper water control and drainage facilities; and improper construction methods which leave soils exposed unnecessarily, etc. are also reason for erosion and possible consecutive landslides.

During the construction period, instability, landslides and soil erosion problems may result because of: (i) steeper cut and fill (embankment) slopes and their construction qualities, (ii) environmentally hazardous disposal of construction spoils (e.g. near water bodies or drinking water sources, wetlands, karstic landscapes, sensitive habitats); (iii) unsuitable locations of quarry sites and borrow pits (eventually leading to uncontrolled, anesthetic and hazardous dump sites and mosquito breeding grounds), (iv) rash quarrying and borrowing activities, (v) construction carried out in rainy season without proper water control and drainage facilities; and (vi) improper construction methods which leave soils exposed unnecessarily, etc.

During the operational Common problems associated with soil failures are: blockage or deficiency drainage structures modification of water paths leading to concentrated flows (may also be caused by blocked ditches) - high gradient in cut or fill slopes, and cleared areas which have been left without re-plantation or other appropriate rehabilitation measures.

#### *5.1.1.18 Contamination of Soil*

Soil contamination can arise from inappropriate construction practice, as well as from accidents during both construction and operation stage. Pollution risks originate from transportation of hazardous materials during road construction and subsequent traffic operations. Metals such as chromium, lead, and zinc remain and continue to be an environmental hazard in the soil for hundreds of years. Pollutants settling in roadside soil can impair the growth of vegetation and the growth of soil organisms, thus increasing the likelihood of soil depletion and erosion. These impacts tend to be localized, affecting only a narrow zone on either side of the road. In colder climatic zones in mountainous area, salting of roads can lead to soil contamination, and subsequent decrease in soil fertility and losses of organisms vital for good soil quality.

#### *5.1.1.19 Water quality*

Roads that intersect drainage basins generally modify the natural flow of surface water by concentrating flows at certain points and, in many cases, increase the speed of flow. Diversion or disruption of natural

surface water flow and drainage is often inevitable in road projects. Blockage of natural drainage path during construction or maintenance may generate water depletion, water logging, and a concentration of water flow as well as increase the speed of flow, which will be erosive in nature. Diversion as well as overloading existing drains results in water flowing where it normally would not, e.g. on vulnerable soils where frequent effects are scouring, gullying, bank cutting and soil erosion.

Subsequent impacts of water flow diversion or blocking by embankment structures are often dramatic changes in local groundwater level that will result in changing vegetation pattern or even destroy vegetation and crops, and may lead either to water logging, increase in waterborne diseases, or to severe water depletion and to local desertification. In many cases such activities will also cause subsequent impacts with far-reaching and long-term implications for aquatic life, habitat changes for fish and reduction in the local and regional fisheries production. Similarly, excavation activities can lower the water table in surrounding areas.

**Pollution of Water Resources** Construction activities such as cutting and filling, disposal of construction waste and spoil, erosion and soil movement due to quarrying and borrowing, etc. cause increase in turbidity of streams, rivers and lakes. Improper sanitation of workers or local inhabitants, (e.g. lack of appropriate sanitary facilities, defecation in open field) disposal of wastewater from labor camps, unauthorized washing of vehicles and unauthorized/unsuitable garbage dump sites, may also pollute water, particularly the drinking water sources.

Accidents of tankers carrying oil and other environmentally hazardous chemicals can also cause pollution due to their spillage in large quantity. The typical primary and secondary effects of water pollution include health hazards to the downstream water users and impact on local fisheries. Increased silt content could cause unnecessary sediment deposition in downstream areas which causes the rising of river beds resulting flood in downstream areas. Polluted water may become unfit for bathing, drinking, animal consumption, irrigation, etc. and affect fish and other aquatic life.

#### *5.1.1.20 Air Pollution*

Air pollution due to vehicle emission (particulate matter, nitrogen oxides, hydrocarbons, carbon monoxide, Sulphur dioxide, lead, and aldehydes) and dust raised by plying of construction vehicles and operation of machineries, crushing plant etc. may cause nuisance to roadside walkers and nearby residents. Dust layer accumulates on the leaves of roadside vegetation limiting their growth and assimilation capacities, and affects the roadside settlements. Many of the air polluting agents are known to cause respiratory and eye disease to people exposed for long duration. Informal food sellers usually keep food (bread and cake) in open, over which dust layer naturally settles. This is directly consumed by people. Although the evidence of concrete health hazards is often not known, it is definitely not hygienic, and may cause stomach ailments. Dust may considerably affect school going children, school and health posts besides the road. Age and poor quality of vehicles, lead from petrol engines are the other causes of pollution.

It is anticipated, however, that most traffic-generated air pollution effects identified in humans are likely to occur in animals. Flying animals (bird, insects) may particularly suffer from air pollution as this will impair many physiological functions. Acidification of aquatic ecosystems has definite implications on aquatic organisms.

Dust and emissions from asphalt mixing plants is a significant pollution problem, although more of localized and temporary nature (over a period of months).

#### *5.1.1.21 Noise Pollution*

Road construction and maintenance generally require the use of heavy machinery and crusher plants. Noise associated with road development has four main sources: (i) vehicles (engines, transmission,



exhaust and suspension); (ii) friction between tire of vehicles and road surface; (iii) driver behavior (excessive honking, loud music, shouting at each other, causing tire to squeal by sudden breaking or acceleration); and (v) construction and maintenance activity. Although the construction activities are intermittent and localized, they nevertheless contribute to significant amounts of sustained noise during equipment operation. Chronic noise exposure can be a source of nuisance, creating communication problems and leading to elevated stress levels as well as associated behavioral and health effects. It can cause auditory fatigue, temporary and permanent lessening of hearing ability, sleep disorders, and can contribute to learning problems in children. Noise may prevent many animal species from approaching or crossing road corridors because they are afraid. As a result, road corridor becomes a barrier to regular wildlife migration routes, and effectively rendering roadside habitat areas inaccessible to some species. Such disturbance reduces the success of these species and contributes to ecological alteration. Livestock and wildlife may experience breeding problems and other forms of behavioral disturbances. The vibration induced by the resonance of traffic noise can have a detrimental effect on structures standing near the road. This is of particular concern in the case of cultural heritage sites.

#### *5.1.1.22 Quarrying of Construction Materials*

The construction of road, particularly the structures such as retaining walls, culverts, bridges, road surface works etc. require large quantity of boulders, gravels, sand, and other types of construction materials. Good road building materials are hard to find. Poor quality of material will often lead to premature failures of the road pavement. As a result, it is normally necessary to extract materials from wherever a good enough source is available, mostly locally. Such materials are normally mined in nearby locations on local streams and places near the road alignment with a view to save the transportation cost. Uncontrolled quarrying by contractors from non-approved sources is a damaging activity which must be controlled. However, sometimes such activities are beyond the control of the road constructing engineers.

The extraction of materials from inappropriate places or in excessive amount can seriously damage the local environment. For example, quarrying from a high slope and fragile terrain can result slope instability; extraction of sand and gravel in excessive amount from river can cause river bank cutting and erosion and changes in river regime. This will eventually affect the local environment in terms of erosion, flooding of cultivated land, damage to community infrastructures, affect road itself, and eventually affect the entire livelihood of local people.

Disruption of natural land contours and vegetation resulting in accelerated erosion, landslides, disturbance in natural drainage patterns, siltation of surface waters, ponding and water logging, and water pollution are the potential adverse impacts of quarry and borrow pits operation. General scouring of river beds resulting in endangerment of bridges and continuous degradation of the river regime are also potential impacts of quarry operation.

#### *5.1.1.23 Stone Crushing Plants*

Stone crushing plants are temporary work sites, occurring during construction and rehabilitation of roads. They are normally established in quarries and river beds from where the stones are derived. In addition, stones are often broken for rural roads by hands in these locations by labor force. The operation of crushing plants and stone breaking by labor causes inconvenience to nearby settlements in terms of air and noise pollution. Siltation and pollution of surface water resulting from uncontrolled runoff from storage piles, and damage to the local crops and surface water are also potential impacts. Excessive noise and dust from the plant will create disturbance to nearby settlements, school, health posts etc. Crushing plant site is also a high risk area for accidents and injuries. Also, there will be continuous flow of heavy vehicles for carrying the materials to construction sites. If their path is along school and busy market area, there will always be potential risk of serious accidents.

#### 5.1.1.24 *Stockpiling of Materials and Disposal of Spoil Material*

Construction materials are usually stockpiled for relatively short period without covering. It is often done on river beds or river banks, forest area, open spaces, and cultivated land. This situation may lead to environmental degradation in terms of air pollution, land pollution, pollution of surface water and permanent changes of land use if not rehabilitated after the completion of construction works. Standing crop or future cultivation on land is disrupted. If not appropriately stockpiled with drainage facility, rain water can carry the sediment into water bodies affecting their quality as well as aquatic life. Surplus construction material, cut material, drainage cleaning debris, and landslide mass (spoil) can cause significant environmental hazards, mainly on the adjacent hydrology and habitats if they are side-tipped downhill without appropriate spoil management. This impact occurs both during construction and maintenance operations. Among the common negative consequences are overloads instable areas causing slope instability and slides, smothering and removal of trees, vegetation and topsoil, causes or promote erosion, kill vegetation, destruction of private property, crops and irrigation systems at foothills, disrupt natural drainages and surface water sources, and pollute water.

#### 5.1.1.25 *Hazards caused by Explosive, oil and Toxic Materials*

During road construction activities, explosive materials are needed to blast hard rocks to open stone quarries. The use of explosives, if not done carefully, can lead to extensive environmental damages in terms of causing slope instability, excessive rock fracturing, damage to nearby property due to vibration as well as rock splinters, injury, disturbance to wildlife, air pollution etc. The safeguarding of explosive from theft is also a major concern. Contractors may store fuel, oil and lubricants, diesel and petrol, bitumen, solvents and other toxic chemicals for use in construction work. Inappropriate storage of such materials or accidents of tankers may cause spillage or leakage, polluting surface and groundwater, contaminate soil, cause fire and explosion hazards and nuisance to human health.

Combustible materials mostly comprise fuels and lubricants and bitumen. The most common risk involved is bitumen distributors catching fire. Cement, a widely used material but can cause minor chemical burns and skin problems to the users. Protective clothing is rarely provided or used. In hot weather, it may be uncomfortable and therefore its use difficult to enforce.

Explosives need particular handling and precautionary measures, both in terms of safety and in affecting the environment. Rock blasting may, for instance, trigger slope instability.

#### 5.1.1.26 *Impacts on Biological Resources*

#### 5.1.1.27 *Clearing of Forest and Habitat Disturbance or Loss*

The IFRDP will contribute to the improvement of road connection. This connection facilitation forests become easily accessible for, collecting firewood and NTFPs, and hunting. Roads may also considerably contribute and/or accelerate logging activities. A road transgressing forest areas is likely to disturb irreversibly wildlife activities. A road may contribute to increased hunting and poaching of wildlife. The underlying cause is the improved accessibility by road to former difficult or remote lands such as forests, national parks, wildlife reserve areas, community forests, Additional (illicit) activities of the work-force may also create pressure on the forest and forest resources include firewood collection and hunting birds/animals. This can lead to increased timber cutting (legal or illegal) in pristine or vulnerable forests and illegal collection of medicinal plants. Development stimulated by the road may promote activities such as use of firewood to meet the demand of locals (urban areas) who consume forest resources and

increase pressure on it. All these factors may cause significant deforestation and degradation of local forests or other valuable/vulnerable biotopes.

#### *5.1.1.28 Disturbance of Biodiversity and Wildlife and Habitat Fragmentation and Barrier to Wildlife Movement Corridor*

When a road cuts through an ecosystem, the sum of the two parts created by the cut is less than the value of the initial whole, even when the habitat loss is ignored. Ecosystems are characterized by complex, interdependent relations between component species and their physical environment, and the integrity of the ecosystem relies on the maintenance of those interactions. By slicing through habitat, roads affect an ecosystem's stability and health. Without careful planning, roads tend to fragment an area into weaker ecological sub-units, thus making the whole more vulnerable to invasions and degradation. A road with wider width and higher vertical alignment may cause a physical and psychological barrier for wildlife, and act as a barrier across their movement corridor.

Roads frequently pose a number of threats to local wildlife that can, in worst cases, lead to reduction of biodiversity. Due to clearance of forest and loss of habitat, but also due to increased vehicular movement and disturbance by people, rare floral and faunal species may become adversely affected or might even disappear at all from those areas. It may happen that entire ecosystems may get disturbed and destroyed due to excessive intrusion of human activities (hunting, forest fires), due to filling (e.g. swamplands) or intensive extraction of resources. Development of road-side settlement, often in the form of undesirable ribbon development of squatters, commonly results in increased pressure on forest resources. Roads are effective vectors for the spread of diseases, which can have marked impacts on populations of plant and animal species and thereby pose considerable direct and cumulative impacts on the native biodiversity. Flow of nutrient and materials is a major determinant in ecosystem structure and function. Road construction can easily disrupt this vital flow through alteration of surface water and groundwater, removal of vegetation cover, and relocation of topsoil.

#### *5.1.1.29 Damage of Aquatic Habitats*

Road development has perhaps its most serious effects on aquatic ecosystems though it is not seen directly. Erosion from poorly constructed and rehabilitated sites can lead to downstream siltation, ruining spawning beds for fish, restrictions of flows at water crossing can make the current too fast for some species. Alteration of flood cycles, tidal flows, and water levels can upset trophic dynamics by affecting the life cycle of plankton, and have corresponding effects on the rest of the food chain. Re-channeling of waterways is often undertaken as part of road construction to avoid flooding and make crossing structures simpler. In the process, natural streambeds are dug up and useful obstructions, including large boulders, are removed. Roads may serve as barrier to movement of migratory aquatic species, especially where culverts are used. Often migratory fish species are intensively fished/overfished at sites where culverts and bridges tend to block the natural migratory pathways. The following table below summarizes potential impacts resulting from project implementation.

**Table 5:** Summary of project impacts

Environmental Issue	Impact	Source
Vegetation and fauna	Loss of vegetation at camp sites, borrow pits, access roads and deviations Forest fragmentation	Open up work areas, and facilitation of access to the rich forest area leading to Illegal logging and hunting Increase in demand for wood fuel and house construction
Protected Areas/Critical Forests/Wetlands/ sensitive areas	Encroachment to forest area for hunting and timber exploitation	Illegal activities due to ease accessibility to protected areas
Water quality	Water Flow Diversion Groundwater Flow Modification Ground water contamination from roads Modifications in water table as a result of Road Construction (soil compaction)	Soil compaction, Bridge constructions; Operation of borrow pits, bad management of bitumen and fuel
Soils and underground resources	Erosion Landslides Slopes destabilization Contamination of Soil	Soil compaction, operation of borrow pits Embankments  Oil and bitumen spillage,
Air quality	Lowering of quality of life of the people in the road alignment route and those located near ancillary sites	Gas Emission from movement of working equipment and vehicles Dust from the site work, transport of material, movement vehicles Noise from working equipment and vehicles, quarry blasting if any
Employment provision	Increase in job opportunities in the region and improvements in rural income; Increase potential for prostitution due to risk behavior of women and young girls	Construction activities has been performed, contractor must under the contract clause offer employment to the locals Equal opportunities to employment should be given to both man and women. The contractor shall avoid to employ children; Influx of male workers with money and far from their homes, is a potential for risk attitude and prostitution
Regional and local economy	Increase demand for construction material for the road work and/or construction of resettled people Loss of business assets along the road Probable loss of income due to dislocation of informal businesses  Improvements in access to alternative markets for agricultural produce Lowering of transport and business transaction cost	The influx of people and locals with money from the contractor payments may increase sellers of the business in the region for varies products including agriculture, However, need of additional land near to the road may result in reduction of incomes for the informal business. After the conclusion of the construction reduction in the transport cost is expected with the beneficiaries economic and road safety impacts associated
Capacity Building	Increase knowledge for the local	Employment of local, on job training process.

Environmental Issue	Impact	Source
Cultural and Historical Assets	Destruction of cultural area; Conflicts between Contractor and communities;	Excavation, filling, quarrying and spoil disposal, unregulated/increased access to cultural heritage sites.
Impact on property and on access site	Property loss, Limited access from and to property; Resettlement process;	Construction of road, camp site, borrow pits and other related construction activities
Impacts on Productive Land/Agric.	Loss of cultivated agriculture/grazing land  Loss of productivity of land  Open up market for agriculture products	Expropriation of land for road construction, borrow pit, camp site
Impacts on Occupational Health and Safety	Risk of accidents at worksite Increased dust and noise related problems and diseases Transmission of HIV and other communicable diseases Increased risk of health problems: waste products and sewerage; Increase in accidents for pedestrians, cyclists and motorists along the road	Influx of people into the project area  Increase in infection and spread of STIs and HIV/AIDS  High speed, Increase of circulation of heavy trucks, construction vehicles
Impacts on Social Relations and other Social Aspects	Conflicts between influx workers and locals Increase crime  Improved quality of life  Social networks and social cohesion strengthened;	Outsiders that do not respect the cultural set up of the area Money
Impacts on Existing Social Facilities	Disruptions in utility network services Pressure on existing social service facilities like health, water and electricity especially in urban areas.	Construction activities; Work accidents, high demand for services;
Impacts on Aesthetic Quality	Disrupted visual scenic and natural beauty	Borrow pits, quarries, ancillary work and RoW sub base construction and work site construction. Waste
Impacts on Road Security and Safety	Accidents, Fatalities;	High Speed, no signals,

## **6. POTENTIAL MITIGATION MEASURES**

This chapter is structured to provide the framework to mitigation measures for the impacts identified in previous chapter. The chapter is also meant to provide guidance in elaborating credible, feasible and cost-effective actions to implement the proposed mitigation measures, and how to ensure that these actions will later be implemented in the desired manner. While doing so, this framework presents practical and proven methods to maximize the beneficial impacts, and at the same time to avoid or minimize adverse impacts. The mitigation measures basically follow common-sense approach that aims to viable, practical, and cost effective solutions, which in turn would supplement its environmental and social sustainability. The mitigation measures described here are divided into two categories- beneficial and negatives. As shown in previous chapter, project impacts will mainly occur during the construction stage. The mitigations presented here are applicable for the existing landscape in the targeted districts (up land and low land/coastal area), and they are indicative as they shall be accordingly based on specific description of the specific sub-project.

### **Beneficial Measures (positive impacts)**

#### *6.1.1.1 Increased Income and Employment Opportunities*

The road construction work will use reasonable of unskilled local laborers. As stated before, around 30% of labors will be procured from the local area. To enhance the benefits given by employment the contractor shall offer similar opportunities to both (male and female) and non-discriminatory level of salaries. The employed people will increase the individual live standard of the selected beneficiaries and enhance the local economy. The Contractor must avoid to employ children as the coordination for local employment arrangements should be facilitated by local authorities. Contractor must inform their need of workers and should give similar opportunities to man and women. As described before the active population in all IFRDP project provinces is high and formal employment is low, therefore the project will improve the labor opportunities for the locals. The Contractor should adopt a contract system that allow a high number of villages, along the route/road to benefit.

#### *6.1.1.2 Enhancement of Technical Skills*

During the road upgrading works, the contractor, shall train the local laborers in road soft engineering structures construction and bio-engineering works, as well as on the ESMP/EIA procedures. This can help them to find job as skilled workers in future projects as an alternative occupation in addition to agriculture.

#### *6.1.1.3 Enhancement of the Local Economy*

During construction, there will be large number of people working in the area. Consequently, there will be large demand for consumable goods and local products such as vegetables, poultry, cereals, and fish. Small food shops and *barracas* will be in demand. The proposed enhancement measure is to facilitate the process where local people may be willing to obtain micro-credits to start some enterprises.

### **Mitigation Measures for adverse impacts**

#### *6.1.1.4 Coping with Slope Failure and Erosion*

Rehabilitation of roads in slope area of uplands in Manica, Tete and Zambézia, may result in slope failures or erosion due to instability of soils or poor construction practices that do not consider the

topography of these specific area. Good practices and prevention measures to cope with erosion and associated problems are:

- ✓ Minimizing the area of ground clearance as to avoid the production of excess spoil material and reduce the need for borrow pits;
- ✓ Choose the best work period to limit risks of erosion, avoid rainy season;
- ✓ Avoiding previously contaminated sites;
- ✓ Avoiding the creation of cut spots and embankments which are of an angle greater than the natural angle of repose for the local soil type;
- ✓ Protecting trees and vegetation in the road alignment vicinity and re-vegetation of cut slopes as soon as possible;
- ✓ Maximum destruction to the vegetation in the right of way;
- ✓ Replanting disturbed areas immediately after disturbance has stopped, not after construction has been completed, and their maintenance, and
- ✓ Drainage improvement to control location, volume and speed of water flows in water courses in the vicinity of exposed soils and slopes.

Other precautionary measures include undertaking:

- ✓ cut and fill activities during dry season,
- ✓ Construction of drains and ditches to avoid the damages by water flow and the regular maintenance of the slope protection measures.

Compensatory measures to cope with erosion and associated problems are:

- ✓ Topsoil (15 to 25 cm top layer) is an important natural resource that needs to be preserved to the extent possible. It takes a long time to form a layer of topsoil, and is therefore high priority is accorded to the conservation of the soil during road construction. Topsoil must be carefully stripped separately from subsoil and collected from area of excavation and stored at a designated safe place for later use;
- ✓ It should be stored with protective measures, including covering, making bund and drainage around the stockpile etc. It should be reused to reclaim land, form a cover layer on spoil disposal and landscaped areas, reclaimed land, slope of embankments prior to replanting or developing as farmland. This way, the productive area lost can be compensated to some extent; and
- ✓ Other measures may include remediation of soils whose productive capacity has been reduced during the construction phase, for example by using a subsoiler to break up hardpan produced by compaction with heavy equipment.

#### *Destabilization of Slopes*

- ✓ Road construction shall not take place during peak rainy season;
- ✓ Wherever possible, use surplus spoil to fill eroded gullies and depressed areas;
- ✓ If feasible, spoil material may be disposed in abandoned quarries and borrow pits as means to help restore original contours;

- ✓ It is advised to use the excavated materials for reclaiming the degraded land in near vicinity in consultation with local communities on their preferences;
- ✓ Never dispose spoil on fragile slopes, flood ways, wetland, farmland, forest areas, natural drainage path, religious and culturally sensitive sites, wetlands, canals and other infrastructures;
- ✓ Spoil material may be discharged to a landfill that is constructed using a series of small spoil benches to prevent slope overloading;
- ✓ Avoiding Hazards due to Water Flow Diversion.
- ✓ Avoid alignments in the close vicinity of wetlands and sensitive water bodies;
- ✓ Wherever possible, drainage structures should be designed and constructed to have minimum interference with and impact on the natural drainage patterns in the area;
- ✓ Establish drift that is large enough to facilitate water flows during rainy season or flood time,
- ✓ Establishment of drainage structure that are large enough to facilitate water flow during the Flood;
- ✓ Avoid surface water discharge onto farmlands or risky locations. Always consult local communities regarding location of drainage outfalls. Provide adequate protection measures like apron and walls at the disposal points to prevent scour and undercutting.
- ✓ Do not divert water away from a natural watercourse unless it is absolutely necessary or otherwise environmentally desirable;
- ✓ Avoid blockage or diversion of natural channels due to construction of road embankment and disposal of spoils.

#### *6.1.1.5 Avoiding Hazards originating from Quarry and Borrow Activities*

- ✓ Collection of construction material may have long-term and sometimes irreversible effects, for example road-side borrow pits may pose increased accident risks, or if left unmanaged, may become filled with garbage and stagnant water being both an eyesore and source of breeding ground for mosquitoes and other disease vectors;
- ✓ Borrow sites should be located away from cultivable lands and settlements, drinking water intakes;
- ✓ Quarry and borrow pit should be located in structurally stable area, even if some distance from construction site. In long run, unsound quarries and borrow pits can promote slides and further aggravate maintenance and traffic flow resulting in higher overall costs;
- ✓ Quarry and borrow pit location shown in design documents are provided only as a guide. It is the Contractor's responsibility to verify the suitability of all material sources, and to obtain the approval of the engineer;
- ✓ If possible, seek borrow pit locations not immediately adjacent to the road shoulder;
- ✓ Extraction of sand and stone from seasonal rivers should be avoided due to the impact on complex flood hydrology, which can result in much more serious storm floods;
- ✓ Extraction of stone and sand should be spread over the longest length possible so that no section of river bed is excessively disturbed;
- ✓ Clearing of trees and other desirable vegetation should be discouraged. Only those trees which are absolutely necessary to operate the sites should be cleared;
- ✓ The site should be restored after completion of construction activities, and left in stable condition without steep slopes;



- ✓ The restored site should be drained, and no standing water shall remain. Stagnant waters become disease vectors breeding site and pose threat to public health;
- ✓ The sites must always be closed and restored in a planned and appropriate manner to suit local conditions and in consultation with the concerned owners and/or community. It should be done before spreading equipment is allowed to leave the site;
- ✓ Land utilized for river bed extraction and quarry site access roads should also be restored, as applicable.

#### *6.1.1.6 Addressing Issues associated with Stockpiling of Materials*

- ✓ Sites for stockpiling of material should be located away from cultivable lands and settlements, drinking water intakes, public places, near school and health centers;
- ✓ Sites for stockpiling of material should be located away from forest area, sensitive ecosystem, fragile and landslide prone slope or terraces etc.;
- ✓ Stockpiling of earth fill shall in most cases not be permitted during the rainy season unless covered by a suitable material;
- ✓ Stripped material should not be stored where natural drainage will be disrupted;
- ✓ Stockpiled material should be protected from erosion prior to rainy season, including construction of drainage, trenches and ponds.

#### *6.1.1.7 Avoiding Water Pollution*

- ✓ There are a number of activities during construction and operation phases of the project which will generate wastewater.
- ✓ During construction wastewater will be generated by the sanitation facilities provided for workers; the contractor is responsible for the collection and treatment of the generated wastewater from sanitation facilities;
- ✓ The Contractor is responsible for ensuring the treatment and disposal of wastewater and approved by Supervision Engineer;
- ✓ Wastewater from wash down areas is to be collected either in a settlement pond or tank to allow sediment and particulate matter to drop out (or processed through a filtration system) before the water can be reused as wash water, dust suppression or in other processes;
- ✓ A separate wash down area is required for machinery or material with oil or fuel residue as this wash water is required to be treated through a mobile oil water separator. Wash water from concrete production, cutting, washing of equipment used and areas where concrete is produced must be collected and treated to lower the pH (closer to neutral) and to allow settlement of suspended solids. All wash down areas and wastewater treatment areas should be located within the construction lay down areas;
- ✓ Treated wash water where possible should be reused for dust suppression or within other processes. Direct discharge to the river, marine or coastal environment or to the water reserve protection area is prohibited. Discharges of treated wash water are to occur to land only at least 500m from any bore used for potable water at a rate not exceeding 20mm/day or the infiltration rate of the ground (i.e. no ponding or runoff);
- ✓ Quarries must have sufficient measures to avoid direct discharges when working adjacent to the marine and coastal environment, particularly for the runway resurfacing component, which may

include bonding (e.g. sand bags), demarcation of exclusion zones, and limited use of large machinery;

- ✓ Precautions should be in place to prevent wastewater and hazardous substances or materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), however in any case an incident occur, and a spill response plan should be in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water);
- ✓ Avoid alignments which are susceptible to erosion, such as those crossing steep slopes;
- ✓ Minimize the number of water crossings by the road, wherever possible;
- ✓ Use only “clean” fill materials around watercourses, such as quarried rock containing no fine soil;
- ✓ Leave buffer zones of undisturbed vegetation (width increased in proportion to slope) between road sites and water bodies;
- ✓ Do not dispose spoils, other hazardous substances near water sources or water bodies; and
- ✓ Do not wash vehicle, or dispose cement slurry etc. in water bodies;
- ✓ Enforce law and penalties to violators.

#### *6.1.1.8 Avoid Air Pollution*

- ✓ All heavy equipment and machinery shall be fitted with air pollution control devices that are operating correctly;
- ✓ Stockpiled sand and soil shall be slightly wetted before loading, particularly in windy condition;
- ✓ Vehicles transporting sand and soil shall be covered with a tarpaulin;
- ✓ Sprinkle water on sites with ongoing construction activities;
- ✓ Take account of prevailing wind direction when siting roads and road features, including re-fueling stations, near population centers;
- ✓ All heavy equipment and machinery shall be maintained to reduce the CO2 emissions

#### *6.1.1.9 Control of Noise Pollution*

- ✓ All heavy equipment and machinery shall be fitted with noise pollution control devices that are operating correctly;
- ✓ Application of bituminous layer produce less noise than over worn concrete surface or open-graded asphalt or avoiding surface dressings in sensitive areas;
- ✓ Provide ear mufflers to construction workers in high noise exposure areas;
- ✓ Consider erection of noise barriers by planting bushes/hedges in the vicinity of sensitive road sections (e.g. in front of schools and health facilities);
- ✓ Include education of local drivers in the awareness training provided through the projects.

#### *6.1.1.10 Handling Hazardous Materials*

- ✓ Hazardous materials shall not be stored near surface waters;
- ✓ All used lubricants and oil should be collected and recycled or disposed of site in appropriate manner by not causing environmental degradation;
- ✓ Hazardous materials should be stored only on impervious (concrete or plastic sheeting as approved by engineer) floor with drainage and collection sump so as to retain leaks and spills;
- ✓ Apply sealing or binding material in case of major spills of (liquid) hazardous materials;

- ✓ The Contractor must install all safety and warning devices before commencing blasting operation.

#### *6.1.1.11 Clearing of Forest Land and Habitat Damage or Loss*

- ✓ Clear trees only when absolutely necessary. Trees falling in right-of-way but not on formation width need not be cleared, rather consider new plantation of selected (non-exotic) species;
- ✓ Planting in road right of way, adjacent areas and other public areas in consultation with local people can help to support local flora and fauna;
- ✓ To protect aquatic resources, provide precautionary mechanisms to avoid accidental spills, controlling of open-field defecation by work staff and restrict access and amount to drinking water sources other than agreed with local communities and entitled users.
- ✓ Careful attention should be paid to erosion control techniques near watercourses;
- ✓ Culvert crossings should be designed with the needs of migratory aquatic species in mind;
- ✓ Baffles might be installed to slow the flow enough to allow fish and others to swim against the current and culvert bottoms should be set below the level of stream bed.

#### *6.1.1.12 Control of Illegal Harvest of Forest Products and Poaching of Wildlife*

- ✓ The large size of labors will basically depend on forest products for their energy requirement, if not provided alternate fuel for cooking and heating. Without strict control and management, laborers are likely to collect the fuel wood from the nearby forest;
- ✓ The contract documents must include provisions to instruct or arrange alternate energy; such as kerosene, LPG and micro hydropower for labor by making provision in contract document
- ✓ Vegetation clear should be minimized, and buffer zones of undisturbed vegetation should be left between roads and watercourses;
- ✓ The Contractor must prevent illegal cutting of forest wood by labor force. He is also liable for penalties to violators;
- ✓ The project management should instruct the project officials, labor force, contractors, engineer and other stakeholder not to indulge in such activities and abide by the forest act and its regulation;
- ✓ The project should closely coordinate with Forest Office and its outlets to control illegal poaching and trapping by the project stakeholders or other outside wildlife poachers, wildlife traders and timber smugglers.
- ✓ The project should collaborate with community representatives to control forest encroachment by the workers.

#### *6.1.1.13 Cultural and Historical Assets*

To avoid disturbance of cultural and historical areas to be affected by the construction activities the employer and contractor shall:

- ✓ Prior to the beginning of the work all cultural, cemetery and religious sites must be identified;
- ✓ In a case that the construction activities cannot avoid these areas, a fair compensation shall be implemented after agreement between ANE, community and families. And all traditional

and official rules/procedures to reallocate these areas be followed before construction starts;

- ✓ In chance that the contractor; during the construction find a cultural area shall stop all the work and inform the engineer and the local leader;
- ✓ With the supervision of the engineer shall inform District or Provincial Directorate of Culture and tourism or a provincial delegation of ARPAC.

#### *6.1.1.14 Establishment and operation of a camp site*

Road rehabilitation work will result in influx of labor outside from their original area. Therefore, the contractor must accommodate them within the project area. For that the contractor shall avoid:

- ✓ To locate the camp within community settlements
- ✓ To establish working camps within forested area or within conservation area;
- ✓ To do a clear cut of natural vegetation for site establishment;

The contractor shall submit to the consultant

- ✓ Camp site layout and details of the proposed measures to address adverse environmental impacts resulting from its installation.
- ✓ layout of equipment maintenance areas and lubricant and fuel storage facilities including distance from water sources;
- ✓ Sewage and wastewater management plan for provision of sanitary block to prevent pollution of watercourses
- ✓ detailing the means by which local people and other project affected persons (PAP) can raise grievances arising from the rehabilitation process and how these will be addressed (e.g., through dialogues, consultations, etc.)

#### *6.1.1.15 Safety and Health*

Before commencing work, the Contractor will be required to identify potential hazards. Provisions for emergency responses are to be included in the Contractor 's site safety plan which is to include nomination of a person who will be immediately contacted should an accident occur. The site safety plan will be submitted to the Supervision Consultant for approval one week prior to starting work.

- ✓ The contractor will be required to keep the site free of drugs and alcohol;
- ✓ The contractor 's site safety plan will include provision for a safe work environment and provide safety measures and protective equipment to all workers including; hand, head, eye and ear protection and safety footwear;
- ✓ All workers shall be provided with PPE (Personal Protective Equipment)
- ✓ Safety and Labor Management Plan (SLMP), shall include a provision for first aid in situ and trained person for the first aid assistance;
- ✓ The Contractor shall provide supply of running water for its workers, wash water, water for toilets;
- ✓ SLMP is necessary to ensure provisions for health and safety during rehabilitation Works;
- ✓ Ensure that all vehicles which pass through settlements are operated safely without endangering these communities;

- ✓ All trucks and pieces of equipment are maintained in a safe operating condition,
- ✓ All drivers and machinery operators are trained and act responsibly (to be stipulated in the Contractor 's site safety plan),
- ✓ All loads are secured and all loads with potential dust generating materials (e.g. Excavated soil and sand) will be covered with tarpaulins,
- ✓ The Contractor will immediately remove any drivers that ignore any of the community safety requirements.
- ✓ Speed limits will be observed.

**Table 6:** Environmental and social management plan matrix

ENVIRONEMTAL MANAGEMENT PLAN MATRIX						
Constructio n Phases	Environmental impacts	Issues	Objective	Mitigation (management strategies)	Responsibility	Output/Performance indicator
Pre-phase construction	legal clearance for site installations		To acquire all permits and licenses from relevant government and local authorities	<ul style="list-style-type: none"> <li>• Contact with the local leaders for permission in its jurisdiction area</li> <li>• Clear all paper work with DIPREME for permits and licensing for quarries.</li> <li>• Giving project Information to the affected parties prior to the commencement of the activity (consultation process).</li> </ul>	Local authorities ( provincial and districts) and Contractor	<ul style="list-style-type: none"> <li>• Permits issued</li> <li>• Environmental issues are included in the design and BOQ</li> </ul>
Construction phase	Health and safety	Road safety	To ensure maximum safety to construction personnel, locals as well as other road users	<ul style="list-style-type: none"> <li>• Adequate deviation road shall be provided not to interfere with normal traffic flow.</li> <li>• Traffic rules and discipline should be observed by all workers. The employer should ensure that all operators and drivers are fully aware of and are able to handle the responsibility they are assigned to;</li> <li>• Install light and cautionary signs in hazardous areas.</li> <li>• Establish footpaths and vehicle pull-off bays along the road, through villages and near markets, schools and other community facilities;</li> <li>• Speed control and traffic management measures put in place including speed bumps to be constructed at critical locations.</li> <li>• Awareness creation on traffic safety and rules;</li> <li>• Safety and Labor Management Plan (SLMP), shall include a provision for first aid in situ and trained person for the first aid assistance</li> <li>• The Contractor shall provide supply of running water for its workers, wash water, water for toilets;</li> <li>• SLMP is necessary to ensure provisions for health and safety during rehabilitation Works;</li> <li>• Ensure that all vehicles which pass through settlements are operated safely without endangering these communities.</li> </ul>	Contractor, Engineer,	<ul style="list-style-type: none"> <li>• Light and caution signals installed in all hazardous areas (deviation, half with close, bridges work, etc.)</li> <li>• Training material for drivers and operators on traffic rules</li> </ul>

ENVIRONMENTAL MANAGEMENT PLAN MATRIX						
Construction Phases	Environmental impacts	Issues	Objective	Mitigation (management strategies)	Responsibility	Output/Performance indicator
		Health	To guarantee minimal health condition and prevent infection and spread of STI and HIV/AIDS at workplace and to the local community	<ul style="list-style-type: none"> <li>Ensure all occupational health and safety requirements are in place on construction sites and in work camps (first aids set and clinic);</li> <li>Awareness creation on basic health care, environmental sanitation.</li> <li>Implement awareness activities on HIV/AIDS pandemic at least once a month at project level (workforce) community level.</li> <li>Ensure enough condoms and awareness material is available to workforce and adjoining communities.</li> <li>Rehabilitate excavated grounds at quarry sites and borrow pits to avoid mosquito breeding.</li> </ul>	Contractor, health staff,  HIV/AIDS specialist/local NGO  Peer educators	<ul style="list-style-type: none"> <li>Clinic and first aid boxes at camp site and other working areas</li> <li>Condom distribution</li> <li>Counselling and test records</li> <li>Peer educators trained</li> <li>IEC material specific to socio-cultural context of region</li> </ul>
		Managing construction sites	To avoid contamination from solid waste and sewage	<ul style="list-style-type: none"> <li>Provide water for workers from protected sources or public water supply.</li> <li>Ensure sanitary conditions, proper waste disposal (sanitary landfill) and waste management in camps and at work places that includes:               <ul style="list-style-type: none"> <li>Burning non-recyclable waste including paper used in bitumen spraying and clinic waste.</li> <li>Crushing all unburned residues.</li> <li>Burying the crushed residues in a pit dug</li> </ul> </li> <li>Dispose of sewage into hygienic pit latrine or into septic tank system.</li> <li>During site clean-up, burn all spilled fuel oil</li> </ul>	<ul style="list-style-type: none"> <li>contractor</li> </ul>	<ul style="list-style-type: none"> <li>established water distribution system in the camps and work places</li> <li>Waste is properly collected and disposed safely.</li> <li>Garbage containers at camp site</li> <li>Sanitary landfill established</li> </ul>

ENVIRONEMTAL MANAGEMENT PLAN MATRIX						
Constructio n Phases	Environmental impacts	Issues	Objective	Mitigation (management strategies)	Responsibility	Output/Performance indicator
	Cultural and Historical Assets	Cultural and heritage Chance Finds	To avoid disturbance of an cultural and historical areas to be affected by the construction activities	<ul style="list-style-type: none"> <li>Prior to the beginning of the work all cultural, cemetery and religious sites must be identified;</li> <li>In a case that the construction activities cannot avoid these areas, a fair compensation shall be implemented after agreement between ANE, community and families, and all traditional and official rules/procedures to reallocate these areas be followed before construction starts</li> <li>Use a chance find approach methodology as per OP 4.09 With the supervision of the engineer shall inform District or Provincial Directorate of Culture and tourism or a provincial delegation of ARPAC</li> </ul>	ANE (at the RAP/ARAP preparation stage), Contractor during the construction phase	Nr of cultural site identified and protected from road construction activities
Construction Phase	Employment and income generating activities	Accounting for social or community concerns (including gender issues)	To minimize social disturbance and maximize community benefits from the project	<ul style="list-style-type: none"> <li>Arrange contractual commitments to respect social factors for temporary employees.</li> <li>Arrange for local people to be employed and trained as part of the activity.</li> <li>Include women and other community groups in the activity whenever possible.</li> <li>Create suitable working atmosphere at work place to encourage women involvement in the project activities.</li> <li>Encourage workers to use locally available products to assist local economy.</li> <li>Arrange and ensure supply of basic consumable items by encouraging entrepreneurs in the area.</li> </ul>	Contractor, Local authorities and local administration	<p>Nr of local people getting employed and fairly paid within project</p> <p>Nr of women working and involved with road activities</p> <p>Nr of (informal markets)people selling agriculture and other products close to camps and working areas</p>
	Real property, heritage, building and equipment		To minimize social disturbance due to road work	<ul style="list-style-type: none"> <li>All resettlement, land acquisition and compensation issues will be dealt in accordance with the RPF developed for the road section of N1/N10 Quelimane-Nicoadala-Namacurra.</li> </ul>		



ENVIRONEMTAL MANAGEMENT PLAN MATRIX						
Constructio n Phases	Environmental impacts	Issues	Objective	Mitigation (management strategies)	Responsibility	Output/Performance indicator
	Agriculture livestock	Farmland acquisition	To minimize farmland loss and animal accidents due to road works	<ul style="list-style-type: none"> <li>All resettlement, land acquisition and compensation issues will be dealt in accordance with the RPF for this project.</li> </ul>		List of affected landholders
	Quality of life		To avoid reduction of quality of life for the communities within the project boundaries	<ul style="list-style-type: none"> <li>Locate camps away from sensitive sites like villages.</li> <li>Quarries in the proximities of settlement must not be used (less than 500 m)</li> <li>Watering gravel section during dry season.</li> </ul>	Contractor, engineer	
	Vegetation and Fauna	Controlling vegetation and fauna depletion due to work roads	To minimize impacts on vegetation and fauna degradation in the region	<ul style="list-style-type: none"> <li>Prohibit project workers from encroachment and poaching forest and wildlife areas (for poles, firewood and meat).</li> <li>Sources of energy for cooking must be provided by contractor.</li> <li>Limit vegetation removal and site clearance to only areas required for project works.</li> <li>Prohibit forest fire setting and supervise fire risks by construction workers.</li> <li>Route selection for access to material sites, and detour road route should try to avoid dense vegetation covered areas and protected area.</li> <li>The road route should not cross any gazette protected area.</li> <li>Tree cutting for deviation and access road construction should be strictly prohibited unless conditions forced to do so otherwise.</li> <li></li> </ul>	Contractor, Engineer Forest Department at provincial level	<p>Area of forest cleared to accommodate road works,</p> <p>About 50 to 100 new trees planted and handed over to the municipality</p>

ENVIRONEMTAL MANAGEMENT PLAN MATRIX						
Constructio n Phases	Environmental impacts	Issues	Objective	Mitigation (management strategies)	Responsibility	Output/Performance indicator
	Water contamination/supply	Controlling sources of water contamination and guarantee water supply for construction works	To minimize impacts of water contamination and avoid water competition with other users	<ul style="list-style-type: none"> <li>• Competition over water use due to influx of workers in the area, and due to the construction activity should be regulated by giving priorities to the resident community.</li> <li>• The contractor shall arrange water supply point that doesn't interfere with that of the local community.</li> <li>• Provide adequate flow dispersal structure to maintain the natural flow direction and to avoid flow concentration to specific locations.</li> <li>• Program excavation activities at river crossing areas during dry period,</li> <li>• Protect sensitive surface (river margin adjacent to drainage structure) with mulch or fabrics, stone ripraps, gabions, etc.</li> <li>• Avoid dumping and accumulation of spoil soil at river banks and downhill sides.</li> <li>• Store oil and bituminous products at a contained location away from drainage line and in appropriate manner.</li> </ul>	Contractor	<p>Potable water provided from sustainable sources</p> <p>Drainage facilities are provided</p> <p>Spoil soil cart away timely</p>
Construction	Soil and underground resources	Reducing erosion	To minimize the amount of sediment lost from the site	<ul style="list-style-type: none"> <li>• Vegetation clearing to a minimum level.</li> <li>• Avoid disturbance on steep slopes.</li> <li>• Keep vehicle on defined tracks.</li> <li>• Surplus excavated top soil shall be stored and used to rehabilitate degraded grounds</li> <li>• Rehabilitate excavated ground up on completion of works</li> <li>• Prohibit animal grazing at road shoulders</li> <li>• Re-vegetate erodible soil surfaces as soon as possible</li> </ul>	Contractor, Engineer	Erosion and slope protection measures and constructions done timely Excavated ground areas (quarries and borrow pits) reclaimed and return to crop
			To minimize the impacts of storm water containing sediments	<ul style="list-style-type: none"> <li>• Schedule construction so that large areas of soil are not exposed during the wet season</li> </ul>	Contractor Engineer	<p>Camp and work sites established before/after wet season (December to February)</p> <p>Use of heavy equipment and borrow pit material collection be avoided during December and January</p>

ENVIRONEMTAL MANAGEMENT PLAN MATRIX						
Constructio n Phases	Environmental impacts	Issues	Objective	Mitigation (management strategies)	Responsibility	Output/Performance indicator
			To minimize long effects of soil contamination due to mismanagement of hazardous products	<ul style="list-style-type: none"> <li>Maintain leaking equipment and vehicle parts, Avoid fuel &amp; oil spillages while refilling, collect and properly treat used oil and</li> </ul>	Contractor Engineer	Clearly identified areas for hazardous material storages
	Air pollution		To ensure nuisance form noise is minimized and no health risk or inconvenience due to dust production.	<ul style="list-style-type: none"> <li>Carry out noisy construction activities during normal working hours.</li> <li>Advice local people when there will be blasting or unusual, unavoidable noise.</li> <li>Protective equipment for construction workers in areas of high noise levels.</li> <li>Spray water on exposed surfaces during dry season (deviation, carriageway bed, etc.)</li> <li>Install dust and smoke suppression accessories on asphalt plant and crusher equipment.</li> <li>Avoid locating quarries and borrow pits close to settlements.</li> <li>Regular maintenance of machinery and vehicle to reduce excessive gaseous emissions.</li> </ul>	Contractor Engineer	Protective equipment distributed to workers at quarries, operators etc.
Operational phase	Soil erosion and soil contamination			<ul style="list-style-type: none"> <li>Grass cover slopes and graded grounds, and protect livestock grazing at road shoulders and embankments</li> <li>Control traffic accidents and transportation of hazardous chemicals</li> <li>Rake or loosen all compacted ground surfaces</li> <li>Establishment of local team for culvert and other drainage infrastructure clean up in regular basin (from siltation, trees etc.) to maintain the normal flow of water</li> </ul>	Contractor, Engineer, NE Delegation,	Erosion and slope protection measures and constructions done timely
	Water contamination			<ul style="list-style-type: none"> <li>Oil spills and vehicle leakages shall be minimized through regular monitoring and supervision, annual checking of vehicle conditions</li> <li>Waste management practices should improve, road side littering especially in towns and villages should be regulated.</li> </ul>	Transport department, Municipalities and local authorities	
	Vegetation and flora			<ul style="list-style-type: none"> <li>Minimize forest fire risks by creating awareness among the road users and the surrounding community.</li> </ul>	Contractor	Speed limit signs posted, Light signs, reflectors, landslide walls built,

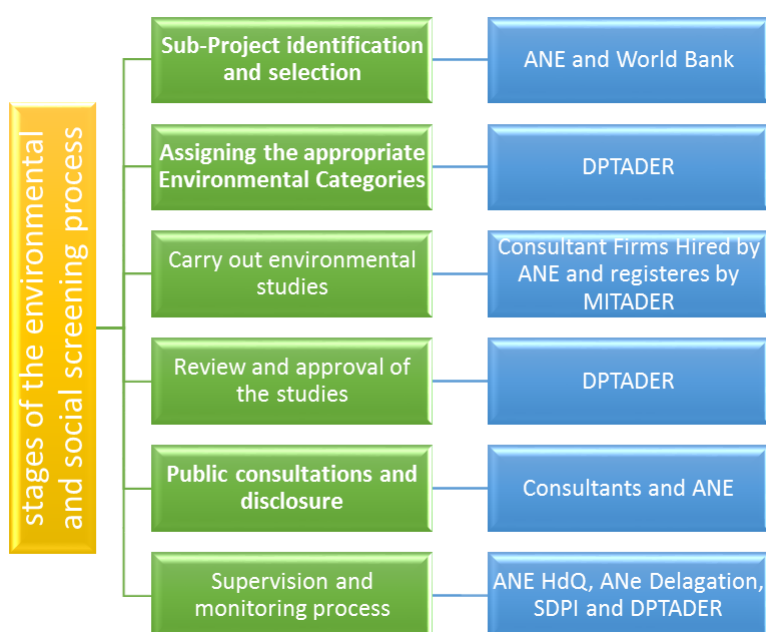
ENVIRONEMTAL MANAGEMENT PLAN MATRIX						
Constructio n Phases	Environmental impacts	Issues	Objective	Mitigation (management strategies)	Responsibility	Output/Performance indicator
				<ul style="list-style-type: none"> <li>Reduce illegal forest harvesting and cropping up hills to minimize siltation and destruction of drainage infrastructures along the road</li> </ul>		Pavement and Vertical road signs
	Road safety			<ul style="list-style-type: none"> <li>Minimized vehicular accidents through implementation of traffic and transport regulations.</li> <li>Warning signals and bumps shall be Posted at critical locations</li> </ul>	DPTADER	Forest Law enforced with mobile patrolling; Community <b>patrolling</b>

## 7. FRAMEWORK FOR ESMF IMPLEMENTATION

There are more similarities than differences between the Mozambique laws (Decree 54/2015 on the Environmental Impact Assessment process) and the Bank's OP 4.01 on Environmental Assessment, although the World Bank policy provides robust instruments for environmental and social management as described in section on "gap analysis between national instruments and the World Bank Policies".

To make a determination of the environmental and social assessment requirements, all IFRDP subprojects shall be subject to a review and screening process. This review and screening will be particularly relevant for planned activities under components 1 and 2. To ensure consistency in the application of review and screening process, standard formats in annex will be referenced across the report.

This chapter of the ESMF provides a description and process of environmental and social to be applied to ensure that environmental and social issues associated with project and subprojects implementation are fairly addressed through appropriate process and institutional arrangements. The Figure 4 below provides the environmental and social management phases to be followed during the implementation of project specific subproject.



**Figure 4:** Environmental and social management process and stakeholders consultation during subproject phases

### Environmental and social screening

Both the Bank policy (OP 4.01) and the government laws on environmental licensing (as previously presented in details) provides that a project environmental and social screening be conducted as the initial step towards acquiring a project environmental license. The aim of environmental and social screening include the following: (i) Determine the level of environmental work required (i.e. whether an ESMP is required or not; whether the application of simple mitigation measures will suffice; or whether no additional environmental work is required); (ii) Determine appropriate mitigation measures for addressing adverse impacts; (iii) Incorporate mitigation measures into the development plans; (iv) Determine which subproject activities are likely to have potential negative environmental

and social impacts; (v) Determine if there will be land acquisition, impact on assets, loss of livelihood, and/ or restricted access to natural resources; (vi) Indicate the need for a Resettlement Action Plan (RAP), which would be prepared in line with the Resettlement Policy Framework (RPF); (vii) Facilitate the review and approval of the screening results regarding any potential rehabilitation and improvement (equipment and proposals; and h) Provide guidelines for monitoring environmental and social parameters during project activities.

While the environmental screening shall focus on project impacts/risks on natural environment; social screening should look at identifying the potential for loss of land, assets/structures, livelihoods, and other significant social impacts. Social screening will also enable the categorization of sub-projects based on their level of social impacts- that is where the extent of adverse social impacts is minor and no displacement or loss of assets or livelihoods is expected, no further action is required. However, where the social screening indicates that land acquisition and/or loss of assets is unavoidable, and there is adverse impact on Affected People (AP), including vulnerable communities, then appropriate resettlement action plans as well as vulnerable communities' development plan shall be prepared in accordance with the provisions of the framework for resettlement and for vulnerable groups development. During the social screening process, information should be shared on preliminary project design and resettlement related impacts. Furthermore, alternatives will shall be explored through consultations to minimize resettlement and adverse social impacts on AP's and vulnerable groups.

The IFRDF safeguards team (this imply ANE) shall utilize the information obtained from the screening exercise to determine the project category, and this should be conducted also based on the Bank OP 4.01, and before the final subproject categorization is submitted to the Bank for review and approval. The diagram below provides detailed account of subproject categorization process within ANE and its linkage with the World Bank.

ANE team shall submit to the Bank the results of the screening process with a proposal of project categorization. The IFRDP The project has been considered as a Category B project, and subproject classified as A or A+ shall not be eligible for financing under the IFRDP. This means, all IFRDP shall be classified either B or C.

It is the task of the ANE team (those under safeguards unit) to carry out prepare the environmental and social assessment as well the required management instruments (ESMPs, ESM Good Practice Guide), with the exception of cases where DPTSDER has categorized subproject as B, and requiring Simplified ESIA and ESMP that have to be elaborated by an accredited consultant, or cases where the Bank requires an independent ESMP preparation.

In submitting the screening results to the Bank, the categorization by the Bank may differ. There could be cases where it would be possible for both the Bank and DPTADER categorize subprojects differently for same project. Where for instance a project is categorized B by the WB and C by DPTADER, environmental and social management instruments shall be prepared to meet requirements from both the Bank and DPTADER.

The social screening results will determine whether the OP 4.12 is triggered or not, and consequently the requirement of a Process Framework (PF) or Resettlement Policy Framework (RPF). The PF shall be used/applicable for cases where subproject may restrict community access to natural resources in legally established protected area and directly impact on livelihoods, and this may require a participatory (involving stakeholders, especially affected community) preparation of a Community Agreement and Action Plan. The PF shall define eligibility criteria and proposal of mitigation measures. The RPF should be prepared where there are physical and economical losses (as expected for the IFRDP). The RPF shall define eligibility criteria, procedures and institutional responsibilities in case of

losses resulting from the project implementation. The process of subproject categorization is described previously under section on “Comparison between Mozambique legislation and the world Bank Policies”.

### **Environmental and social management instruments**

From the previous’ section description, it is evident that the subprojects under the IFRDP will require an environmental and social management instrument based on the categorization. MITADER requires a simplified ESIA be prepared by a consultant, ESMPs or Good Practice Guide shall be prepared by ANE safeguards team. These study are prepared alongside detailed subproject design, so that mitigation measures under environmental and social management instruments are reflected/integrated into the detailed subproject design, as well as into the bidding documents. Detailed description of process/procedures for developing the environmental and social management instruments are presented in subsequent sections.

#### *7.1.1.1 Simplified ESIA*

For subproject under category B, it shall be the task of the ANE team to draft TORs for appointment/engagement of a consultant to conduct the simplified ESIA, which shall include an ESMP and well conducting respective stakeholder consultation process as shown in **Annex 4**. To carry out the simplified ESIA, the consultant must be registered and authorized by the MITADER to carry out such type of studies within the Mozambique territory. Conditional to contract awarding, the consultant shall present valid documentation- a registration certificate. The drafting of the TOR for conducting the simplified ESIA shall be in line with the identified potential risks/impacts identified in the screening phase, and these TOR shall be submitted to the Bank ‘s environmental and social specialists for review and a no-objection response before submission to DPTADER. The ESIA (this includes the ESMP) from the consultant work shall be reviewed by the ANE team before submission to the Bank for a no-objection, then submitted to the DPTADER. Any contractor engaged in the project, shall prove being sufficiently competent and experienced, and compliance with the terms in the ESMPs and these terms shall be integral part of the bidding documents and contracts. Before commencement of any construction work, the contractor shall prepare and submit to ANE for approval, a contractor’s ESMP (C-ESMP) for ANE’s approval, and this C-ESMP shall be integral part of the contract.

#### *7.1.1.2 Environmental and Social Management Plans*

For each category B subproject, an ESMP will be required, and this ESMP shall prepared by ANE based on the impact and mitigation measures identified in the present ESMF. Where MITADER has classified a project as C and the Bank has classified as B, ANE shall be responsible for preparing the ESMP, and this shall incorporate project information as well as the specific site environmental and social conditions. Additionally, mitigation measure to manage identified impacts/risks shall be included in the screening, including the roles and responsibilities for implementation in various subproject phases. The ESMP shall be specific in guidance for the contractors.

In drafting the ESMP, it is crucial that affected and interested parties- communities, local leadership are consulted in a participatory manner. The content of the ESMP shall be sufficiently instructive to ensure that contractors are able to understand how mitigation measures are planned and executed. Then contractors will be requested to draft/develop a Contractor’s Code of Conduct to be applied to the nature of the work, and this shall be approved by ANE and attached to the contract.

#### *7.1.1.3 Environmental and social management good practice guide*

As previously noted, an environmental and social management good practice guide shall be applied for subproject categorized as C with specific adaptation to the IFRDP subprojects. Also, individual environmental, health and safety (EHS) guidelines shall be applied and these shall be submitted to Bank for a no-objection, and shall be included in the bidding documents.

### **Monitoring, reporting and auditing**

**Monitoring.** Monitoring of the compliance of project implementation shall be defined for individual sub-project. ESIA/ESMP will be carried out jointly with PIU at provincial level, Environmental and Social officer of the engineer, the Contractor and the community. PIU at national level has to submit to the approval of the World Bank a quarterly and annual report on safeguards issues, implemented by the contractor under supervision of the Engineer. PIU at district level should supervise and monitoring activities and report monthly to the site meeting. Monthly site meeting should be attended by the representative of the PIU at provincial and national level as well as the representative of the funding agency. During this meeting implementation aspects of the project will be discussed and all matters of community concern not resolved should be given a solution. On a monthly base the project will hold a site meeting. During this meeting the Contractor Environmental officer shall present, prior to the approval of the engineer. The monthly report should include at least information on the CESMP implementation, conflict resolution/GRM, OHS, HIV, GBV and CAE ICE reports.

Monitoring comprises on-site inspection of activities to verify that measures identified in the ESMP are being implemented. This type of monitoring is like the normal tasks of a supervising engineer whose task will be by contractual arrangement to ensure that the Contractor is adhering to the contractual obligations regarding environmental, social, health and safety practices during construction, as prescribed in the Environmental and Social Clauses (ESC) included in the bidding documents and Contracts or as described in the Contractor ESMP.

**Environmental and Social Audit.** An external independent environmental, social, health and safety audit will be carried out at mid-term of project implementation and at the end of the project. It is proposed that AQUA/MITADER will conduct its audit to verify compliance with the GOM requirements, mainly based on the ESMP, while DPTADER will focus on compliance of the project requirements as such. The two audit teams will report to ANE and the World Bank, who will deal with the implementation of any corrective measures as required. The audits are necessary to ensure that (i) the ESMF and the ESMP processes is being implemented appropriately, and (ii) mitigation measures are being identified and implemented accordingly. The audit will be able to identify any amendments in the ESMF approach that are required to improve its effectiveness. The Audit Reports will include:

- ✓ A summary of the environmental, social, health and safety performance of the sub-projects, based on the ESIAs, ESMPs RAPs, and the implementation of the Environmental and Social Clauses in the Contractor Contracts and Contractor ESMPs;
- ✓ A presentation of compliance and progress in the implementation of the sub-projects ESMPs;
- ✓ A summary of the environmental and social monitoring results from individual sub-projects monitoring measures (as set out in the sub-project ESMPs);
- ✓ Examine monitoring programs, parameters and procedures in place for control and corrective actions in case of emergencies;
- ✓ Examine records of incidents and accidents and the likelihood of future occurrence of the incidents and accidents;
- ✓ Inspect all working areas and camping sites including borrow and quarry areas, where dangerous products are stored and disposed of and give a record of all significant environmental, social, health and safety risks associated with such activities;



- ✓ Examine and seek views on health and safety issues from the project employees, the local and other potentially affected communities; and
  - Prepare a list of health and safety and environmental and social concerns of past and on-going activities.

## 8. IMPLEMENTATION ARRANGEMENT

ANE shall be the responsible agency for implementing and ensuring compliance with ESMF and other environmental and social instruments at sub-project level. Under the present structure, the Department of Monitoring within ANE at the national level is tasked with the responsibility for environmental and social matters. Under the IFRDP, a dedicated unit within ANE shall be established, and this shall be responsible for environmental and social surveillance, project management, coordination and capacity support to ANE's delegations at provincial level. Relevant agencies at district level, shall also be included and involved in planning and implementation of environmental and social safeguards functions. In project target areas, ANE delegation has a focal point for cross cutting issues, including environmental and social issues. Nonetheless, the mandate of the focal point remains unclear.

At the level, the District Services of Planning and Infrastructure (SDPIs) are the units responsible for dealing with environmental, but in all cases, the bureaucratic processes relating to ESIA/ESMP are dealt with by DPTADER at provincial level. To role of SDPIs at district level on environmental and social matters is unclear, and the agencies have very limited involvement.

Given the limited capacity at various levels and agencies especially on communication, coordination, capacity building and institutional strengthening, a qualified safeguards specialist shall be hired at central level and two Provincial Community Management Officials (one in each province) and a Communication Officers in the two provinces stationed at ANE delegate. Training activities shall be conducted in order to build capacity across agencies, and these training activities shall include the following:

- ✓ Sensitize the various stakeholders on the linkages between environment and social impacts of the road construction projects;
- ✓ Demonstrate the role of the various key players in the implementation and monitoring of the safeguards instruments (ESMF-ESIA/ESMP);
- ✓ Sensitize representatives and leaders of community groups and associations, including women's and people with disabilities representatives, (who will in turn convey the message to their respective communities) on the implementation and management of the mitigation measures; and on their roles in achieving environmental and social sustainability;
- ✓ Ensure that both provincial and district level personnel can provide leadership and guidance as well as supervise the implementation of their components in the ESIA/ESMP;
- ✓ Ensure that participants can analyze the potential environmental and social impacts, and competently prescribe mitigation options as well as supervise the implementation of management plans.

Where deemed appropriate, services to boost ANE's capacity on environmental and social aspects may be sourced from outside through specialized service providers. The sourced services shall be aligned and harmonized with the Project's ultimate goals. Capacity building and transfer of knowledge and skills on overall environmental and social unit within ANE will be at the center of capacity building initiatives, especially at provincial level, where capacity is limited. Most notably, the capacity building at this level, shall focus on the screening process, elaboration and implementation of ESIA and ESMPs well as Resettlement process if any.

Capacity building shall also target contractors after contract award. The capacity shall be directed at orientation on ESMF provisions and processes. The contractor will also prepare a Labor Influx Plan

based on the requirements of the sub-project and acceptable to ANE and the World Bank. Also, capacity shall be provided for independent third party audit. Site specific ESMP shall propose training and orientation plan, including cost for the sub-project in question, based on the need to enhance capacity of stakeholders.

## 9. PUBLIC, STAKEHOLDER CONSULTATION AND PARTICIPATION

### *Public Consultation throughout Project Cycle to Secure Support*

Public consultation for an Environmental process is regulated under the public consultation directives approved by MITADER. Based on this, public consultations shall be held for subproject under categories A+, A and B. A call for public consultation should be made fifteen days (15) prior to the meeting, using the most common means of communication such as newspaper, TV, national radio and community radios (local), in order to reach the majority of the target people.

At least two public meetings are expected to be taken for the category A+ and A. One in the beginning (EPDA and TOR's) and another in the end (EIA and ESMP), while for category B subprojects projects, one meeting is acceptable at the beginning. In addition, the different groups shall be included in the consultations. Before the meeting is held, the environmental consultant/ANE shall submit a non-technical report for revision by Interested Parties (IP).

The main role of a consultation is to inform the AP about the project and the impacts that may cause and also helps identify impacts, sources of vulnerabilities, the households and groups likely to be affected and appropriate measures to address appropriately. Similarly, because the APs know their economic, social, and biophysical surroundings best, consultation is useful in formulating environmental mitigation measures or resettlement options that balance the APs needs and capabilities with the technical requirements of the options. In carrying out public consultation, a number of advantages for smooth project implementation will be secured which are briefly discussed hereunder: The project-affected communities shall be continually consulted by the Project Management (including supervision and monitoring personnel) to identify upcoming needs, constraints and priorities and discuss success/mobility needs as well as the levels and kinds of services needed, or what kind of environmental corrective measures need to be pursued during the different phases of the road project implementation.

In a situation that the sub-project has to resettle people more continuous consultation process should be established. All resettlement, land acquisition and compensation issues will be dealt in accordance with the RPF developed for the IFRDP.

Public consultation is also a viable instrument to addressing AP's anxieties/expectancy and to secure their support. Communities of the proposed project may be anxious that they will lose their property or livelihoods due to the land acquisition or activities that may hamper their production (e.g. farmers may lose production due to reduction of their fields). Participation in planning and managing the project activities might help to reduce such fears and will give the consulted persons equally the opportunity to participate in key decisions. Thus they will both understand and support better the proposed measures, particularly when viable income alternatives can be offered.

In other words, a frequent Public Consultation that brings concerns and perceptions of the Affected People (AP) will be the best way in creating a feeling of ownership among the people, particularly when they gain the confidence that their concerns and suggestions forwarded are taken into consideration in the design and the construction. Only then the local communities will collaborate and support the beneficial aspects and measures of the sub project(s). In addition, local people must receive adequate feedback for imposed corrective measures: One of the effective mechanisms of continued consultation with the project communities also could be public audit to conduct at a regular interval during implementation and operation so that project beneficiaries are informed timely on the project activities, and are invited to provide feedback for further improvement. In contrast, project activities implemented without (adequate) public consultation may lead to undesired counter-actions (e.g.

opposition or blockage of works, theft, delays, cost increases, penalties), social disturbance and eventual crime. With proper and timely consultation, initial opposition to a project may be transferred into constructive participation.

In addition, providing continual information on the project and, at the same time, asking the public for constructive suggestions will eventually make the local communities ready to feel the ownership and support the beneficial aspects of the project. It also, help the ANE to inform and implement the decree 109/2014 regarding the need to avoid activities within the road reserve area.

To maintain social balance and confidence with the local people, all information needs to be disclosed to the public on the project's likely positive and negative impacts, the established compensation and payment schedules, Environmental Social Management Plan (ESMP), RAP, implementing institutions and timetable and grievances procedures.

#### *Identification of Project Stakeholders and Integration of their Perspectives in the Planning and Management Process*

Public participation, consultation and information dissemination in a project must be an integral part in all environmental and social impact assessment activities during the initial phases of project preparation. Concerned stakeholders will be regularly provided with information on the project prior to and during the process of ESIA, while the Consultants prepare the ESMP, RAP documents as applicable. Established mechanisms of public participation include: Contact representatives of line agencies responsible for social, economic, environmental, agriculture, forestry, land-use planning) in the project area; Consult experienced and well-established NGOs working locally in the above sectors.

Formation of committees and/or groups comprising of stakeholders at various stages of the project Information campaign through media and other means. Interviews with APs to identify issues for resettlement, compensation and grievance redress mechanisms. Focus group discussions, seminars and workshops, Socioeconomic baseline survey as well provides an opportunity for consultation with the concerned public.

ESMF should identify the targeted institutions and governmental agencies who have a vested interests and also different responsibilities with regard to the proposed road development program. On the non-governmental level, Individuals, families, social groups, environmental conservationists and research institutions with interest in the road development program are the principal stakeholders of the project. The primary stakeholders of the project are those directly affected by the road construction sub-project either as beneficiaries or as those affected by loss of property or loss of livelihood. Secondary stakeholders are intermediaries in relation to the project and not directly affected but show their concern in one way or the other in the project as a whole such as donor, implementing agency, government, NGOs, environmental protection agencies, and private sector organizations involved in monitoring and advocacy.

A public consultation process has to be established in a way that women, poor and vulnerable people be integrated into the discussion. The inputs, perspectives and recommendations of the stakeholders received during public consultation will be incorporated in the planning and management documents. The establishment of link structure between contractor, community and engineer is a convenient way of expressing their individual and community concerns and bringing to the notice of the project management. Local labor especially from the vulnerable and APs will receive priority to work during road construction and maintenance. At least 25 % of employment will be reserved for women. It will also ensure that women are adequately participating and fairly paid for similar type of work like men,

and that child labor is being avoided. During the employment contract process an equilibrium among villages should be established.

The drafting of the present ESMF (both for the parent project and the AF) included a stakeholders' consultation cycle with project affected people, and other relevant stakeholders- government officials, civil society organizations, among others. The consultation meetings were held in Nampula and Zambézia for the parent project; and in Manica, Cabo Delgado, Tete and Sofala provinces under the project AF. For the parent project, consultation were made conducted in form of field visits (project sites) and meetings with relevant entities both at provincial and district level. The aim of these field visits were to assess project potential environmental and social risks and impact, understand issues of institutional capacity, including coordination on relevant environmental and social aspects. The visits took place between 31<sup>st</sup> May- 2<sup>nd</sup> June 2017. For the AF, the consultations were mainly in form of public gatherings with relevant stakeholders, including potential people affected by the project.

The Table 7 below provides summary on the meetings, with specific focus on location, dates, and number participants for each consultation meeting held under the AF.

**Table 7:** Details on consultation meetings for the AF

Place	Data	Time	Number of Participants			Facilitators
			Total	Men (%)	Women (%)	
Maputo	June 13, 2019	09h00 – 10h30	6	4 (67%)	2 (33%)	Eulália Macome
Sofala	July 25, 2019	13h00 – 16h00	34	30 (78%)	4 (12%)	Eulália Macome
Manica	July 26, 2019	09h00 – 12h00	41	34 (83%)	7 (17%)	Eulália Macome
Tete	August 1, 2019	09h00 – 11h15	29	21 (72%)	8 (28%)	Juliana Come
Cabo Delgado	August 1, 2019	09h00 – 11h00	25	23 (82%)	2 (8%)	Emília Tembe
<b>Total of Attendees</b>			<b>135</b>	<b>112 (83%)</b>	<b>23 (17%)</b>	

In general, stakeholders expressed support for the project and acknowledged the benefits the project brings about- short and long term employment opportunities, improved access to local markets and other social services- e.g., health centers, educational facilities, transportation and public utilities like drinking water and electricity. It was also noted that the project may result in increase of the net income of the targeted beneficiaries. In addition, agriculture-based employment opportunities and an increase in agricultural productivities were mentioned as potential project benefits.

Critical aspects raised during stakeholder meetings under the parent project relate to the institutional capacity for local entities/agencies to manage project environmental and social aspects. Besides the limited knowledge and unclear systems, these institutions are under-funded, which has resulted in limited oversight capacity. Also, the aspect of coordination emerged between ANE and other relevant agencies- e.g. agriculture, infrastructure, both at provincial and district level. Major issues arising from consultation meetings in each province for the AF are summarized below:

***Sofala province:***

- The reason the project does not include road accessing protecting areas (mainly because of the Gorongosa national park, whose main road was damaged by floods);
- The rationale for the project to only focus on rehabilitation and not construction of new roads;
- The limited capacity of lower level agencies/entities (e.g. SDPI) to fulfill their mandate;
- Mechanisms in place to ensure that contractors manage properly the borrow pits;
- The issue of limited/lack of quality of some rehabilitated/constructed roads and the need to enforce contract provision with the contractors;
- Roads encroachment; and
- Labor influx and the need for its minimization and the issue of GBV.

***Manica province:***

- Inclusion of damaged roads before Idai;
- Selection of roads and the need to include those linking the national road 1;
- Criteria for inclusion of areas to benefit from the project;
- Quality of roads and the need for ANE to be demanding for quality from contractors, and the need for supervision; and
- Road reserves and the role of local institutions and community leaders.

***Tete province:***

- Project scope and extension of some of the existing roads;
- Project scope and geographic coverage in Tete;
- Technical project scope (whether old roads would benefit from the rehabilitation);
- ESMF methodology and whether findings are applicable across all project target areas;
- Project approach to resilient infrastructures;
- Permanent loss of land and crops and compensation;
- The mandate of environmental and social personnel; and
- ESMF and RPF timetable;

***Cabo Delgado province:***

- Project scope and coverage for districts in the protected areas; and
- Inclusion of stakeholders concerns.

## 10. ESMF COST ESTIMATION

The IFRDP implementation is at initial stage of the project conception and design. Therefore, the number location and extension of the sub-projects are not known, which makes the determination of ESMF cost challenging. The estimates for safeguards implementation presented under the present section is based on consultation with ANE and FE, and based in history of previous project implementation. It was assumed that the total number of IFRDP subproject will be in the region of 45 in 6 target provinces. For each subproject, it was assumed, and based on history that the implementation of the environmental and social instruments would be around 2.5 to 10% of the total project cost, depending on the surrounding landscape and occupations, and also taking into account the intensity of the works to be done. Some costs are per each subproject, and others are aggregated by provinces. Further, it was assumed that the total budget allocated per district would be around 10 million USD. Thus, the cost estimates for the preparation of the ESIA, ESMP and RAP for category B is around 30 thousand per each sub-project and it was assumed that a total of 45 sub-project may be selected, and the implementation of the environmental and social instruments will be part of the contractor and cost. At this stage the estimates will cover the following budget lines:

- Preparation of the instruments;
- Institutional capacity building for ANE HdQ, ANE Delegates, SDPI on safeguards monitoring;
- Implementation of ESIA and ESMPP/RAP and ARAP;
- Operation of the GRM and the resettlement committees;
- Implementation of GBV mitigation measures
- Environmental license permits'
- Environmental auditing and monitoring process by DPTADER

**Table 8:** Safeguards implementation budget

Activities to be funded under the ESMF	Costs ( 10 <sup>3</sup> US\$)	Nº of sub-projects/districts	Total ( 10 <sup>3</sup> US\$)
Screening by ANE/DPTADER	1.00	45	45.00
Elaboration of the ESIA and ESMP for each sub-project	30.00	45	1,350.00
Implementation of the ESIA and ESMP	150.00	6	900.00
HIV/AIDs Service provider	40.00	6	240.00
GRM Implementation	20.00	45	900.00
Service provider for GBV mitigation measures Implementation	40.00	6	240.00
Training ANE HQ/ANE Delegation/SDPI/DPTADER	30.00	6	180.00
Institutional capacity building at ANE HQ/provincial and district level	50.00	6	300.00
Environmental permitting	10.00	45	450.00
Supervision and monitoring by ANE/DPTADER/SDPI	3.00	45	135.00
Environmental Audit DPTADER/ANE	7.50	45	337.50
Grand Total			5,077.50



The implementation of the ESMF which includes the elaboration of the ESIA and ESMP for each sub-project in both provinces as well as the mitigation measures implementation by the Contractor, and monitoring and evaluation process done by ANE and DPTADER is calculated at around 5.1 million USD. The Contractor's costs shall be financed from this on proof of record (e.g. time sheets, material invoices etc.) for the following:

- Provision of Safety Officer when acting in the role of Safety Officer.
- Recruitment of provider for delivery of HIV/AIDS education training.
- Recruitment of provider for delivery of GBV and CAE training.
- Expenses related to delivering HIV/AIDS, GBV and CAE training.
- Personal Protective Equipment (PPE) for all workers on the site, and visitors as appropriate
- Safety signage, safety literature, HIV/AIDS literature, condoms, voluntary counselling and testing, GBV and CAE literature, etc.
- Drug and alcohol testing of staff to enforce a zero alcohol tolerance policy.
- Sexually Transmitted Infections (STI) including HIV/AIDS screening.

Labor costs for attending: (i) dedicated safety training such as working at heights, confined space training, first aid training etc.; (ii) HIV/AIDS, GBV and CAE education training. The contractor shall make their employees available for initial training of 1.5 days, and a total of at least 0.5 days per month for other such formal trainings

## 11. ENVIRONMENTAL AND SOCIAL CLAUSES

The environmental and social clauses will be integrated into Contracts for the Design, Construction, Operation and Maintenance of the FRDP sub-projects in the selected districts. The Site Specific ESMPs should be appended to both Contractor and Supervising Engineer Contracts and regular reporting on safeguards issues should also be part of the contract as referred above. Environmental and social clauses are defined based on the construction process:

### **Construction Planning Phase**

#### *Compliance with laws and regulations:*

- Prior to mobilization, or for new staff, the Contractor shall supply the Engineer a list of all staff proposed for the project who have resided outside the country for more than 12 months over the last 5 years with an accompanied background check acceptable to the Engineer. This background check shall cover: (i) all countries for which the staff have citizenship; and, (ii) include verbal referee checks with employers over the last 2 years. This background check should identify any criminal, arrest, incarceration and/or sex offenses. The Engineer reserves the right to reject any proposed staff on the basis of this background check. All costs associated with the Engineer rejecting staff due to the background check shall remain with the Contractor.
- The Contractor shall comply with all the relevant labor Laws applicable to the Contractor's Personnel including Laws relating to their employment, health, safety, welfare and shall allow them all their legal rights. For overseas personnel should also immigration and emigration laws.

The Contractor and its subcontractors must:

- ✓ know, respect and enforce laws and regulations in force in regard to the environment, disposal of solid and liquid waste, air emission and effluent standards and allowed noise levels, hours of work, etc.;
- ✓ take all appropriate measures to minimize harm to the environment and people; take responsibility for any claims related to environmental non-compliance.

#### *Permits and approvals before work*

Before starting work, any environmental study and resettlement plan has to be prepared and submitted for approval from the environmental Authority for each of the proposed road and an environmental permit issued. The Contractor shall obtain all permits and permission to access resources and material necessary to the carry out the work under the contract. Permission will be issued mining services (in case of quarries and borrow sites), water and hydraulic services (in case of water abstraction and use of public water points) etc. To access land for temporary and permanent use (if is the case) a permission will be done by the affected people if is a privately owned land (DUAT) and by the administration if under public domain following the Resettlement Action Plan.

#### *Meeting before starting works*

Before starting work, the Contractor, Client (PIU) and the engineer shall hold meetings with government officials, representatives of the communities in the project area to inform about the project and duration of works, routes involved and locations likely to be affected. This meeting will

enable the Client to collect people's suggestions, raise awareness on environmental and social issues and their relationships with the workers.

#### *Identification of concessionaire networks*

Before starting works, the Contractor shall investigate, in any case, a procedure for identifying concessionaire networks (water, electricity, telephone, sewer, etc.) on a plan that will be formalized by Minutes of Meetings signed by all parties (Contractor, works supervisor, concessionaires).

#### *Works signage*

Prior to the opening of construction sites and whenever necessary the Contractor shall place, pre-signage and signage within an appropriate distance in line with the laws and regulations in force.

#### *Release of public and private domain*

The Contractor should be aware of the fact that the perimeter of a public utility related to the operation is the perimeter that may be affected by the works. Work can only begin in the affected areas after the implementation of the RAP, if any. All resettlement, land acquisition and compensation issues will be dealt in accordance with the RPF.

#### *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, to thus make it possible for women to qualify for recruitment. Children (any person under 18 years of age) should not be extensively contracted but considering that currently some children became 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 Mozambican Law), 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 the regular salary.

The Contractor shall develop: (i) Gender Based Violence (GBV) and Child Abuse/Exploitation (CAE) Codes of Conduct; and, (ii) an Action Plan to mitigate and respond to GBV and CAE within the project and the community.

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.

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.

#### *Environmental and social management program*

The Contractor shall prepare and submit for approval by the Project Manager a detailed project environmental and social management program including: (i) a site plan showing the location of the site and the various areas of the site for project components and locations, (ii) a site plan for waste management indicating the types of waste, the type of collection considered, the storage, the method and location of disposal; (iii) the information and awareness program specifying targets, themes and

selected consultation modality; (iv) a plan for accident management and health protection stating the risks of major accidents which endanger the health or safety of staff and/or public security measures and/or health protection to be applied in the context of an emergency plan. The Contractor shall also prepare and submit, for approval by the prime contractor, a plan to protect the environment of the site, which includes all security measures to protect the site and forward a site decommissioning plan at the end of works.

The environmental and social management program will also include: the organization of staff in charge of environmental, health and safety management with an indication of the officer in charge of the Project Environmental Health and Safety Department, 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. The Contractor shall comply with all national environmental laws and regulations. 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 of how the Contractor shall comply with the project’s safeguard 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 contractor shall ensure that CESMP includes as a minimum the following management plans, with a level of detail appropriate for the project based on the ESMP requirements:

- Work Activity
  - Traffic
  - Occupational Health and Safety
  - Environment
  - Waste
  - Social
  - Labor Influx
  - CSMP Implementation
- 
- Participate in public consultations on the CESMP by attending public meetings at their own expense as requested by the Engineer.
  - 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.
  - Carry out the project in accordance with 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.) 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.

For plant and materials to be imported from overseas, the Contractor shall determine and comply with all importation related inspection and quarantine requirements, including fumigation and other such treatments, and allow for these in their procurement planning and works pricing. Appropriate quarantine certificates are to be provided to the Engineer prior to importing of material and/or equipment.

## **Construction Phase**

### **Biophysical feature**

#### *Soil and water resources protection*

The contract shall protect in all means the degradation of soil and water due to his activities. Soil erosion has to be avoided using best practices and mitigation proposed under this ESMF, similarly for water resources protection. Contractor shall implement all mitigation measures to avoid water pollution.

#### *Solid waste management*

At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. Solid waste includes:

- General waste (i.e. office type waste, household waste (from any workers' camps), lightweight packaging materials).
- Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled).
- Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste).
- Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled).
- Hazardous waste (i.e. asbestos, waste oil etc.)

The Contractor shall provide bins container in the camp to deposit the garbage in to be emptied and sealed periodically. In case of evacuation of the site by trucks, bins should be sealed to prevent the

waste spillage. For hygiene reasons, and in order to not attract vectors daily collection is recommended, especially during hot periods. The Contractor shall dispose of or recycle the waste in an environmentally sound manner. For this purpose, the Contractor should store waste in labelled containers. The Contractor shall deliver the waste, if possible, to existing disposal sites. The disposal location should be approved by the Engineer based on:

- General waste (including only small quantities of lightweight packaging waste) can be disposed of at approved and permitted landfills.
- Organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities.
- Recyclable waste may be supplied to a local receiver

All other waste is to be disposed of offshore in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site.

**Surplus Material Disposal:** Surplus material (millings, excavation materials, concrete rubble, and other clean fill materials) will be generated. Disposal of surplus materials is at the Contractor's expense. The CESMP Waste Management Plan shall describe solid waste streams generated by the works and detail the approved disposal methods along with permissions. Burning of any materials is not permitted.

With the approval of the Engineer clean fill material (e.g. millings and crushed asphalt, base course material, concrete rubble) may be used to backfill areas where old equipment or infrastructure has been removed or as a resource for general use by the client and/or the community.

All spoil materials removed by clearing and grubbing, surplus material from excavations, non-clean fill material etc. shall be removed from the work site and transported to the Employer's nominated disposal site(s) in compliance with any local requirements before the start of the defects liability period.

Unless otherwise instructed by the Engineer, other surplus materials not needed during the defects liability period shall be removed from the site and if appropriate the country and in compliance with the ESMP.

#### *Liquid Waste Management*

There are a number of activities during construction and operation phases of the project which will generate wastewater. During construction wastewater will be generated by the sanitation facilities provided for workers' contractor is responsible for the collection and treatment of the generated wastewater from sanitation facilities.

Wastewater from wash down areas is to be collected either in a settlement pond or tank to allow sediment and particulate matter to drop out (or processed through a filtration system) before the water can be reused as wash water, dust suppression or in other processes.

A separate wash down area is required for machinery or material with oil or fuel residue. Wash water from concrete production, cutting, washing of equipment used and areas where concrete is produced must be collected and treated to lower the pH (closer to neutral) and to allow settlement of suspended solids. All wash down areas and wastewater treatment areas should be located within the construction areas and away from the water courses (at least 500 m).

The Contractor shall take precaution measures to prevent wastewater and hazardous substances or materials entering the environment (fuel and oil spills, wastewater discharge, and all kinds of pollutants). However, should an incident occur, the Contractor must have a spill response plan in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). The contractor shall hire a specialized service provider or company, at approval of the engineer, to collect hazardous waste. Or the contractor shall agree with the suppliers of oil, filter and battery to collect the waste.

#### *Protection against noise pollution*

The Contractor shall limit construction noise in order not to disturb residents, either by excessively long duration, or by their extension outside of normal working hours. Thresholds are not to exceed 55 decibels (dB) during the day and 45 decibels at night.

#### *Protection of wetlands, fauna and flora*

It is forbidden for the Contractor to establish temporary installations (storage areas and parking, or paths to circumvent works, etc.) in wetlands, including the filling of existing temporary pools, conservation areas or any other area of critical habitat or area of social cultural importance. In the case of vegetated areas, the Contractor must adapt to the local vegetation and be careful not to introduce new species without consulting the forestry services. For all deforested areas lying outside the ROW and required by the Contractor for the purposes of its works, the top soil must be kept separate and restored afterwards.

In addition to complying with all the measures set forth in this ESMF in the case of deforestation, felled trees must be cut and stored in locations approved by the Project Manager. Local residents should be aware of the possibility that they can make use of this timber at their convenience. Felled trees should not be left on site or burned or fled under the earth materials. Felled trees should be compensated in kind or in monetary value. No road crossing protected area will be funded under this project.

### **Socio economic features**

#### *Health, Safety and traffic control*

The contractor shall comply with the Occupational Health and Safety (OHS) requirements embodied in the ESMP and the World Bank's EHS Guidelines.

The Contractor shall submit for approval by the Engineer an OHS Management Plan. Civil works shall not be permitted to commence until the Engineer has approved the OHS Management Plan prepared by the Contractor specifically for the project, the Safety Officer is mobilized and on site, and all employees have undergone site specific induction training.

For the purposes of this project, in addition to the national OHS standards the employer is adopting a code of practice for occupational health and safety based on good international industry practice. The Contractor shall appoint a full-time certified Safety Officer at the Site, with qualifications acceptable to the Engineer. The Safety Officer shall be responsible for supporting implementation of the OHS Management Plan through technical advice, guidance, mentoring, and training under the guidance of the Contractor's Project Manager. This person shall have the authority to issue instructions and take protective measures to prevent accidents whilst promoting a safety culture across the project.

Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel and affected stakeholders. In collaboration with local health authorities, the Contractor shall ensure that first aid facilities and locations of appropriate sick bays are available at all times at the Site, including appropriate vehicles that are available to be used immediately to transport Contractor's and Employer's Personnel to medical facilities in the event of an emergency. The Contractor shall post in clearly accessible places information on how to transport injured Contractor's and Employer's Personnel to medical facilities, including the precise location and contact details of such medical facilities, name and contract details of the site designated Safety Officer.

The Contractor shall inform and educate employees on safety and health at He must maintain the safety and health of workers and local populations and take appropriate measures for this purpose. The Contractor shall ensure that suitable arrangements are made for all necessary welfare facilities and hygiene procedures are in place for the prevention of the spreading of diseases. The Contractor shall ensure that all workers on the site have appropriate PPE of an appropriate standard including:

- (i) Impact resistant safety eyewear;
- (ii) safety footwear with steel toe, sole and heel;
- (iii) High visibility clothing;
- (iv) Long sleeves and long pants suitable for operating environment;
- (v) Safety helmet with provision of sun protection as necessary;
- (vi) Gloves (carried and worn when manual handling);
- (vii) Hearing protection when working in close proximity to noisy equipment and in all underground environments

The Contractor shall verbally notify the Engineer immediately of any incident where serious harm has occurred, with written details being forwarded within 24 hours of the incident occurring.

Within 5 working days of the end of the calendar month the Contractor will be required to report to the Engineer on their performance.

Regarding road safety, the Contractor, during the construction shall limit vehicle speeds on site by installing signs and flag bearers. In residential areas, the Contractor shall establish the schedule and route for heavy vehicles, which must circulate outside the sites to minimize nuisances (noise, dust, risk of accidents and traffic congestion) and carry approval of the project manager.

Only strictly necessary materials will be tolerated on the site. Outside access, designated crossing places and work areas, it is prohibited to operate construction equipment. The Contractor shall ensure that the speed limit for all vehicles on public roads, will be a maximum of 60 km/h on rural roads and 40 km/h in urban areas and through villages. Drivers exceeding these limits shall be subject to disciplinary action up to and including dismissal. The installation of speed humps or water spraying in settlements will be recommended in order to reduce the risk of accidents and reduce the nuisance of dust.

Vehicles of the Contractor shall, at all times, comply with the requirements of the Highway Code in force, particularly with regard to the weight of the laden vehicle.

The Contractor shall, during the dry season and depending on water availability, regularly spray water on dusty roads/tracks used by its transport equipment to avoid dust, especially in populated areas.



Protection of crossing areas and agricultural and forest activities.

During the work an awareness campaign shall be done at community level for road safety and the importance of road signs.

The work schedule should be established in such a way as to minimize disruption of agricultural including forest activities. The main periods of activity (ploughing, sowing, harvesting, drying, etc.) must be known in particular to adapt the construction schedule to these agricultural and forest activities. The Contractor shall identify where crossings for animals, livestock and people are needed. Again, the involvement of the population is paramount.

#### *Protection of sacred sites and archaeological sites*

The Contractor shall take all necessary measures to respect the cultural and cultural sites (cemeteries, sacred sites and tree species/forests, etc.) existing in the vicinity of the works and not interfere them with. For this purpose, he must first identify their type and location before starting the works. If, during construction, remains of places of interest for worship, historic or archaeological value are discovered, the Contractor shall follow the following procedure: (i) stop work in the area, (ii) immediately notify the Project Manager who must take steps to protect the site to avoid destruction by defining a protection perimeter on the site within which no activity shall be carried on, and (iii) to refrain from removing and moving objects and relics. The work must be suspended within the scope of protection until ARPAC for historic and archaeological sites has given permission to continue.

#### *Prevention against STI/HIV/AIDS and related diseases*

During the work mobilization stage, the Contractor shall conduct an HIV-AIDS IEC campaign through a service provider approved by the Engineer, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals. The Contractor shall not discriminate against people found to have HIV-AIDS as part of the campaign.

The Engineer shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and/or recognized local health departments. From the provided list, the Contractor shall enter into agreement with one service provider to undertake the HIV-AIDS IEC campaign. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of quantity.

The approved service provider shall prepare an action plan for the IEC campaign based on the 'Road to Good Health Toolkit' which shall be submitted to the Engineer for approval. The action plan will clearly indicate:

- (i) the types and frequency of education activities to be done;
- (ii) the target groups (as a minimum to all the Contractor's employees, all Sub-Contractors and engineer employees, and all truck drivers and crew making deliveries to Site for construction activities as well as immediate local communities);
- (iii) whether condoms shall be provided; and (iv) whether STI including HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labor shall be provided.

The IEC campaign shall be conducted while the Contractor is mobilized in accordance with the approved approach. It shall be addressed to all target groups identified concerning the risks, dangers and impact, and appropriate avoidance behavior with respect to, of STI in general and HIV/AIDS in particular.

During the construction phase the Contractor, through the service provider, shall inform and educate staff on the risks of STI/HIV/AIDS. He must make sufficient and good quality condoms available to staff free of charge to be used against STIs and HIV/AIDS infections. Local communities should also be informed about the risks of STIs and HIV/Aids. The contractor shall make staff available for a total of at least 0.5 days per month for formal trainings including HIV/AIDS.

#### *Gender Biased Violence and Child Abuse*

The purpose of the clauses is to and/or mitigate *risks of Gender Based Violence (GBV) and Violence Against Children (VAC)* on the sub project site.

Mutual respect and fair treatment between those working on the project and local communities is critical to a safe, respectful, and productive workplace and operating environment. GBV and VAC can be one of the most serious violations of respect and fair treatment which can harm the local community, and significantly damage trust and cooperation between parties.

The Engineer shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and others for conducting training on GBV and CAE.

From the provided list, the Contractor shall enter into agreement with one service provider to undertake the GBV and CAE IEC campaign. Ensuring that all project staff understand the values of the project, understand expectations for all employees, and acknowledge the consequences for violations of these values, will help to create a smoother, more respectful and productive project implementation thereby helping ensure that the project's objectives will be achieved. Promote/ adopt a Code of Conduct for the workers that protects children; and put in place GBV and CAE protection mechanisms to prevent and deal with situations of abuse and of labor and sexual exploitation and to follow any disclaims on breaches of the Code of Conduct.

The contractor shall make staff available for a total of at least 3 hours per month for formal trainings including GBV and CAE.

#### *Site journal*

The Contractor shall maintain a log yard, which will record complaints, violations, accidents or incidents that have a significant impact on the environment or impacts on the local communities. The site log is unique to the site and notes must be written in ink. The Contractor shall inform the general public and local residents in particular, about the existence of this journal, with an indication of where it can be accessed.

#### *Liaison with Communities and Local Authorities*

The relationship between the project staff and the local communities, government officials and traditional leaders is an important aspect that will either contribute to or detract from the overall success of the project.

In all dealings with the community and workforce employed from within the community, the Contractor shall take due cognizance of the character, culture and circumstances of the community and shall at all times endeavor to avoid the development of disputes and to foster a spirit of co-operation and harmony towards the project.

The contractor, engineer and ANE shall establish a Project Liaison Committee (PLC). The PLC is the primary mechanism for establishing and maintaining communication with the local authorities and the community. This committee has a key role in monitoring the overall impact of the project on the community including protection to vulnerable groups. GRM for the ESMF implementation will also be adequately addressed by the PLC. When PLC is unable to give satisfactory response, then the grievance will be submitted to ANE HdQ for a proper resolution.

The Contractor shall attend all meetings of the Project Liaison Committee as may be reasonably required by the Engineer and shall provide adequate information to the committee related with the implementation of the ESMF in order for it to fulfil its responsibilities. The meetings will be held in Portuguese, with translation into local language as appropriate. The PLC will integrate at least the following members, although it has to be adjusted to the local situation:

- ANE representatives (ANE Delegate and/or HdQ)
- Engineer representative
- Contractor representative
- A representative from the Workers' Union (syndicate)
- A representative of the Child Protection/ HIV&AIDS Service provider (at least during the discussion of the social component)
- Representatives of local district authorities at site area for Health, education, agriculture and police
- A representative of local authorities
- Other relevant participants

#### *Equipment projects maintenance*

The Contractor shall comply with the maintenance standards for construction equipment and vehicles and conduct refueling and lubricant in a place designated for this purpose. Refueling should take place on a concrete slab. Fuel tanks should be placed within a concrete bund of 110% volume the volume of the fuel tank or tanks. Oil/water separators should be installed where there is a risk of pollution with hydrocarbons, e.g., at vehicle maintenance sites. On the site, provision of absorbent materials and insulators (pillows, sheets, tubes and peat fiber, etc.) as well as sealed containers clearly identified for receiving petroleum residues and waste, must be present. The Contractor shall perform, under constant surveillance, handling of fuel, oil or other contaminants, including the transfer to avoid spillage. The Contractor shall collect, process and recycle all waste oil, and waste in operations and maintenance or repair of machinery. It is forbidden to discharge any hydrocarbons or other dangerous chemicals into the environment or on the construction site.

The Contractor shall drain the waste oils in sealed drums and retain oils to return it to the supplier (recycling). Used spare parts must be sent to the landfill or disposed off in another environmentally acceptable manner.

Washing areas and areas for maintenance of equipment and vehicles must be from concrete and equipped with a collection system for oils and fats, with a slope oriented to prevent the flow of

pollutants to areas with bare soil. Concrete mixers and equipment for the transportation and installation of the concrete should be washed in the areas provided for this purpose.

#### *Dust control*

The Contractor shall select the location of crushers and similar equipment based on noise and dust they produce. Glasses and dust masks are mandatory for all workers that are working in dust and noise areas; For the dust control, in major settlements, hospitals and schools or other people concentration (markets), contractor shall apply water on the working places with high level of dust; Equipment and vehicles transporting material should be covered and work with material during winding days must be limited.

### **Construction Plant and Work Camp Rules**

#### *Location standards*

The Contractor shall construct temporary construction facilities in order to cause the least disturbance possible to the environment, preferably in areas already cleared or disturbed when such sites exist, or on sites that will be reused at a later stage for other purposes. The Contractor shall strictly prohibit the establishment of a base camp within a protected area.

#### *Display rules and staff awareness*

The Contractor shall display a clearly visible internal regulation in the various camp facilities specifically prescribing: respect for local customs, protection against STI/HIV/AIDS, hygiene rules and safety and environmental measures. The Contractor shall educate its staff in regard to respect for customs and traditions of the people of the area where the works are being performed and the risks of STIs and HIV/AIDS.

#### *Use of local labor and working hours*

The Contractor shall engage (besides his technical staff) as much labor as possible from the area where the works are being performed and 100% of unskilled labor as to be local. The contractor shall give the same opportunities to both women and man. Based on ANE regulation at least 25% of the work force must be women. Use of child work force is prohibited under the Mozambican regulation. Employment of children that is economically exploitative, or is likely to be hazardous to or interfere with, the child's education, or to be harmful to the child's health, or his/her physical, mental, spiritual, moral or social development should not be allowed. The Contractor shall ensure that work schedules comply with the laws and regulations in force. The Contractor shall avoid performing work during the resting hours, Sundays and holidays.

#### *Protection of site personnel*

The Contractor shall make available to site personnel prescribed working clothes and in good condition and all accessories and safety protection to their activities (helmets, boots, belts, masks, gloves, etc.). The Contractor shall ensure scrupulous use of protection equipment on site. Permanent monitoring should be carried out for this purpose and, in case of violation, enforcement actions (warning, layoff, dismissal) must be applied to personnel.

#### *Person(s) Responsible for Health, Safety and Environment*

The Contractor shall appoint Health/Safety/Environment Officer(s), who will ensure that the hygiene, safety and environmental protection rules are strictly followed by all and at all levels of performance, both for workers and the population as well as others in contact with the site. He will locate health centers closest to the site to allow its staff to have access to first aid in case of accident. The Contractor shall prohibit access to the site by the public, protect it with tags and signs, indicate different access and take all order and security measures to avoid accidents.

#### *Appointment of staff on duty*

The Contractor shall provide care, supervision and safety maintenance of the site including out of hours' on-site presence. Throughout the construction period, the Contractor shall have personnel on call outside working hours, every day without exception (Saturday, Sunday and holidays), day and night, to take action with regard to any incident and/or accident that may occur in connection with the works.

#### *Measures against traffic barriers*

The Contractor shall avoid blocking public access. He must constantly maintain and guarantee the movement and access of residents during construction. The Contractor shall ensure that no excavation or trench is left open at night without proper signage. The Contractor shall ensure that temporary deviations allow for passage without danger.

### **Construction decommissioning phase**

#### *General Rules*

Upon releasing a site, the Contractor leaves the premises to their own immediate use. He cannot be released from his obligations and responsibilities without ensuring that the site is in good condition. The Contractor shall carry out all the necessary works for rehabilitation of the site and restore it to its initial or almost initial state. All equipment, materials, polluted soil, etc. will be removed and cannot be abandoned on site or surrounding area.

Once the work is completed, the Contractor shall: (i) remove temporary buildings, equipment, solid and liquid waste, leftover materials, fences, etc. (ii) rectify faults in drainage and treat all excavated areas; (iii) reforest areas initially deforested with appropriate species in relation to local forest services; (iv) protect the remaining dangerous works (well, open ditches, slopes, projections, rehabilitate borrow pits and quarries, etc.); (vi) install functional pavements, sidewalks, gutters, ramps and other structures essential for public service. After the removal of all equipment, a report on the rehabilitation of the site must be prepared and attached to the minutes of the reception of the works.

The borrow pits and other works that result in changing landscape shall be restored, based on the Borrow pits management plan approved by MIREME.

#### *Protection of unstable areas*

During the execution of works in unstable environments, the Contractor shall take the following precautions not to accentuate the instability of the soil: (i) avoid heavy traffic and overload in the zone of instability; (ii) retain as much as possible the vegetation or restore it using native species where there are erosion risks.

#### *Control the execution of environmental and social clauses*

The engineer, whose team should include an environmental expert who is part of the mission control team, shall verify compliance and the effectiveness of the implementation of the environmental and social clauses by the Contractor.

#### *Notification and Sanction*

The engineer shall notify the Contractor of any event of default or non-performance of environmental and social measures. The Contractor shall rectify any breach of the regulations duly notified to him by the engineer. Costs of restarts or additional works arising from non-compliance shall be borne by the Contractor.

Pursuant to contractual non-compliance with environmental and social clauses, duly noted by the Project Manager, may be grounds for termination of the contract. The Contractor whose contract has been terminated due to no implementation of environmental and social clauses may be subject to sanctions up to suspension of the right to bid for a period determined by the Client, with a reduction on the price and blocking the pay back of the guarantee.

#### *Reception of the works*

Failure to follow these terms exposes the Contractor to provisional or final refusal of acceptance of the works, by the reception Commission. The implementation of each environmental and social measure may be subject to partial acceptance involving relevant departments.

#### *Obligations under the guarantee*

The obligations of the Contractor run until the final reception of the works that will happen only after the complete execution of the works to improve the environment as stated in the contract.

## 12. IMPLEMENTATION AGENCY

### *Current institutional mapping*

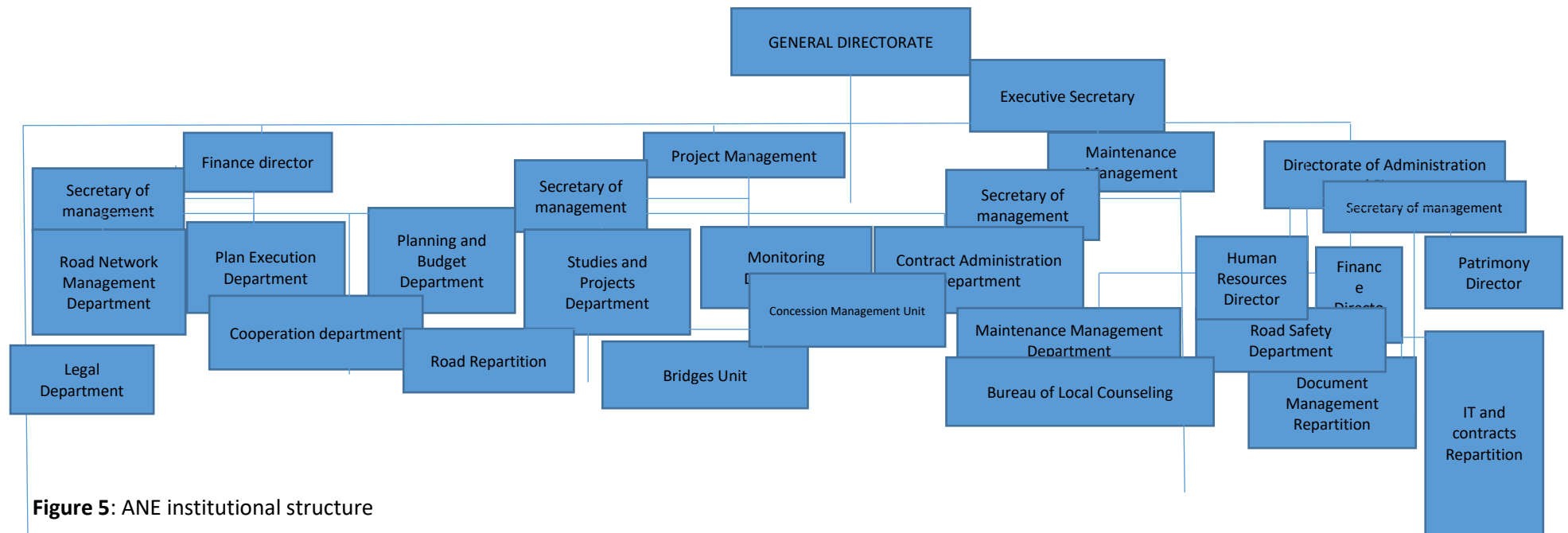
National Road Authority (ANE) is the institution responsible for the construction, rehabilitation and maintenance of the road infra structures. It also responsible for the implementation of environmental and social safeguards and instruments within the road sector.

MITADER (Ministry of Land, Environment, and Rural Development) is the institution responsible to issue the environmental license. To initiate the environmental process a form must be filled and submitted to the Land, Environment and Rural Development Provincial Directorate (DPTADER) for the screening process. For the category A+ and A projects under MITADER regulations, the screening and review process is done in Maputo.

The responsible within ANE is for the Department of Monitoring which now includes Crosscutting issues, previously called GAT – stands for Gabinete de Assuntos Transversais (Cross Cutting Issues Office), GAJUTRA- Gabinete de Assuntos Jurídicos e Transversais (Legal and Cross Cutting Issues Office) and UASMA – Unidade de Assuntos Sociais e Ambientais (Social Issues and Environmental Unit). It is a support department to ensure the environmental and social issues are taken into account when implementing the road project. The department is within the Project Directorate. The department is composed by 6 personal with expertise in social, environmental, geology and civil engineer's expertise, with the main responsibility is to monitor the projects in all stages, manage the environmental, gender, poverty reduction, HIV & AIDS awareness and mitigation and other issues such as resettlement, climate resilience and Occupational Health and Safety related to public road projects or all roads construction, rehabilitation and maintenance works. The department follow a coordinated approach and cohesive work program in order to more effectively and efficiently integrates environmental and social issues and monitor technically aspects into the road project cycle. NE is structure based on the following picture.

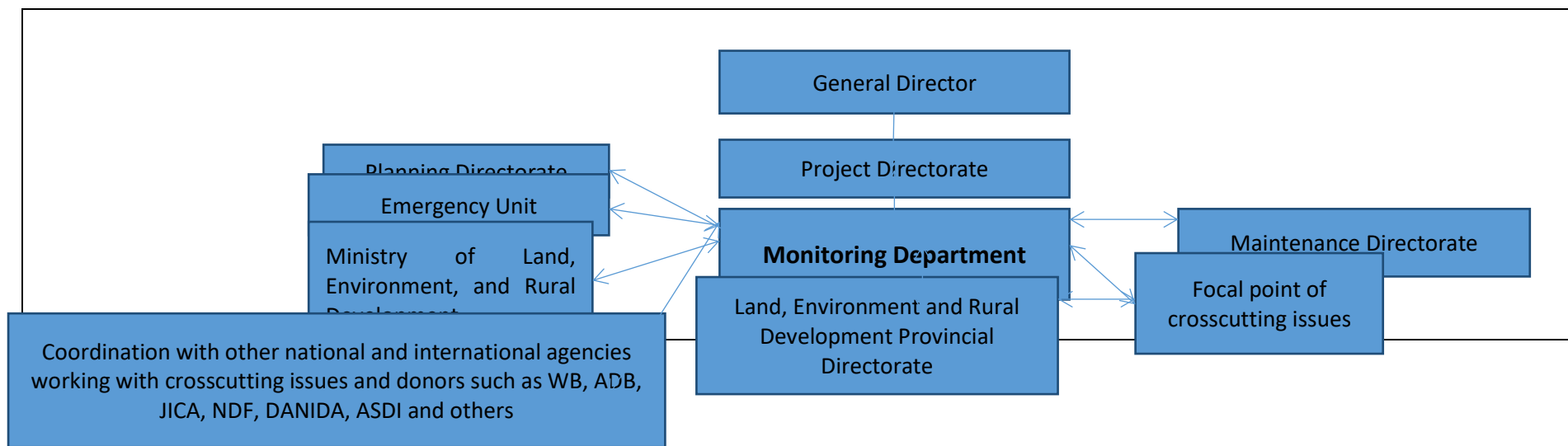
Environmental and social issues is one of the responsibility of the Project Directorate. Within the directorate Environmental and social responsibilities are carried out by the monitoring Department. However, the roles of the monitoring department do not include clearly environment and social issues, internal arrangement was made. The following picture shows the links and Coordination role that monitoring Department plays.

There is a coordination with MITADER and DPTADER, during the project cycle in other to consider environmental issues. In all ANE delegations there is a focal point who deal with crosscutting issues in the provincial level. The role of the position is to guarantee the integration of the crosscutting issues in the projects at provincial level, coordinate with DPTADER for getting environmental license and monitor regularly the implementation of ESMP in all projects.



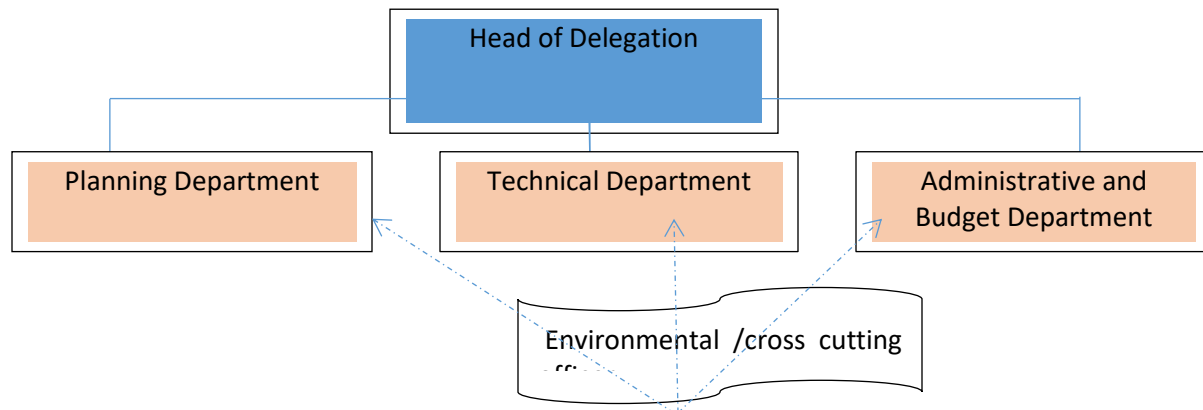
**Figure 5:** ANE institutional structure





**Figure 6:** Monitoring's Department de organizational relationship with other entities with respect to ongoing road development projects

At provincial level ANE's has the called Road Authority Delegation. Delegation responsibilities and roles are: planning, implementing provincial maintenance programs, rehabilitation, construction of roads at the local level taking into account the recommendations of the provincial road commission and the availability of financial and material resources. The delegation is organized as follow:



**Figure 7: ANE Delegation Structure**

At ANE delegation responsibility of environmental and social monitoring is well defined as one of their mandate. However, all delegation has indicated a focal point for environment, who can be one of the existing officers in any of the departments of the delegation. It means that the environmental focal point does not only oversee environmental and social issues in the provincial road projects, but does also other work. During the consultation done, the delegation officers state that the mandate of the environmental and social matters is a responsibility of the ANE HdQ. Most of the environmental focal points at provincial level are not environmental expert, but went through a short term courses. In Nampula and Zambézia the environmental focal point is under the technical department, there is no clear responsibility of the focal point and there are no any effective coordination mechanisms with the environmental authority in the provincial level, unless the road construction has a severe impact on people's assets. Both at National and provincial there is no a specific budget line for the environmental activities, unless in the specific donor funded projects that include budget for the environmental component.

#### *Institutional arrangement for the project implementation*

To implement this ESMF the existing institutional arrangement at national and provincial level need to be strengthened. A team/unit for the environmental should be established in Nampula and Zambézia, and in the four provinces, with a specific responsibilities and roles in the implementation of the ESMF and specifics EA and ESMP for specific sub-projects as well as the interaction with DPTADER and the districts authorities and communities.

#### *ESMF implementation institutions*

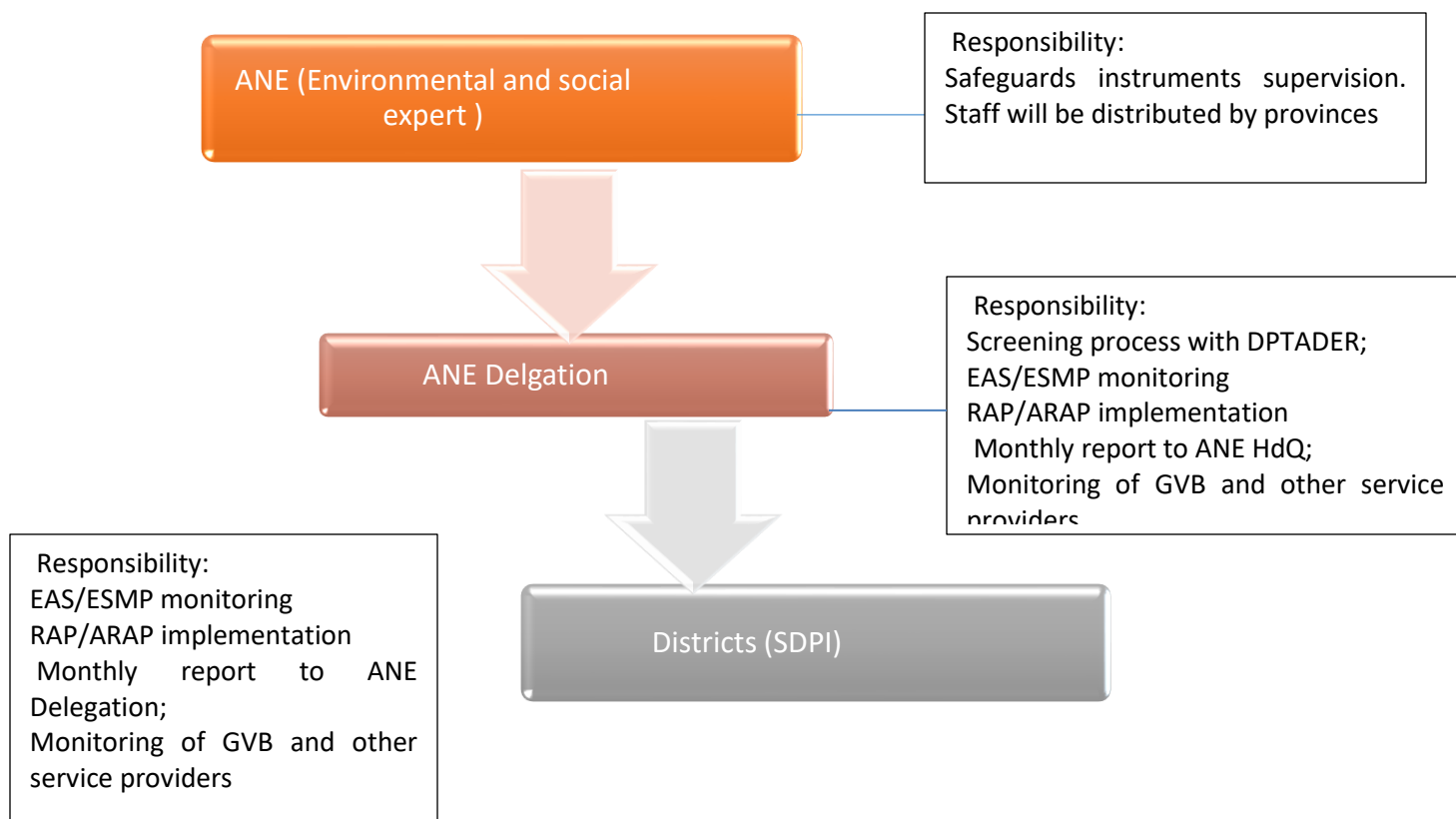
The implementation of the ESMF is the responsibility of ANE. ANE HdQ and Delegation are the client of the project and the have a responsibility to guarantee the implementation of this ESMF, facilitate the process of project screening with DPTADER. ANE may contract engineer to supervise the construction project in all aspects and contractor to construct and implement the ESMP at sub-project level.

**Engineer** has to be familiar with the content of the ESMP prepared for each sub-project based on the guidelines given in this ESMF, monitor the Contractor's compliance with the environmental specifications on a daily basis through the site diary, review and approve method statements by the Contractor in connection with ESMP, Oversee the general compliance of the Contractor with the ESMP and other pertinent site specifications, liaise between and with the contractor and the ANE Environmental and Social Team on environmental and social matters, as well as any pertinent engineering matters where these may have environmental consequences. And the **Contractor** have the roles to implement, manage and maintain the ESMP for the duration of the contract, designated, appoint and/or assign tasks to personnel who will be responsible for managing all or parts of the ESMP, assign appropriate authority, accountability and responsibility for these personnel to carry out their duties, provide appropriate resources, budgets, equipment, personnel and training – for the effective control and management of the environmental risks associated with the construction.

#### *Institutional capacity under IFRDP-AF*

In the last years ANE has been implementing World Bank funded project for road rehabilitation, which require ANE Environmental and Social supervision capacity. The current ANE capacity is comprised by five environmental experts and one social expert at HdQ. With the IFRDP the number of provinces to be supervised by ANE from central level to the district level will be increasing and pose a challenge to the ANE ability to supervise. ANE is currently undertaking a World Bank-funded project but the capacity is not sufficient to cover the additional workload of the IFRDP\_AF. The new additional fund project could potentially jeopardize the achievement of the project development objective, unless mitigation measures are put in place. It is required that the current safeguards team supporting the IFRDP be reinforced with new staff on social area at HdQ.

At Provincial level the ANE Delegation will be responsible for day to day monitoring processes of the contractor as well as the district official at SDPI. The successful implementation, monitoring and reporting of the RAPs and ESMPs will rely on the provincial and district level safeguard staff including the district Environmental and Social Officers who will work closely with the environmental and social safeguard officers hired by the contractors and the supervision firms. At this level the existing staff are not sufficient and neither prepared to monitor the implementation of the safeguard instrument, therefore the AF project shall hire a staff for the provincial and district level as proposed in the original project.



**Figure 8:** Proposed environmental and social management implementation arrangement

To communicate the districts and communities about the project, including safeguards instruments and reports summaries of these documents, translated into local languages, shall be placed in accessible areas such as libraries and district offices, and also on the websites of the project in ANE HdQ and Delegation. A practical training program for the ANE HdQ, ANE provincial and district level safeguard staff, supervision consultants and contractors will be developed for the project- AF. This will include, among others, training on the environmental and social management of construction impacts, health and safety, influx of labor, resettlement, land acquisition and livelihood restoration, grievance redress mechanisms, safeguards monitoring and reporting.

### 13. LIST OF SOURCES CONSULTED

Decree Nº 19/2012, 15 of February 2012, Internal Regulation of National Administration of Roads

Decreto 66/98: Regulamento da Lei de Terras. Boletim da Republica, Maputo.

GoM, Resolução 8/97 de 1 de Abril: Política e Estratégia de Desenvolvimento de Florestas e fauna Bravia. Boletim da Republica, Maputo

GoM, Decreto 45/2004: Regulamento sobre o processo de Avaliação de Impacto Ambiental, BR, Maputo de 29 de Setembro de 2004;

GoM, Decreto 54/2015: Regulamento sobre o processo de Avaliação de Impacto Ambiental, BR, Maputo de 31 de Dezembro de 2015; IFC (2017) Sustainability Policy Framework. [www.ifc.org](http://www.ifc.org). . Consulted on the 15 of January

Julie Rozenberg, Xavier Espinet (2017): Priorização dos districtos e das intervenções

Metodología e resultados. Presented at Nampula and Zambézia Workshop. [jrozenberg@worldbank.org](mailto:jrozenberg@worldbank.org) [xespinetalegre@worldbank.org](mailto:xespinetalegre@worldbank.org)GoM,

INE (2016): *Mozambique Yearbook*. Self-Edition. Maputo Mozambique;

INE (2016): *IOF – Household Survey 2014/15-Final Report*. Reprografia Cental do INE. Maputo Mozambique.

INE (2017): *Contas Nacionais, Regionais e Provinciais 2015*. Reprografia Central do INE, Maputo Moçambique.

INE (2011): Agriculture and Livestock Census (CAP), Maputo

INE & MISAU (2013): Inquérito Demográfico e de Saúde. Maputo, Moçambique MEASURE DHS/ICF International (Assistência Técnica);

Ministry of Finance and Economy (2017): *The Fourth Observatory of Poverty*. Maputo Mozambique

MICOA (s.d): Diploma Ministerial Directivas gerais para a elaboração de Estudos de Impacto Ambiental, Maputo;

MICOA (2009) National Report on Implementation of the Convention on Biological Diversity in Mozambique

MINAG (2014): Anuario Estatistico do sector Agrario. Based on anual survey. Direcção de Economia, Ministerio da Agricultura. Maputo.

MINAG (2012): Integrated Agriculture Annual Survey, Maputo

Ministerio de Saude and INE (2016): *Final Report of IMASIDA – Malaria & AIDS Survey, 2014*. Maputo Mozambique;

MOPH (2012) : Regulamento Interno da Administração Nacional de Estradas (ANE) Diploma Ministerial 19/2012 de 15 de Fevereiro

World Bank (2017) Safeguard Policies. Safeguards Website [www.worldbank.org/safeguards](http://www.worldbank.org/safeguards). Consulted on the 15 of January

## ANNEXES

## **ANNEX 1: Environmental Screening Form for Checklist of Likely Environmental and Social Impacts of Sub-projects**

Project title.....  
Project number.....  
Project type.....  
Name of district for infrastructure rehabilitation/construction.....  
Name of Executing Agent.....  
Date: .....  
Name of the Approving Authority .....

### **PART A: BRIEF DESCRIPTION OF THE PROPOSED ACTIVITIES**

Please provide brief information on road rehabilitation project road (extension, wide).

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Please provide information regarding actions needed during the construction of facilities including support/ancillary structures and activities required to build them, e.g. need for borrow pits, access roads, campsites etc.

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Please describe how the construction/rehabilitation activities will be carried out, including complementary activities and infrastructures and resources required e.g., roads, and traffic routes, disposal sites (waste and removed materials), water supply, energy requirement, storage areas, human resources, worker camps, security arrangements, etc.

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### **PART B: BRIEF DESCRIPTION OF THE ENVIRONMENTAL SITUATION AND IDENTIFICATION OF ENVIRONMENTAL AND SOCIAL IMPACTS**

Name, job title, and contact details of the person responsible for filling the Form:

Name: -----  
Job title: -----  
Telephone numbers: -----  
Fax Number: -----  
E-mail address: -----  
Date: -----  
Signature: -----



Please describe the proposed infrastructures location, sitting, coordinates; surroundings (include a map of the sub-region as well as a detailed area map of the project and its ancillary facilities, and their immediate surroundings)

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Describe the land formation, topography, vegetation in/adjacent to the activity areas (project and ancillary facilities/activities)

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Estimate and indicate where vegetation might need to be cleared, erosion and drainage issues might occur.

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	<b>Environmental and social aspect</b>	<b>Yes</b>	<b>No</b>	<b>Don't Know</b>
	Is the site zoned for the proposed land-use?			
	Are there any environmentally sensitive areas or threatened species (specify below) that could be adversely affected by the project?			
	Are there any intact natural forests near or adjacent to the project?			
	Is there any surface water courses, natural springs?			
	Is the water table close to the surface? i.e. 0,5 m or less?			
	Are there any wetlands (lakes, rivers, swamp, seasonally inundated areas) in the proximity of the site?			
	Is the project located near the coast? If so near any marine reserve area?			
	Is there any area of high biodiversity or high conservation value?			
	Are there habitats of endangered/threatened or rare species for which protection is required under the Mozambican national law/local law and/or international agreements (such as IUCN listed or identified as HVCA or IBA?)			
	Is there a possibility that, due to construction/rehabilitation works and subsequent operation of the infrastructure, coastal, the river and lake ecology will be negatively affected with regards to its water quality and quantity?			
	Is the site (or its complementary facilities) located within/adjacent to any protected areas designated by the government or international agreement (national park, national reserve, world heritage site etc.)?			
	Is the project likely to alter any historical, archaeological, cultural heritage traditional (sacred, ritual area) site or require excavation or other significant disruption near same?			
	Will the project involve any land acquisition?			
	Will any such land acquisition be effected through voluntary donations?			
	Will the activities be located in any vacant public land?			
	Under any of the types of land acquisition above are there any current uses or activities on the land proposed to be acquired? Any formal or informal occupation?			
	Is the project located in any or near polluted area (near a waste dump or any industrial facility)?			
	Is the project located in an area of steep slope and or susceptible to landslides or erosion of soils?			
	Is the project located in or near to agricultural land? Including seasonal, recession, or sporadic agriculture?			
	Is the project located in the proximities of tourism activities?			
	Is the project site susceptible to natural disasters (flooding, fire, cyclones and earth quake)?			
	Is the project located in area of population concentration points (schools, markets, health facilities, churches, office buildings, water sources and commercial areas, transportation hubs )?			
	Will the construction/rehabilitation activities including support facilities result in the permanent or temporary loss of crops, fruit trees and household or livelihood related infra-structure (such as granaries, outside toilets and kitchens, livestock grazing and watering areas, irrigation canals, wells and water sources?			
	Will the construction/rehabilitation activities including support facilities interfere with employment, livelihood activities, markets or formal or informal commercial activities including street vendors and similar?			

	Will the construction/rehabilitation works interfere with or block access, routes etc. (for people, livestock and wildlife) or traffic routing and flows?			
	Will the construction or operating noise or vibration level exceed the allowable/safe noise/vibration limits?			
	Will the construction/rehabilitation works require large number of staff and laborers as compared to the size of the communities? Large construction camp? Overnight worker accommodations for extended periods?			
	Will the activities result in emission of significant amounts of dust, hazardous fumes?			
	Will the activities decrease traffic or personal safety in their immediacy or beyond? during construction and/or operation			
	Will the construction/rehabilitation works generate solid or liquid wastes? (including human excreta/sewage, asbestos,)			
	If "Yes", does the architectural plan include provisions for their adequate collection and disposal, particularly asbestos?			
	Are the construction/rehabilitation activities prone to hazards, risks and could they result in accidents and injuries to workers or nearby communities during construction or operation?			
	Will the operation involve use of considerable amounts of natural resources (construction materials, water, land, energy from biomass etc.) or may lead to their depletion or degradation at points of source or discharge?			
	Has public consultation and participation been sought?			
	Will the project interfere with community (households) access to water, firewood, medicinal and food plants, hunting or fishing resources, and other natural resources in general that support food security or livelihood activities?			
	Will the community participate in work opportunities or receive any benefits from the project?			
	Is the community highly vulnerable?			
	Is the community conflictive?			
	Is the community known to be opposed to the project or similar activities.			

#### **PART D: MITIGATION MEASURES**

For all "Yes" responses, please briefly describe the nature and scope of the impacts and the measures proposed to be taken to address them. Subsequent to completion of the present Environmental and Social Screening Form, the analysis by the DPTADER will follow in order to classify the activity into one of the categories A+, A, B or C according to local law.

The PIU (along with DPTADER as applicable) will validate the category under the ESMP and ensure that the appropriate ESHS studies are carried out and an ESMP, and where applicable a RAP are prepared.

#### **PART E: SCREENING RESULTS**

The project is only involved in rehabilitating existing roads; therefore, it has been considered as a Category B project by the World Bank screening process meaning that project activities will impose environmental and socio economic impacts that are easily mitigated. Sub-projects that would be Category A by World Bank screening process will not be financed. However, some sub-projects may be categorized as category A according to the Mozambique system (MITADER) due to length, proximity to wetlands or forests, or associated social impacts and still fall into World Bank Category B - if this happens, the proposed roads will be carefully reviewed by the World Bank to ensure they are Category B by in accordance with World Bank policies.

Examples of sub-projects that would not be financed under IFRDP include those that would pass through or are adjacent to or would cause increased degradation to protected areas, critical natural habitats, critical natural forests, etc.

Eligibility for funding \_\_\_\_\_ Yes \_\_\_\_\_ No

If No, state reason and recommend needed for revision of design \_\_\_\_\_

Requirements (check)

\_\_\_\_\_ ESMP \_\_\_\_\_ ESIA/ESMP \_\_\_\_\_ RAP \_\_\_\_\_ Abbreviated RAP

## **Annex 2: Template for the Scope report and TOR**

1. Non-technical summary
2. Identification and address of the proponent as well as the interdisciplinary team responsible for the EIA
3. Limits and patterns of land use in the areas of direct and indirect influence of the activity
4. a description of the activity and the different actions envisaged therein, as well as the alternatives in the stages of planning, construction, exploration and when it is the case of temporary activity its deactivation;
5. Biophysical and socioeconomic description of the site, including preliminary identification of ecosystem services and vulnerability to climate change;
6. Identification and evaluation of the fatal issues of the activity if they exist,
7. Identification of potential impacts of relevant nature on the activity, including those related to climate change, if applicable,
8. Identification and description of the aspects to be investigated in detail during the ESIA,
9. Public participation report in accordance with article 15, paragraph 9.

### **Template for the ToRs:**

1. Description of the specialized studies identified as necessary during the Scope and to be carried out during the EIA for MITADER Category A and A + activities.
2. Methodology for assessing the ecosystem services;
3. Description of viable alternatives identified and to be investigated in the ESIA;
4. Methodology for identifying and assessing environmental impacts, in particular impacts on climate change and vulnerability to climate change and biodiversity, including residual and social impacts in the construction, operation and decommissioning phases;
5. Additional information necessary.

### **Annex 3: Template for the ESIA in accordance with the Decree 45/2015 of 31 (minimal content)**

#### **Non-technical summary**

- 1) Identification and address of the proponent
- 2) Identification of the interdisciplinary team that prepared the EIA
- 3) Legal framework of the activity, including resettlement, counterbalance, territorial planning plans for direct and indirect influence areas,
- 4) Description of the activity,
- 5) Description and detailed comparison of the different alternatives,
- 6) Delimitation and geographical representation of the area,
- 7) Characterization of the environmental and social situation of reference,
- 8) Forecasting the future environmental situation, with or without mitigation measures,
- 9) Summary of the environmental and socio-economic impacts and viability of the proposed alternatives,
- 10) Identification and analysis of the impact of the project on the health, gender and vulnerable groups of affected communities and mitigation measures
- 11) Identification and evaluation of direct, indirect, residual, cumulative impacts and mitigation or compensation measures,
- 12) Presentation of the provisional or definitive DUAT of the project area,
- 13) The EMP of the activity,
- 14) Management Plan for biodiversity balance as an annex, if necessary,
- 15) Report of the Physical and Socioeconomic survey, as separate annex when necessary,
- 16) Public participation report in accordance with the stipulations of article 15, paragraph 9,
- 17) Proof for payment of income taxes of engineer not domiciled in Mozambique

#### **Annex 4: Public Disclosure of Information**

Most often a development project, including its socio-economic and environmental setting, fails due to lack of information or misinformation. For the success of a given program the management must share all information obtained about the proposed activities and their expected results with the affected and/or interested public. Disclosure for the World Bank's shareholders and constituents to ensure transparency of its operations. All the targeted safeguard policies have set a requirement for Disclosure and consultation. The Mozambican legislation also require that a public consultation be done and informed two weeks at least before hold the meeting and the documents be made available for the APs at national, provincial and local institution where the project will be implemented. The disclosure should be done on at national level on ANE an MITADER web sites and offices. At local level ANE delegation, DPTADER website and in the local communities/local councils where the project will be located 2 weeks before public consultation.

The EA documents for each sub-project should be translated into a language, understandable for potentially affected population. The recommendations given should reflected in the final version of the EA document. Minutes of the public briefing should be attached to the EA document. Information dissemination in a project begins with environment and social impact assessment activities during the initial phases of project preparation. Through respective local authorities and NGOs, APs should be regularly provided with information on the project and the resettlement process prior to and during the RAP preparation and implementation stage. Agencies working for nature conservation or other ecological aspects should also be informed at both local and national level about the ongoing and planed activities, to identify jointly appropriate protective or corrective measures The documents to be disclose are following: ESMF, Environmental Assessment/ Environmental Management Plan • Resettlement Action Plan, Policy Framework or Process Framework Pest Management Plan for the sub-project under the IFRDP.

#### **Disclosure in support of meaningful public consultations**

To reach the local communities and to ensure maximum employment among local population, as well as ensuring the inclusion of vulnerable groups and women in the income-generating process associated with the road construction works, each sub-project will establish mechanisms and structures to involve all project-affected people and stakeholders. At first stage before contractors move into the area, need to conduct a local labor availability survey, producing a list of wo/men from each village/road section willing to work in road construction. The survey shall also assess the level of skill available among the local communities. Skilled labor will be given priority in employment. If the labor required for the work will be insufficient in the local area, outside laborers will be allowed to meet the shortfall only. It is proposed from the past practices that at least 70 % of the labor should be reserved for the APs in particular and local population in general. Public meetings will be held that explain this strategy and demonstrate the job opportunities to the local population. This arrangement will promote local economy and help APs and local community to gain skill related to road construction and maintenance. This will also increase feeling of ownership over the road and will ensure maintenance assistance in the future. The Project Proponent will then engage qualified NGOs or CBOs who will be responsible, throughout the construction period, for community mobilization and facilitation of employment. The mobilization and facilitation activities will include a number of awareness and skill training programs that will put the potential work candidates in a better understanding of the works requires, and the risks and opportunities associated with such work. Specific awareness aspects will relate to environment protection, agriculture, health, STDs and social conflict avoidance. Specific attention will be paid to the following principles while generating income opportunities for local people:

**a. Empowerment**

Empowerment is the process of transforming existing power relations and of gaining greater control over the sources of power. Empowerment builds people's capacity to gain understanding and control over personal, social, economic and political forces to act individually as well as collectively to make informed choices about the way they want to be and do things in their best interest to improve their life situations. Empowerment can occur in economic, socio-cultural, political, legal, inter-personal and psychological dimensions. Empowerment of AP's and the vulnerable families will lead to increased self-confidence and broaden their social capabilities, including quality of life as education, skills, health, access to safe water and sanitation, information and communication.

**b. Avoidance of Gender Discrimination**

There are ample opportunities and practical means to address gender issues during the public consultation process for the planned sub-projects. Women will be fully informed of the process and procedures of resettlement, as well of the chances and rights they may want to enjoy from forthcoming job opportunities. Contractors need to be made liable to observe gender quota in awarding jobs to unskilled labor. Earning income will raise women's status in the home and in the community, and encouraging savings will enable women to retain control over a small proportion of their income and resources. Stereotyped roles, limited access to education and skills/vocational training, discriminatory wage rates, legal discrimination, and deprivation of the rights to property are some factors that negatively affect women's participation in the development activities.

The IFRDP shall therefore make efforts to gradually mainstream the gender equity issue at all stages of project cycle (need assessment, project planning/design, implementation, monitoring and evaluation). Women-headed households would be given special priority in resettlement packages. Appropriate capacity building programs would be introduced to increase participation and receive valued inputs from women themselves.

**c. Education on Worker's Rights and Grievance Resolving Processes**

The work candidates will also receive appropriate information on their rights with respect to health care, remuneration and payment conditions. A specific grievance and complain mechanism will be established to ensure the addressing of claims brought forward by the engaged workers. A locally contracted NGO will be responsible for monitoring local labor employment to ensure that female participation in construction work are maintained and that child labor is avoided. The consultation process shall provide full information and explanation that not only equal access to employment opportunities are maintained, but that equal wages will be paid for similar work for both men and women. Contractors shall also be obliged to make payment in frequent and agreed intervals, equally to both men and women employed. Payments schedules and amounts need to be continually monitored by NGOs to ensure that both men and women receive the payments they are entitled to, and at schedules specified in their contract.



## **Annex 5: Grievances Redress Mechanism details**

Conflicts or grievances may arise when the construction process occur without a pre negotiation process or contractor does not respect the concerns of the PAP's. Conflicts generally arise from poor communication, inadequate or lack of consultation, inadequate flow of accurate information, or restrictions that may be imposed on people through the implementation of Project activities. Grievances Redress Mechanism will be available for the sub-project affected persons to be able to address their issues and to solve prior to use formal legal grievance system. Through this mechanism, AP's will be able to react on any damages occurred during the construction works or ESMF implementation, including aspects related with GBV, CAE and misbehavior of contractor workers.

Communication strategy may prevent or reduce misunderstanding and grievances, therefore awareness-raising about Project activities will be one of strategy that ANE will adopt. Consultations and negotiations will be carried out with PAPs where there are indications of potential conflicts. Contractors and engineer have to be aware of managing conflicts and communities to know their rights and obligations, how to obtain legal advice and representation, and how to seek redress against what they regard as unfair practices by contractor or its workers.

The Project Authority in terms of grievances is PIU at provincial level. Project Communication Plans should priorities awareness-raising about the structures that are available to redress more serious grievances that cannot be addressed satisfactorily locally.

At local level community leaders will be trained in communication and initial grievances reception. Grievances response at community level will also be linked to the community court system where these have been duly constituted, so that they can be used for resolving as many grievances as possible at local community level.

An affordable and accessible procedure for PAPs settlement of disputes arising from project, the GRM will take into account the availability of community and traditional dispute settlement mechanisms and judicial resources. The proposed GRM, will be organized in such a way that it is accessible to all project beneficiaries and surrounding community members, with particular attention for the vulnerable groups. The priority of this mechanism is to capture any potential grievance case in its initial stage and be able to address the issues and to solve prior to use formal legal justice system. Once the subproject is defined and the preliminary foot prints of the site-specific project are defined, public consultation will be organized within the project area and surrounding community. In these meetings, the affected community will be informed about existence and procedures of the grievance redress mechanism, communication channels, entry points and response timing as well.

The GRM will involve the PLC, representatives of the district government (representatives of the education, health, police, Infra structure and Agriculture sectors) and service provider for GBV, ANE Delegates and HdQ. Through this mechanism, PAPs will be able to complain on any discrimination cases, damages occurred during the works, land acquisition or land use change or any other issue that might arise during project implementation process. A simple and easier system for GRM will be established by PIU and disseminated through ANE Delegation. PIU, has to verify at the time of project implementation, if any of the community members has ownership claims on the property in case this is a public land, where the project need to expand the agriculture area or change the use of land. A pre-disclosure phase is recommended in cases when PAPs are not identified as they could no longer reside in the expropriated areas (migrated in another region of the country or emigrated abroad). The notification should be done

by the implementing Agency through publication of PAPs name at the site-project level or through the local leaders.

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A Project Liaison Committee (PLC) will be established per district and members of localities or villages along the road will be representing the communities at PLC. The composition of the PLC is described at chapter 9. It expected that the community members at local or village community level submit their grievances to be given a solution initial for the local authorities. They may also exact penalties such as compensation for damages caused by the offense and / or, public criticism, community service, small fines, refraining from carrying out the activity that caused the case. Wherever possible grievances should be solved amicably and make use existing structures to solve it. However, where such approach is not possible, those wishing to express their grievances may do so through the community, family member and administrative post and/or district government, who will consult with the ANE/PIU to determine the validity of claims and rule on the final settlement.

General principles and procedures must be established by the Projects and publicized including:

- ✓ Verbal communication should be in locally relevant languages but all records of communications must be in Portuguese.
- ✓ Grievance forms should be prepared by ANE HdQ and be available for the delegate at provincial level, PAPs may also lodge their own documented grievances as they wish;
- ✓ An initial response must be provided to the communities in a recommended period of 10 days. Detailed procedures to redress grievances and the appeal process should be disseminated among PAPs who should be empowered to use them. The participatory processes in this Process Framework should, among other aspects, focus on these procedures.
- ✓ Measures must thus be put in place to ensure that solutions are reached by consensus based on negotiation and agreement.
- ✓ As appropriate per sub Project area, specific people should be chosen to represent their local communities during the implementation of the IFRDP especially for grievance presentation and to accompany the redress process. These men and women will provide a first level of listening and informal resolution.

The ANE delegate, through the PIU with the assistance of service provider, should create awareness that they may also be used for the communication of grievances for informal resolution. Efforts will be made to ensure that be include representatives of women and youth with whom leaders will consult to offer

tangible solutions. Formal grievances redress and conflict resolution processes should follow the general steps outlined below:

### **Step One**

If issues of concern with relationships with the contractors or sub-contractors, neighboring communities or external stakeholders they should be presented to PIU at local level to try and resolve immediately or as appropriate, to transmit directly to the site meeting for resolution.

The PIU should screen grievances presented to the contractor to initially decide if a grievance is to be accepted or not. If so, the PIU should pass them on to the appropriate level (ANE HdQ) for resolution. Grievances may be resolved directly by the EO of the contractor, but where they require redress via other agencies they should be passed to the PIU at provincial level for recommending solutions accordingly. Grievance redress may require shorter (max 3 days) or longer (10 days) periods depending on the subject of the complaint.

### **Step Two**

If the aggrieved person is not satisfied with the Step One decision, he/she shall forward the case to the PLC attention with a preliminary report prepared by the engineer. The report should contain the details of the grievance and hearing date

PLC may engage with relevant Government and local authorities to help resolve these problems in such a way that the interests of communities.

It may be necessary for operational reasons at sub-district level to have a multi-sector channel to fairly hear grievances, and respond to issues that may involve more than one sector. The period for informing the aggrieved person of the redress steps must be followed, and the periods expected for redress communicated to them.

### **Step Three**

If the PAP is still dissatisfied with the decision taken after Step Two, he/she shall forward the case to ANE Delegate/ANE HdQ for attention of the PIU. The grievance shall be forwarded with all the documented details of the case to date. Communication with the PIU may also be carried out via community representation on

### **Step Four**

If no amicable solution is reached up to Step Three, as an ultimate recourse the aggrieved person may submit the case to the Provincial / District court system to seek reparation. This final step is an option that must always be available, but it should be discouraged by all positive means possible. Timely communication and open negotiation are the main deterrents.

The institutional arrangement and the principles of community consultation and participation that are intrinsic to the Process Framework are designed to allow the process to detect and deal with problems in a timely and satisfactory manner for all parties concerned.

If affected communities' interests are superseded or rendered ineffective by any other government actions in agreements entered into by them provisions exist in most legislation to appeal with sectoral grievances to higher levels of government such as ANE HdQ and MOPHRH. Ultimately, though not usually practiced systematically by many people, all citizens have the right to address complaints to the Public

Prosecutor, the institution responsible for ensuring the law is correctly applied, particularly in the elaboration of territorial management instruments and their implementation.

Grievance Register Forms to be provided by ANE delegation to the District Service for Infra Structure and Service Providers for making available at local level at publicized sites and via publicly recognized community representatives. Community representatives should be encouraged to explain this entitlement whenever needed and at no time should filing a grievance be discouraged by community representatives, local authorities or Project officers. Each grievance will be captured in the Grievance/Issues Register that must be maintained at ANE PIU and ANE delegate (see annex 6 and 7). Reports on grievances will be regularly presented at monthly PLC meeting. Grievance reports should track complaints, responses, redress action and close-out of all community grievances with dates and responsible parties clearly indicated. ANE HdQ and Delegation will periodically verify response management and redress through to close-out of each grievance. Each of the following steps should be limited to a maximum of 15 days from receiving a grievance to communicating a decision. Resolution should be sought at the lowest level possible in all cases. The GRM can be described by the following chart:



The NGO will also sensitize the public on GBV/SEA, raise public awareness about the different entry points to place complaints with the GRM, train stakeholders (contractors, communities, PIU), assist and refer survivors to appropriate service providers, and monitor implementation of the GBV/SEA mitigation and response measures (i.e. that Codes of Conduct for contractors and workers are in place and signed, and that the GRM and PLC are maintaining case confidentiality and acting in conformance with the response protocol). In doing so, the NGO shall partner with the National NGO that are more integrated with the communities.

The supervision engineer will monitor that the courses for contractors regarding the Code of Conduct obligations and awareness raising activities to the community are in place. The information so gathered will be monitored and reported to the World Bank and other stakeholders by the implementing agency.

## ANNEX 6: Sample Grievance Form

Name (Complaint): \_\_\_\_\_

PAPs ID Number: \_\_\_\_\_

Contact Information: \_\_\_\_\_ (Community; mobile phone)

Nature \_\_\_\_\_ of \_\_\_\_\_ Grievance \_\_\_\_\_ or \_\_\_\_\_ Complaint:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Individuals Contacted Summary of Discussion

\_\_\_\_\_

Signature

PAPs: \_\_\_\_\_ Date: \_\_\_\_\_

RAP Consultant representative: \_\_\_\_\_ Date: \_\_\_\_\_

Local Authorities: \_\_\_\_\_ Date: \_\_\_\_\_

## ANNEX 7: Sample Resolution Form

Name of Person: \_\_\_\_\_

Position: \_\_\_\_\_

Review/Resolution

Date of Meeting on Grievance: \_\_\_\_\_

People Present at Meeting (see attachment):

Was field verification of complaint conducted? Yes\_\_\_\_No\_\_\_\_

Findings of field investigation:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Summary of Conclusions from the Meeting:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Key Issues:

\_\_\_\_\_

Was agreement reached on the issues? Yes\_\_\_\_ No\_\_\_\_

If agreement was reached, detail the agreement below:

If agreement was not reached, specify the points of disagreement below and Next Action Step Agreed:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed (Conciliator): \_\_\_\_\_ Signed (person): \_\_\_\_\_

Signed (Independent Observer): \_\_\_\_\_

Date: \_\_\_\_\_



## Annex 8: Employer's GBV and CAE 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 and women with respect regardless of race, color, gender, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status;
- not use language or behavior towards children and women 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;
- Not engage sexually with any woman, in a situation, without mutual consent
- 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 invite women into my place of residence if this is not acceptable by the code of ethics of the company;
- 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 media;
- not use physical punishment on children and women;
- 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 code of ethics of the company and all relevant local legislation, including labor laws in relation to child labor and behavior;
- immediately report concerns or allegations of child and women 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, I must:

- assess and endeavor 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 behaviors that could be construed as child exploitation and abuse.

Signed:

Date:

## **Annex 9: Guidelines for Quarry Areas Management**

### **Selection of Quarry sites**

1. Quarry site should be located away from the villages/settlement area, drinking water supply sources, community infrastructure such as school, health post, bridge, etc., religious sites, cultivated land, protected forests, natural drainage systems;
2. Quarry will not be located in protected areas (forest or wildlife);
3. River gravel will not be extracted from flowing water due the disturbance of raising sediment and danger of resulting oil/fuel leaks;
4. Quarry sites should be selected in stable area, in agriculturally unsuitable land 5. Local communities will be consulted and take approval from respective owner before selecting the place for quarry operation:
  - ✓ Potential Environmental Impacts;
  - ✓ Disruption of natural landscape and vegetation;
  - ✓ Accelerated erosion and landslides;
  - ✓ Disturbance in natural drainage patterns / Siltation due to surface water;
  - ✓ Water pollution and dust pollution;
  - ✓ Scouring of riverbeds resulting endangerment of bridges and continuous degradation of river regime and detrimental effects on aquatic lives and their habitats.

### **Quarry Operation**

5. Working should be prohibited during the night time;
6. Barricade to site to control free movement of local people.

### **Contract Obligation:**

Contractor will secure government permit and other relevant environmental requirements for operation of quarry site with recommendation from project engineer.

### **Quarry management & Restoration Plan**

7. The plan must contain site restoration measures such as spoil management, slope stabilization/erosion control measures, drainage pattern management, etc.;
8. Suitability of proposed mitigation measures is needed to be verified and conformed;
9. Provision of drainage system during operation to ensure no risk of depositions of debris from quarry to lower catchments area and to prevent the flooding of excavated area;
10. The plan should mention use of safety gears during working hours in the quarry site, and appropriate means of safeguarding for passer-by and nearby households;
11. The plan should include suitable bioengineering techniques where appropriate with reapplication of stored top soil.

### **Acceptance of Restoration Work:**

12. The Supervision engineer should verify and recommend for approval the restoration plan submitted by contractor;
13. The Supervision engineer will make sure that quarries are operated and closed according to the submitted plan;
14. The payment of each works structure should only be made after filling of the data by the Contractor for quarry management and restoration plan and acceptance by the Supervision engineer;
15. Final payment will be dependent on verification and approval by SC at the end construction of each respective structure.

### **Parameters and indicators for supervision/Monitoring:**

16. Implementation of mitigation measures as per design plan;

17. No evidence of water ponding or presence of fresh gullies;
18. Proper site closure;
19. Natural contours and vegetation restoration;
20. Engineer's report testifying to completion of restoration.

## Annex 10: Datasheet for Quarry Management and Restoration Plan

Name of Sub-project: ..... Contract No: .....

Locations of Civil Works: .....

Required Type of Material from Local Sources: Stone / Gravel / Sand / Soil.

Required quantity of material from local quarry (in cum): .....

Selection of Quarry Sites: Parameter for quarry site selection: (e.g. unsuitable land for cultivation, stable slope, minimum environmental hazard etc.) .....

Sources of Material: Within RoW / Private land / Public land / Forest (community/private/government)/Surplus material extracted / River / Borrow pit / Roadway.....

1. Available quantity in Selected Source (in cum): .....
2. Approval for Quarry site: DIPREME/ Community / Land Owner (Attach agreement herewith)  
.....
3. Method of extraction and transportation: Depth of cut / Height of cut / and Tractor / Tipper / manually or any means.....
4. Precaution measures during excavation: .....
5. Likely negative environmental impacts: .....
6. Restoration Plan - Trimming of slope / - Filling of quarry / - Need of check wall / Toe wall / Plantation / Benching etc.
7. Any special safety arrangement required:
8. Mitigation measures for negative environmental impacts:
9. Verification of Restoration Work as Planned by the Supervision Engineer.

Submitted by:

Checked by:

Approved by:

Note: The payment of each structure will be made only after filling of the data by the contractor for Quarry Management and Restoration Plan. Final payment will be dependent on verification and approval by SC at the end construction of each respective structure.

## **Annex 11: Selection Criteria of Borrow Pit Sites**

1. Pits shall not be located in natural and design drainage areas /water bodies;
2. Pit should be avoided in land close to embankment (i.e. should be more than 1.5 m) and irrigated agricultural land;
3. In case of agricultural land depth of pit shall not exceed 45 cm;
4. In case of riverside, pit should be located at more than 15 m from toe of bank;
5. Avoid borrow pit in land within settlement areas, protected areas, forests, unstable site-hills, wetlands, stream and seepage areas, areas supporting rare plant/animal species
6. The clearing of trees and other vegetation shall be discouraging;

### **Potential Environmental Impact**

7. Disruption of natural landscape and vegetation
8. Disturbance to natural drainage resulting ponding, water logging and water pollution.

### **Borrow Pit Operation / Restoration**

9. Borrow pit areas shall be restored with adequate slope and cross drain at regular interval to facilitate drainage. 8. Stripped material shall be stored so as to not disrupt natural drainage
10. The ponding of surface water shall be prevented through adequate drainage.
11. Site shall be left in a stable condition without steep slopes.
12. Exposed area shall be planted with suitable vegetation

### **Design & Estimate of Borrow Pit**

13. Using site selection and restoration criteria and the engineer shall specify borrow pit location in drawing (plan) and specification;
14. In case of additional pits required during construction the contractor shall use the site selection and restoration criteria to select new pits with approval of the Engineer;
15. The cost of compliance with above requirement shall be included in Contractor's rate for supplying of materials;
16. The cost of mitigation measures and restoration plan will be prepared separately under EMP item.

### **Parameters and indicators for supervision/Monitoring:**

17. The Engineer shall ensure that the borrow pits are operated and closed according to design;
18. Implementation of erosion control work;
19. No evidence of water ponding, no increased visual turbidity in surface water;
20. Natural contoured and vegetation are restored;
21. Engineer's report on compliance of restoration work.

## **Annex 12: Guidelines for Spoil Mass Management**

### **Selection of tipping sites:**

1. Possible tipping site should be identified right from feasibility study / walkover survey phase and should be selected with details during detailed engineering / preparation of EMP
2. Following consideration will be made while selecting tipping sites:
  - a. Nearby barren land within RoW with flat/rolling terrain slope.
  - b. Can be used in making passing nays, extra widened sections etc
  - c. For reclamation of public private/land d. In building other community infrastructures like playground of school etc
  - e. If appropriate site is not found nearby spoil mass can be used for overlay over the existing road surface
3. Site should not be weak, fragile and unstable area susceptible to erosion and landslides and that will collapse by surcharge mass. Avoid wetland or other prohibited areas.

### **Potential Environmental Impact**

4. Damage of vegetative cover with scouring of valley slope resulting in landslide and removal of vegetation and top soil causing slope instability.
5. Damage of private property, land, public infrastructures
6. Disruption of natural drainage system and water pollution.

### **Design & Estimate of tipping site**

7. Tipping site should be located and shown in road plan inclusive of retaining and other protection structures;
8. There should be a column for calculation of surplus mass from excavation in Earthwork Calculation Sheet (see table below);
9. The quantities & haulage distance of spoil mass will be incorporated in detail quantity/cost estimate and Bo of works with detailing of means of transportation;
10. If any changes/revision needed contractor will identify and submit the detail of tipping site for approval by Project Manager.
11. Mitigation measures should be design & estimated for possible impact against disturbance to natural drainage system and other likely instability

### **Construction & Operation of tipping site:**

12. Stones extracted during excavation should not be thrown away, but need to be stacked along not disturbing the road for future use;
13. Landfill is constructed using a series of small spoil benches to prevent slope overloading. Earth mass should be dumped and stacked in design slope of filling mass;
14. The dumped spoil mass will be protected using toe/check walls and exposed areas will be strengthened with application of bioengineering over it;
15. Disposal area should be leveled & compacted after disposal.

### **Parameters and indicators for supervision/Monitoring:**

16. Stability of spoil area
17. No presence of slides, scouring, erosion, or destruction of public utilities and infrastructures
18. Vegetative cover is maintained – survival rate of plant.

## **Annex 13: Labor camp guidelines**

### **Establishing labor camp**

The main purpose for the preparation of camp standard is to assist in the effective implementation of Environmental and Social Management Framework (ESMF) and to achieve sustainable development ensuring no any adverse impacts upon environment and society.

The establishment and operation of a camp is likely to produce adverse impacts upon the bio-physical as well as the social and economic environments. It is imperative to safeguard the environment and society and to reduce and mitigate the negative impacts that are likely to be produced for the operation of camps. It is envisaged that a contractor will follow the following guidelines during the operation of camps in the project areas and hope that the project will be accomplished and benefited including local community and labor workers. Similarly, central level monitoring will be executed for the proposed camp sites under the consideration of following guidelines.

After the selection of the camp site by the project, the contractor shall submit to the project a detailed layout plan for development of the construction camp, indicating the various structures to be constructed including the temporary structures to be put up, drainage and other facilities. The plan will include the redevelopment of sites to pre-construction stage.

The contractor shall provide temporary accommodation to all the workers employed by him for such a period as the construction work is in progress. The contractor shall not charge any cost to the resident's labor.

### **Lodging facilities**

For non-local workers, a contractor shall provide adequate lodging/accommodation. Separate compartment shall be provided for male and female workers for their accommodation. If couples live in the camp, then they shall be provided with separate compartments.

The accommodation areas for workers shall be designed, constructed and furnished. Changing rooms shall be provided for workers who are required to wear working clothes. Provision shall be made for separate changing rooms for men and women.

### **Food and Energy**

The availability and proper storage of quality food and potable water is also the responsibility of a contractor. The quality of food grains and other consumable items and water must be provided. In case labors wish to prepare their own meals, the contractor shall provide adequate cooking facilities. In camps where cooking facilities are used in common, legal source of energy shall be provided. Such kitchen shall be established at least 10m distance from any sort of water sources.

### **Water and Sanitation**

Adequate water storage facility shall be provided in a proposed camp site. Workers working on a construction site shall be provided with drinking water which meets the standards established for drinking water. Lavatories facilities should be adequate for the capacity of a camp. The lavatories shall be



adequately lighted and shall be maintained in a clean sanitary condition at all times. Water shall be provided in or near the lavatories by storage in suitable containers (tank, buckets etc)

If proper sewerage system is not available at the proposed camp site, contractor shall have established toilets with septic tank for the proper disposal of waste. Bamboos and plastic sheets shall be used as encircle material for the establishment of temporary toilets. However, contractor shall ensure that the site is free from open defecation.

Provision shall be made for separate lavatories for men and women on the camp site and these rooms shall be distinctly marked "for men" and "for women" by signs printed in native language of the persons occupying the camp, or marked with easily understood pictures or symbols. If the facilities for each sex are in the same building, they shall be separated by solid walls or partitions extending from the floor to the roof or ceiling. The camp site should be served by energy.

Contractor shall provide adequate waste disposal facilities for the storage Garbage containers shall be kept clean and shall be emptied when full, but not less than twice a week. Incase garbage is disposed, only biodegradable waste and organic kitchen waste shall be dumped in pit. Pit shall be at least 150 ft. away from the camp site, whereas contractor shall ensure that diseases will not spread into nearby community and any sort of contamination into water bodies and ambient environment.

Contractor shall also ensure that the pit is covered properly after disposal of degradable waste every day to reduce spread of fly and rodents. Liquid waste generated from the camp site shall not be disposed directly into any surface water bodies. The contractor shall ensure proper management of ground drainage from camps as a preventive measure against breeding places of mosquitoes and other pests. Non-biodegradable wastes shall be kept in containers and shall be disposed into proper place.

Contractor shall provide adequate health services to workers on the site. A permanent health worker is required Construction sites shall be equipped with First Aid Kit at every construction campsite with essential first aid equipment and stretchers. The contractor shall ensure that first aid can be provided to workers who have had an accident or have suddenly been taken ill on the site.

The construction camps shall be equipped with fire-fighting equipment and facilities. Fire extinguishing equipment shall be provided at readily accessible and adequately marked locations at Camp. Every worker should be trained in use of fire extinguishing equipment At least one fire extinguisher shall be provided, where flammable liquids or combustible materials are stored, handled or used.

Fire extinguishing equipment shall be of a suitable type and size to permit the evacuation of workers during a fire. After a fire extinguisher is used, it shall be refilled or replaced immediately Every fire extinguisher shall be inspected for defects or deterioration at least once a month by a competent worker who shall record the date of the inspection on a tag attached to it.

A camp site shall be adequately drained. All temporary camps shall be constructed using tents, and shall be closed from all side to protect from wind and water, while at the same time ensuring ventilation. A contractor shall provide separate store room or compartment for the storage of handy construction equipment's. Play grounds and other recreational and refreshing activities shall be provided in a proposed camp site where a worker could spend his/her leisure time.

## **Annex 14: Occupational health and safety guidelines**

A safe and healthy work environment for people at work is required to prevent loss of life or personal injury. The safety and health of the workers is important in successful completion of any project. A safety guideline developed with due considerations and identifications of hazards in the workplace and implemented will be adequate and effective in controlling the mishaps and accidents. Safety hazards generally arise from the following aspects of work during rural road construction:

- ✓ Different construction activities (excavation, quarrying, filling)
- ✓ Construction equipment and materials used
- ✓ Management in the work place

The health and safety of both the general public and the workers must be of prime concern for all parties involved in with road and bridge construction activities. During the progress of work, following are the safety requirements that the contractor at the construction site shall ensure to the public and workers;

### **(a) Health concern:**

1. Creation of stagnant water ponds / waterlogged areas near construction sites and labor camps have the potential to increase public health risks, as such locations will serve as breeding ground for water-borne disease vectors (e.g. malaria, dengue, intestinal worms);
2. Unauthorized use of local natural resources by work forces on items like medicinal plants, non-timber forest products, fire wood, hunting species, fish etc. may lead to resource depletion, inducing secondary side-effects like malnutrition that may harm public health;
3. Migrant workers, especially when under drug and alcohol influence, may cause social conflicts which can result in physical clashes with the general public and the workers, putting local health facilities under constraints. Similarly, migrant workers may act as vectors for sexually transmitted diseases such as HIV/AIDS. Migrant workers may become vectors for other endemic diseases;
4. Low quality drinking water as well as inappropriate storage of drinking water likely to cause water borne diseases among workers.

### **(b) Safety Concerns:**

5. Personal protective equipment (such as footwear, gloves, boots and goggles, helmets, mask etc.) shall be made available to the workers and appropriate training in its use shall be provided.
6. A protective helmet is mandatory on a construction site in an area where, due to the work technology, the risk of head injury exists.
7. Non-slippery and non-penetrable safety footwear shall generally be used on construction sites. Kneepads shall be used while working on the floor or during other work involving kneeling.
8. Restricting the working hours to day time as far as possible
9. Adequate lighting arrangement if working hours are at night time due to unavoidable circumstances
10. If work is performed in the dark, a reflex reflector or a reflector-band shall be worn on clothing. If work is performed in places in the vicinity of traffic, the worker shall wear a bright waistcoat or clothing and, in the dark, also a reflector-band. A reflector-band shall be attached in a visible place and, if necessary, also to a protective helmet.
11. Improper handling of materials like bitumen, oil and other flammable/hazardous material at construction sites, likely to cause safety concerns to the workers.
12. 8. Lack of safety measures such as fences, adequate lockers, alarm, awareness and safety equipment may result in accidents,

13. Lack of specific precautionary measures, especially at work sites with or around heavy machinery / equipment near rivers, steep slopes, equally bears many accident risks, partly with fatal consequences.
14. Proper and regular maintenance of vehicles and equipment used in the field
15. Facilities for administering first aid

**(c) For general Public**

The contractor should ensure and avoid the following safety concern to the public:

- a. Parking of equipment and vehicles at the end of the day likely to cause accidents to the general public especially during night hours;
- b. Transportation of uncovered loose material or spillage of material increases the chances of accidents to road users and surrounding settlements;
- c. Children hanging on trucks and vehicles being at particular risks for fatal accidents.

Gender Biased Violence

# Annex 15: Template for safeguards Tables in Quarterly Progress Report

<b>Sub-project:</b>			
<b>Contractor:</b>		<b>Supervising Engineer:</b>	
Monthly Report from Supervising Engineer (dd/mm)		Major Issues Raised	
Project Safeguards Site Visits (dd/mm – QQ/YYYY)		Overall Implementation	
<b>RBMMP II Safeguard Policy Triggers</b>	<b>Issues Raised</b>	<b>Description</b>	<b>Actions Taken</b>
<b><i>World Bank Safeguard Policies Triggered by Project</i></b>			
OP4.01 – Environmental Assessment			
OP4.11 – Physical and Cultural Resources			
OP4.12 – Involuntary Resettlement			
<b><i>Other Environment or Social Issues Noted in Supervision</i></b>			
Gender and Vulnerable Groups			
Other Issues...			

## **Annex 16: Environmental Monitoring Report Outline**

- 1. Background
  - 1.1 Project location
  - Scope and Methodology
  - Objectives
  - Methodology
- 2. Environmental Management Plan Implementation
  - 2.1 Permits and permission
  - 2.2 Site location and contractors camp
  - 2.3 Solid waste management
  - 2.4 Liquid waste
  - 2.5 Environmental training and awareness
  - 2.6 Local labor
  - 2.7 Maintenance and storage
  - 2.8 Storm water management and erosion
  - 2.9 Air and Noise emission and odor control and safety
  - 2.10 Health and safety
  - 2.11 Conservation of vegetation and wildlife
  - 2.12 Protection of sensitive environments and natural features
  - 2.13 Fire prevention and control
  - 2.14 Community relation and control of community disruption
  - 2.15 Traffic control
  - 2.16 Private land and community properties
- 3. Planning borrow pits and quarries
  - 3.1 Decommissioning of the site

## ANNEX 17: Indicators for the OHS

For the OHS the report should include Within 5 working days of the end of the calendar month the Contractor will be required to report to the Engineer on their performance with the following OHS indicators:

- Number of serious near miss incidents, where serious harm to employees or others may have resulted.
- Number of fatal injuries (resulting in loss of life of someone associated with the project or the public)
- Number of notifiable injuries (an incident which requires notification of a statutory authority under health and safety legislation or the contractor's health and safety management system)
- Number of lost time injuries (an injury or illness certified by a medical practitioner that results in absence of work for at least one scheduled day or shift, following the day or shift when the accident occurred)
- Number of medical treatment injuries (the management and care of a patient to effect medical treatment or combat disease and disorder excluding: (i) visits solely for the purposes of observation or counseling; (ii) diagnostic procedures (e.g. x-rays, blood tests); or, (iii) first aid treatments as described below)
- Number of first aid injuries (minor treatments administered by a nurse or a trained first aid attendant)
- Number of restricted work cases. (those people who have returned to work, but are undertaking "light duties")
- Number of recordable strikes of services (contact with an above ground or below ground service resulting in damage or potential damage to the service)
- Rate of recordable strikes of services per services crossed.
- Lost Time Injury Frequency Rate (the number of allowed lost time injury and illness claims per million man-hours worked)
- Total Recorded Frequency Rate (the number of recordable injuries [recordable/lost time/fatal] per million man-hours worked)

The monthly reports shall also include:

- Number of drug and alcohol tests
- Proportion of positive drug and alcohol tests
- Number of site health and safety audits conducted by contractor
- Number of safety briefings
- Number of near misses
- Number of traffic management inspections
- Number of sub-contractor reviews
- Number of stop work actions
- Number of hazard cards reported
- Number of positive reinforcements
- Successful implementation of agreed GBV Action Plan (Y/N); • Number of training courses related to GBV delivered; • Percentage of workers that have signed a CoC; and/or, • Percentage of workers that have attended the CoC training.

Company CoC: Commits the company to addressing ESHS, OHS and GBV issues; • Manager's CoC: Commits managers to implementing the Company CoC, as well as those signed by individuals; and, • Individual CoC: Commits all persons—including sub-contractors and suppliers—to the standards of behavior.



## **Annex 18: Stakeholders Consultation Report**

The site visit was done on 31st May up to 2nd June 2017. The team visited two districts in Nampula (Memba and Erati) and two districts in Zambézia (Maganja da Costa and Morrumbala). The main objective of the field visit was to identify the main environmental and social impacts that the feed road project can bring or even make them worse. As well as to assess the capacity in place at provincial and district level to implement and monitor the ESMF of the IFRDP. The methodology adopted was meetings with representatives of ANE and Road Funds, as well as with the line departments that have a say on the environmental and social issues associated with projects implementation (DPTADER, DPASA, DPOPHRH). Then the team visited the targeted districts and also hold a meeting with the local authorities as well as visited the priority roads for the districts.

The first meeting was held at DPTADER with head of Environmental Assessment Department Mr. Victor Lopes in Nampula, while in Zambézia the meeting at DPTADER was with the provincial director, team of the Territorial Planning (Resettlement unit) and Environmental Assessment Department. During the meeting the team, accompanied by ANE delegation, did the project presentation and informed the expected role of the Directorate in line with the ESMF. DPTADER in both provinces has human capacity to fulfil their role.

The Directorate informed that for the IFRDP the system will be the same they are using for other projects. ANE as to submit the screening form for categorization under the decree 54/2015. In a case that the project is categorized as B or C DPTADER will follow up the entire process until the license be given. The cost of the screening process is at the cost of the project owner. The cost includes the field visit for the DPTADER team. According with type of project a technical committee is formed, which is composed by different institutions to evaluate the project.

During the Implementation of the project DPTADER will do the audit if there is enough budget. However, DPTADER never did audit to road projects because of lack of funds, but the audit is mandatory. The Proponent can hire a Consultant to do the external audit and send to DPTADER the report.

Regarding the resettlement process the only issues DPTADER have is related to the infrastructures models which are not defined at the beginning of the process the other issues is related to the compensation modality, most of the time the affected person what to receive money as compensation, but the law is recommend not to compensate in money but in infrastructure.

### **DPASA**

The meeting at DPASA was held with Mr. Pedro Dubula Provincial director. During the meeting the Director inform that they work in coordination with ANE Delegation when it is necessary. Also inform that the following districts are priority because of the high production. Memba, Erati, Mecubúri, Murrupula, Monapo, Meconta, Angoche, Moma, Malema, Ribawe, Mogincual and Liopo. The Director advise to visit the road which is going to Namarroi and the other one was the road going to Chipene. Regarding to the compensation there is a table with price of plants which is updated in each 5 years.

In Zambézia was not possible to have a meeting with the DPASA as they were not available.

### **DPOPHRH**



The meeting at DPOPHRH was with Mr. Fernando Manuel Manhique head of planning department in substitution of Provincial Director.

Mr. Fernando inform that the DPOPHRH is happy with the project and will give the necessary assistance for the successes of the project.

The head of the department inform that the challenges are enormous, considering that most of the network at provincial level is feeder roads and the expectation is to have all the roads transitable during the year. The DPOPHRH inform also that technical capacity to monitor the process exist what are not there are the resources such as computers, fuel, transport, cameras and so on.

Regarding the resettlement process the team was informed that DPOPHRH in coordination with ANE will assess the affected infrastructures to get the compensation value. The challenges on this assessing process has been related with the cut of date and the compensation payments. In most cases the communities continue to construct within the area of direct impacts after the census, therefore, resulting high number of the affected parties. The decree 109/2014 is any instrument that will help ANE to take action sanction to those violating the cutting of date. DPOPHRH recommends that the implementation of the be done immediately after the census.

#### **ANE DELEGATION**

In Nampula the meeting was held with Mr. Isac Ibrahimo, Olinda Ernesto, Carvalho Jose and Armindo Gabriel. The delegate was in the field. While in Zambézia the Meeting was led by the ANE Delegate, with participation of the Road Fund Delegate.

The Nampula team was informed that the human resources for implementation project exist, what is needed is training and other resources such as transport, fuel, computer, camera and so on. There is no specific unity created but 3 technicians were indicated to work on crosscutting issues when is necessary. The relationship with other institutions is good, when there is a need to work with other institutions ANE delegation inform them and they indicate someone to work with.

The experience ANE delegation has in resettlement is that when the period of assessment and implementation is long the cost of compensation increase because people come closer to the road.

In Zambézia the situation of ANE delegation does not differ much from the Nampula, but the environmental team of Zambézia, comprised by two people, are more involved in the social aspects related with the provincial road maintenance and no much environmental issues, they have stated that the environmental team at ANE HdQ is responsible for the monitoring process of the ESIA and ESMP for the projects that are funded by the central government. In most case, they are only involved during the resettlement designing and implementation. To play any role for the IFRDP the environmental team at ANE delegation in Zambézia will need capacitation and strengthening the institutional relationship with DPTADER and other institutions for the implementation of the ESMF of the IFRDP.

The Delegate referred to the work done by ANE and CPCS for the ITS and HIV/SIDA sensitization as well as the opportunity that this partnership may represent for the implementation of the decree 109/2014. The Road Fund delegation in Zambézia and Nampula agreed that the provinces and districts can manage the Project, however will need a training and assistance at the beginning. For Road Fund to play its role in the project will need more staff.

Then the team with the ANE delegation staff visited the districts. In Nampula the team visited the following districts: **Memba** is a district located along the coast with population of 270.000 habitants. The main economic activity is agriculture, followed by fisheries and trade. The district is characterized by high terrains. Erosion is one of their major environmental problem.

The district is rich on cultivation land producing cashew nut, pigeon peas, cassava, ground nut other important area of development of the district is fisheries and forest resources with high commercial value species such as jamboree, chanfuta, umbila, pau preto, in small quantity pau ferro. Also, has potential for mining being rich on tourmaline, gold, quartz, iron. At the district the team had the following contacts:

The district administrator welcomes the project as it will bring development to the district and emphasize that ANE need to look more than maintenance there is a need to decentralize the funds to the district, to give more technical assistance and train the district staff.

### **SDPI and SDAE**

We were informed that the district is facing difficulties to transport people and goods within the district due to the high level of road degradation. And because of the road degradation, SDAE states that it affects the price of products and tourism.

SDPI informed that for them to be part of the implementation of the sub-projects in their district and follow with the monitoring of the ESMF, ESIA, ESMP and RPF a capacity building is necessary. SDPI listed a number of roads which need intervention to impulsion the development.

1. Road to Simuco Beach (has potential tourism, fishing)
2. Ingeba Beach also has potential tourism, has an aerodrome;
3. Road Mazua - Chipene

To reduce the need of resettlement along the sub-projects there is a need to sensitize the communities not to build or do farm in road reserve.

The relationship with road fund is not efficient the SDPI is not informed about the payments and the process of payment takes long. The certifications of the works sometimes are not done in the field because of lack of fund to go to the field.

In district some NGO's operates in several field namely Save the Children, Inter Aid, Water Aid. USAID have also a project in the district.

To fulfil the role that the district is expected to undertake on the implementation of the ESMF there is a need of:

1. Technical assistance
2. Training
3. Improve communication between district and Road Fund/ANE

### **Road visited: Mazua – Simuco 40 km**

The road visited is located at a north part of Memba, with 40 km. The road is located in a mountainous area. The road gives access to the Simuco beach, the fishing center and the potential area for tourism.

Along the road there are small farms and some forest where communities take material for the construction of their houses.

The conditions of the road are precarious, presents problems of erosion and is full of sand, making it difficult to transport fishing products and the existing agricultural production.

1. Then the team drove from Memba to Erati District localized in interior area with hills. The network is composed mainly by non-classified roads. The district has 3 administrative posts: Namapa, Namiroa and Alua. The district is potential in: Agriculture production (Maize, beans, gerigelim, cotton, cassava)
2. Forest resources (Umbila, pau-ferro, pau preto)
3. Mineral resources (Quartz pink, Calcite, Granada, gold, gems)
4. cultural heritage for the communities (Mount Erati-spiritual place) and historical places in Riane Landscape around Lurio River (for tourism)

In Erati the team met with the District Administrator and the representative of SDPI and SDAE. The Administrator welcomed the team and informed that Erati road network is mainly unclassified, that is the reason during the rainy season the transitivity is difficult. He is happy with the project and they will do what is needed for the success of the project.

The Administrator informed that in the district there is capacity but needs training, technical assistance and resources to implement the project. The Administrator recommends need for good communication system during the implementation to bring success in the project, also to be involved in all project phases. The representative of the SDAE and SDPI referred the importance of the road to the agriculture commercialization as well as the movement of people and goods. However, the district is understaffed, only one person is deal with all roads projects in the district. The district has 3 officials that are trained/training environmental engineering and working in other areas.

To avoid the delay in the project we recommend the involvement of the district from the beginning of the process, the decentralization of funds to the district, provide training to the staff, provide technical assistance also provide resources.

Regarding the resettlement, the district has experience gained during the rehabilitation of Namialo-Rio Lurio road, which was good but they were not involved in the preparation of resettlement action plan. A resettlement committee was formed to monitor the implementation process.

For this project SDPI recommend to involve the staff of the district from the beginning of the process, to do the evaluation very well to avoid as much as possible mistakes. SDAE referred that the investors face challenges in transporting products and these companies are doing some road maintenance in some road to access their projects (Jacaranda, PASP) which. Therefore, the IFRDP will impulsion the development of the triangle of district: Namapa – Namiroa – Alua.

#### **Road visited: Namapa sede - Namiroa - 70 Km**

The road is located at Southern part of Erati, with 70 Km. The road takes to the agricultural production area. The road presents problems of erosion, with much sand and several deviations due to mud in the rainy season. Along the road there are small machambas.

In Zambézia was only possible to meet with officials in Morrumbala. The messages get there is similar to that got by the Nampula team. The districts expect to play important role from the beginning of the

project and not be only a recipient, but any active body in the implementation of the ESMF as the district will be then responsible for the maintenance. In Morrumbala and Maganja da Costa the government with the donor funds is rehabilitating irrigation schemes, but the road to access these important investments are in bad condition.

#### **Visited roads in Zambézia**

The team drove from Zero to Morrumbala sede, and then to the Chire River. While, in Maganja the team drove from the Bive to Maganja da Costa-Sede and then to the Post Administrative of the Nante. From the districts view these are the most priority roads that need intervention. The administrator of Morrumbala, referred that daily 4 to 5 car of 30 tons enter into Morrumbala to buy maize.

The main environmental problems that was identify referred to erosion and drainage. Regarding road reserve, part of it is occupied with agriculture plots. The majority of house are far from the area of the direct impacts.

## **Annex 19: Report public of public consultation in Sofala, Manica, Tete and Cabo Delgado Provinces**

### **UPDATE OF SAFEGUARDS INSTRUMENTS PREPARED FOR THE INTEGRATED FEEDER ROADS DEVELOPMENT PROJECT CONSIDERING THE ADDITIONAL FINANCING UNDER THE EMERGENCE ACTIVITIES**

#### **PUBLIC CONSULTATION PROCESS**



**AUGUST 2019**

#### **Introduction**

The Government of Mozambique (GoM) has received funds from the International Development Association (IDA) for the implementation of the Integrated Feeder Roads Development Project (IFRDP) whose objective is to enhance mobility in select rural areas in support of inclusive agriculture and other livelihoods of local communities, whilst ensuring efficient mobility of people and freights along the connected main national corridors, in the provinces of Nampula and Zambézia. However, in 2019 Mozambique suffered from natural disasters Cyclones IDAI and Kenneth, which affected four provinces namely Sofala, Manica, Tete and Cabo Delgado, with a critical level of destruction to the road infrastructure which resulted in isolation of several areas and people.

To respond to the emergency situation caused by the cyclones IDAI and Kenneth, the GoM has requested the World Bank for Additional Financing (AF) to the IFRDP project to cover immediate needs. The Bank made available an AF to the IFRDP in the amount of \$ 110 million for component One of the IFRDP project. Therefore, the project will be extended to assist the four provinces to restore the transibility of affected roads and facilitate the communication between the provinces and within the provinces.

As part of the approval process for the Additional Financing from the Bank, there is a need to (i) update the Project Environmental and Social Management Policy (ESMF) and Resettlement Policy Framework (RPF); conduct Public Consultation Meetings in the four provinces; include the Public Participation Process Report in the updated documents and submit to the Bank for approval of the updated frameworks. The detailed schedule for the approval process is presented below.

<b>Milestones</b>	<b>Due Dates</b>
Update of the ESMF and the RPF	July 1, 2019
Translation of the ESMF and the RPF	July 9, 2019
Bank Review	July 16, 2019
Draft of the ESMF and the RPF for Public Consultation	July 22, 2019
<b>Public Consultation Meetings</b>	<b>August 5-9, 2019 in four provinces<sup>8</sup></b>
Revision and finalization of the ESMF and RPF	August 13, 2019
Submission of the ESMF and RPF to the RSA	August 14, 2019
Disclosure of the final ESMF and the RPF	August 15 – 19, 2019
Decision Meeting	August 27, 2019

The main objective of the public consultation was to make presentation of the Environmental and Social Management Framework (ESMF) and the Resettlement Policy Framework (RPF) under the Additional Funds for the Integrated Feeder Roads Development Project (IFRDP-AF) and to get the input from the participants to improve the frameworks.

### **Public Participation Process**

The public participation Process was conducted in the provinces of Maputo, Sofala, Manica, Tete and Cabo Delgado, to present the updated ESMF and RPF for the additional financing under the IFRDP Project. The meeting in Maputo province was conducted for the Delegates of the Provincial Delegations of ANE in Sofala, Manica and Tete Provinces.

### **Location and Participants**

The public consultation meetings were attended by a total of 135 people, in which 112 were men and 23 women, representatives of District Services of Planning and Infrastructure (SDPIs), Provincial Directorates of Public Works, Housing and Water Resources; Land, Environment and Rural Development, Industry and Commerce, Agriculture and Food Security, Economy and Finance, representatives from the Municipality, Non-Governmental Organizations, Associations, Administrative Posts, and the private sector (vide **Annex 5.5 – List of Participants**).

**Table 9:** Location, date and number of participants in consultation meetings

Place	Data	Time	Number of Participants			Facilitators
			Total	Men (%)	Women (%)	
Maputo	June 13, 2019	09h00 – 10h30	6	4 (67%)	2 (33%)	Eulália Macome

<sup>8</sup> The conduction of Public Consultation Meetings was anticipated to provide more time for the inclusion of the public participation considerations.

Sofala	July 25, 2019	13h00 – 16h00	34	30 (78%)	4 (12%)	Eulália Macome
Manica	July 26, 2019	09h00 – 12h00	41	34 (83%)	7 (17%)	Eulália Macome
Tete	August 1, 2019	09h00 – 11h15	29	21 (72%)	8 (28%)	Juliana Come
Cabo Delgado	August 1, 2019	09h00 – 11h00	25	23 (82%)	2 (8%)	Emília Tembe
<b>Total of Attendees</b>			<b>135</b>	<b>112 (83%)</b>	<b>23 (17%)</b>	

### ***Presentations***

The presentations were facilitated by Eulália Macome, an independent consultant and two technicians from ANE Headquarters. The meetings were opened by the Provincial Directorates of Public Works, Housing and Water Resources and the meetings were supported by the Delegates of ANE in the Provinces. During the presentations was explained that four provinces had benefited from additional financing and therefore included in the Integrated Feeder Roads Development Project (IFRDP), initially for Nampula and Zambézia but currently extended for Component One, all being object of a public participation process for the update of the ESMF and RPF of the original project. The presentation included the following topics:

- Introduction of the IFRDP Project
- Objective of the Meeting
- Description and location of the project
- Selection criteria for the sections to be financed (exclusion list)
- Methodology for the preparation of the ESMF and the RPF
- Contents of the ESMF
- Potential environmental and social impacts
- Proposed Mitigation Measures for the negative impacts
- Contents of the RPF
- Category of Affected
- Definition of Rights
- Compensation mechanisms
- Organizational structure and capacity building for the ESMF and RPF monitoring
- Grievance Redress Mechanism (GRM)
- Estimated costs
- ESMF and RPF Approval process

The facilitators of the meetings highlighted the most important aspects regarding the selection criteria, through the exclusion list, a different methodology of the multi-criteria methodology adopted for the selection of districts in Nampula and Zambézia due to the urgency and nature of the interventions for these four provinces. In conclusion, it was referred that a consultant company was hired to work with the districts and the delegations of ANE in affected the provinces for the selection provinces. After the presentation the participants were invited to comment and ask question or give contribution.

## Matrixes of Questions and Responses per Province

### Province of Sofala

Question/ Comments	Response/ Remarks
<p>Question: Should ANE compensate for poor commercial infrastructure within the road reserve area? The road reserve occupation represents the main challenge for ANE due to lack of funds to compensate.</p> <p>Why is the project excluding roads that give access to protected areas?</p> <p>Comment: The Compensation issue is related with the social area. However, ANE should not compensate for poor infrastructure within road reserve; it cost a lot to the State.</p> <p>In Sofala Province one of the major road giving access to the Gorongosa National Park, the largest bridge is damaged by the cyclone and the Park contributes to the surrounding communities.</p> <p>Why not consider and rehabilitate some roads within the protection zone that has been affected by the Cyclone Idai?</p>	<p>If we are taking people out of their areas in determining the roads, it is our obligation to compensate. In the case of fruit tree, the Agriculture defined a price, based in affected areas (for crop), type and mature stage of the crop or tree. For Houses the legislation on resettlements states that be constructed a new house shall be with conventional material. Therefore, the compensation includes all type of occupancy existing at time of entailment survey.</p> <p>The project is categorized under B. When cross the protected areas shall be A</p>
<p>Question: I have noted that the project is more focused on rehabilitation. However, there are several damaged infrastructures in which its reconstruction is needed, what treatment will be done for such cases?</p> <p>The SDPIs does not have resources such as motorbikes to accompany and monitor the works. How can we proceed?</p> <p>Who is responsible for the rehabilitation of the borrow pits? There are several cases in which the contractors explore borrow pits and after exploration abandoned it.</p> <p>Under emergency, the Road N282 have benefited from rehabilitation. It is important to notice that this road crosses three districts: Dondo, Muanza and Cheringoma. However, the works does not have the required quality. I would like to request a reinforcement with these funds to bring improvements in the quality of works. What treatment will be done to this road assuming that was under emergency works?</p>	<p>ANE representative, invite Mr. Daniel to analysis the contract, and said that there is a difference between Emergency Works and Rehabilitation. Due to the Cyclone many roads were intransitable. ANE to reestablish the connection facilitates the relief. This project is to rehabilitate.</p> <p>For the borrow pits, it is the responsibility of the contractor to implement the closing. The responsibility for the closing of the loan house will be with the contractor;</p>
<p>Question: The roads rehabilitation works in the district are done without quality. Who is responsible for the road quality? Contractor or ANE?</p> <p>Or a matter of resources? I believed that with sufficient resources the contractor would provide better road quality.</p>	<p>The contractors hired will be closely monitored by ANE and the district government through SDPI.</p> <p>And a Supervision entity (company will be also contracted).</p> <p>For the GVB the Bank will hire a service provider</p>



<p>Comment: Child Protection Association. Work with GVB system, child abuse, child labor will open up a family secret</p> <p>Contributing to the approach of Mr. Daniel Augusto; He said that we are monitoring the quality of the works.</p> <p>Attention was drawn to the corruption the public expect that ANE and others government do the contractor contract enforcement and each item must be fulfilled otherwise the project shall be canceled</p>	
<p>Comment: I would like to see the issue of community awareness on traffic ( importance of traffic signals) included in the project to avoid accidents</p>	Noted
<p>Question1: The amount shown is for how many provinces?</p> <p>The amount it also includes the implementation of environmental and social safeguards. In my view the amount that will be for road work will not be enough to guarantee quality of the works.</p> <p>Question 2: Who will be the responsibility to pay for the borrow pits licenses?</p> <p>If it is the contractor's responsibility, we recommend that be included in bill of quantities.</p> <p>Question 3: Who will responsible for the environmental license?</p> <p>ANE or DPTADER?</p> <p>Comment: It welcomed positively the involvement of local representatives on road selection; it will guarantee that the road to be rehabilitated is the priority of the district and province.</p> <p>100% Hiring Local Workforce is good. But, Experience shows that local workers are not reliable in many cases, have no commitment to work. When the agricultural season arrives they quit working to farming.</p> <p>25% female labor is fine, as long as they agree to do other activities than flagship.</p> <p>The amounts for payment of compensation should appear included in the financing; otherwise the works would be paralyzed due to non-payment of compensation.</p> <p>He requested a preliminary indication of the indicated routes for this operation.</p>	<p>The value shown is for four provinces.</p> <p>Yes, the environmental and social safeguards are part of the project and the contractor shall comply with.</p> <p>The contractor shall have all permits prior to the works start.</p> <p>For the environmental license the project will hire consultant to prepare the documents required for DPTADR give environmental license.</p> <p>The contractors shall have work contracts with all staff include the locals,</p> <p>And the NGO may help in showing the locals the importance of the work.</p>
<p>Comment: The representative of DPTADER request that the compensation values be included in project to avoid</p>	<p>Resettlement and compensation is responsibility of the government. The government shall provide resources to ANE;</p>

<p>delays in the project due to lack of compensation He requested a preliminary indication of the indicated routes for this operation.</p> <p>In the Districts, we have to think about setting up resettlement committees.</p>	<p>At this stage the road are not yet known. The selection will be done after the Bank approves the financing.</p> <p>Well noted</p>
<p>Question: Asked if the districts do not have any program to control the encroachment in the road Reserve?</p> <p>Comment: Referred that the project is an opportunity for his company, because it produces recycled asphalt. Invited the contractors and ANE to consider this material for the IFRDP in is view reduce the negative impacts on the environment, also the damage of the road during rainy season.</p>	<p>The District authorities, through SDPI shall control the occupancies of the partial and total protection land area. But the enforcement is weak. ANE does not have capacity to protect the road reserve area.</p> <p>The consultant takes not of the comments.</p>
<p>The selection process cost is included in the project amount?</p> <p>Why the project aims to rehabilitate 10 roads? Why not focus on just two roads that are social and economically viable for the district?</p>	<p>The contract with Stanger is not part of this project, but include in the preparation costs.</p> <p>The ANE representative explained that the extension and the damage of the selected road will have determined how many section will be rehabilitated. And in some cases is only bridge that are damaged or drainage structures.</p>
<p>Question: How to minimize influx workers from outside and give preference to locals?</p> <p>Comment: The contractor association referred that the locals, several time works, but when the agriculture season starts tend to abandon the work. The referred that the locals do not have discipline over the work. The representative of the NGO referred that they can work with communities for them to avoid this problem</p>	<p>The proposal is to hire 100% of the local workers and 25% of them shall be women.</p>
<p>The consultant referred that for GVB an international organization was already hired by the Bank, what was to main reason to exclude national organization?</p> <p>Regarding the exclusion of roads crossing Protected areas, what will be the treatment of roads within the Buffer zone as Malingapance?</p>	<p>The selection was done based on the international bid done by the Bank. The National NGO's may work with the selected service provider. For the Bank the project when work within protected areas (including Buffer zone) it is categorized under A. And this project is B.</p>

***Province of Manica***

<b>Question/ Comments</b>	<b>Response/Remarks</b>
Can we include existing damaged road before IDAI?	No. The project is to reconnect and rehabilitated roads that were impacted by the cyclone
How will be treated the regional roads (linking district to districts)? Are included or not?	The project is for rural roads. It may include roads that connects districts, but does not include primary roads (National Roads).
How long will the project last? When starts? How will be implemented step by step or simultaneously Which are the priority roads? National roads?	Is not yet clear how long the project will take, but for the works about three years The prioritization process will be under take next with the participation of the districts and the provinces

Regarding Resettlement ANE shall do supervise the occupation of the road Reserve, where was ANE when this happened?	ANE does not have enough people to control the occupation of the road reserve
Is Vanduzi included in the project?	If the district did not suffer for the Cyclone IDAI is not illegible to be funded under this project
	The project is for post IDAI road Reconstruction. The selection criteria to be adopt may exclude districts that are in need but were not affected by the Cyclone.
The project can include roads new roads to the IDAI resettlement areas? The contractors are not responsibly of the work. How the project will guarantee the quality of works? We had a Bank project ( PROIRRI) that the contractor did not finish the work	The project is for existing Rural road that were damaged by the cyclone. However, during the selection process the participant shall discuss this with the team The contractors will be hired through the bid and ANE and WB will have criteria to select the best. And during the implementation the project will have a supervision entity whose responsibility is guarantee the quality of the work in all aspects including environmental and social safeguards. In any case that the contractor does not perform , the contract
ANE shall select contractors and pay them to conclude the work with high standards. The district had a very bad experience with a contractor selected by ANE HdQ. Problems with local worker's payment and no fine to the contractor.	Well noted by the team
How is the role of supervision entity?	The Supervision entity role is to guarantee that the contractor is implementing the
The contractor that does not fulfill the contract shall be fined; SDPI and Local leaders shall protect the road reserve.	The Contractor contract includes clauses for fining, if the contractor does not perform as required  Well noted by the team.

### ***Province of Tete***

<b>Questions/ Comments</b>	<b>Responses/ Remarks</b>
Question: for the rehabilitation, the project will consider the extension of the roads?	The selected roads will include specific interventions as the main focus of the project is rehabilitation of roads and structures damaged by the cyclones. A survey was conducted and all sections of roads that need intervention will be analysed.
Question: I would like to know which districts will be selected in Tete Province.	The ESMF and RPF is prepared in cases where the Districts and the roads are not yet known. The selection of districts will be done by the company Stanger, in coordination with the affected districts.
Question: the presentation mentioned rehabilitation and reconstruction of roads, bridges and structures damaged	If the survey identifies the need for new structures that never been in the roads it will be included.

by the cyclones but I would like to know if the project will include construction of new structures in needed areas such as new bridges or box culverts	The project focus on rehabilitation and reconstruction but new structures such as box culverts and bridges are considered in the project.
Question: the methodology for the ESMF and RPF was designed for all provinces that will benefit from the project. I would like to know what will happen after the approval of the frameworks. Both will serve as a standardized basis for the implementation of the project in all districts?	Exactly. The frameworks are globally designed in cases where the areas are not yet knowing but the potential impacts are similar. When the project has the selected roads, specific Environmental and Social Management Plans (ESMP) and Resettlement Action Plans (RAP) will be developed, preceded by Simplified Environmental Studies as the category must be B and, individual environmental licenses will be obtained.
<p>Question 1: Does the project includes resilient infrastructures?</p> <p>Question 2: If during the progress of the works an employee from the contractors is reported as perpetrator of VAC, what happens with the project or the contractor? Is there any case where the project was cancelled due to such situations?</p> <p>Comment: It is critical to involve the leaderships to dissemination the information, channels and mechanisms to report and ensure victims confidentiality.</p>	<p>I cannot assure that the structures will be resilient but, we had a pilot project funded by the Bank in Gaza Province in which the core was resilient infrastructure for unpaved roads. I believe feeder Roads will have the same approach.</p> <p>Regarding the cases of occurrence of violence against children (VAC) or Gender-based Violence (GBV), from the experience we had in a pilot-project conducted in Gaza, we developed codes of conduct to prevent GBV or VAC. The project is not suspended but the perpetrators shall be penalized and the victims properly accompanied. Funds will not be cancelled due to such situations, but such occurrences shall be mitigated.</p> <p>Comment registered, thank you. The company JhPiego will work with all the local companies that deal with GBV and VAC in the affected districts. It was noted that the people in the areas affected by the cyclones are the most vulnerable as they had total or partial loss of assets and can easily be victims of any case of violation or exploitation.</p> <p>We would like to recall that from the presentation was explained that the project encourages the use of 100% of local employees for unskilled work in order to reduce their vulnerability and ensure that the affected have a secured livelihood, being 25% women.</p>
Question: My question is about the compensations. During the implementation of the project there are permanent loss of land and crops that are livelihood for several households. How is the project planning to compensate?	Areas with permanent loss of land will not be included in the project. Temporary loss of land will be compensated. Cases of deviations for the rehabilitation of sections of the road or structures, temporary storage of material will be compensated not only the amount stipulated by the National Directorate of Agriculture and Food security but an increased amount and assistance.
Comment: after the selection of the roads, the projects has first to pass for the environmental assessment and this project only includes category B and C but the categorization is a complex process and takes times. As this project is under the emergency umbrella, it would be critical to have an institutional coordination to accelerate the process.	<p>Thank you for your comment. You raised a pertinent point. I would like to ask the contribution of the representative of DPTADR to add on this. There will be several requests of categorization for each district and/or roads and it is necessary collaboration for it.</p> <p>According to the law we will have to pay the taxes stated in the Decree 54/2015 as we are applying for categorization and not</p>

<p>Question: in case of Simplified Environmental Studies, and having this coordination with the DPTADERS, there will be exemption of taxes or not?</p>	<p>the Exemption of studies as the decree states in cases of emergency. This project is to respond emergency works caused by natural disasters (such as the cyclones IDAI and Kenneth) but this emergency is not immediate. Studies shall be conducted. Immediate emergency works have been conducted since the cyclones and is under another project and budget.</p> <p>To initiate the process a team from the DPTADER will go to the selected areas and analyze the conditions and categorize the projects. Depending on the specifications and conditions projects will be categorized as A+, A, B or C. For category B a consultant shall be hired to conduct the EAS and for C there is no need of Public Participation.</p>
<p>Question: during the implementation of the project there will be contractors for the works. Who will be in charge of the social and environmental aspects? Will also be the contractors?</p>	<p>There is a relatively new approach of contracts named OPRC, output and performance-based contract in which all risks and tasks are transferred to the contractors. The client defines parameters of quality and level of services. We had a project with this new modality of contract and the contractor conducts the studies and applies for the environmental license (issued in the name of the client). The consultant that conducts the studies for the contractors are associated to the contractor during the bidding process. To ensure that the contractor leads properly with these aspects, we will have focal points in the provinces and districts to report to the central level issues and non-conformities in a regular basis. For this project the contracts include penalties (deductions) in case of non-conformity with social and environmental aspects.</p> <p>We have a project with this type of contract, based on the performance, for the road Tsangano and Mágoe and we are happy.</p>
<p>Comment: I would like to know if there is schedule for all the process after the approval of the ESMF and RPF.</p>	<p>We expect to start the process after the approval from the Bank in August. Stange is preparing a schedule of the works if the ESMF and RPF is approved. As the works are under the emergency works the multi-criteria methodology will not be used for this additional project but the negative list.</p>

***Province of Cabo Delgado***

Question/ comments	Response
<p>"It was mentioned during the presentation that the districts within the Quirimbas park will not be covered by the FA. The cyclone has ceased more in these areas and there are difficulties in transitivity. We would like to understand what was the basis of this exclusion? "</p>	<p>All projects within the park would need more detailed studies and are classified by the Bank as Category A and one of the criteria to benefit from FAs is to be Category B or C.</p>
<p>"We are tied to the imposed condition that we cannot include the roads that pass inside the Park."</p>	<p>Noted</p>
<p>"We have problems with access roads in Cabo Delgado. A lot of damages are within the Parks." Why you use these mechanisms / criteria?</p>	<p>The criteria were determined by the Bank for this type of funds.</p>
<p>"The park was set with the people there. Why we have to suffer. We request that mechanisms be found to cover at least 1 road ".</p> <p>"The Mupane-Metuge-Mocimboa da Praia Road has been a victim of climate change. We ask that local policies be used to address our concerns. It is also necessary to involve the local communities during the road selection".</p> <p>"Will the road selection phase occur at the same time as resettlement?"</p>	<p>Noted</p> <p>No, the road selection will be the first step, then DPTADER will classify the project and then follow the preparation of the resettlement plan as appropriate and then resettlement / compensation.</p>
<p>Is this meeting for disclosure or consulting? Because if you already have the rules. We should also have been involved in the elaboration of the criteria. How will be included our concerns if the document says that the roads inside the Parks will not be selected, but our roads are all in the Park?</p> <p>The Donor should be present to hear our concerns.</p>	<p>The meeting is consultation and non-disclosure, to gather input from the local/affected people so that the Consultant can improve the report and submit to the Bank.</p>
<p><b>Advice:</b> We recommend that those who will discuss with the bank about the approval of funds that raise our concerns.</p>	

The Advertisement was published in the Journal Notícias on July 17, 2019 and July 30, 2019.



## ANÚNCIO

### PROJECTO INTEGRADO DE DESENVOLVIMENTO DE ESTRADAS RURAIS (IFRDP)

#### Convite para Reunião de Consulta Pública nas Províncias de Sofala, Manica, Tete e Cabo Delgado

O Governo de Moçambique, através do Fundo de Estradas e da Administração Nacional de Estradas recebeu do Banco Mundial fundos para a realização de actividades de reparação pós-ciclones IDAI e Kenneth nas províncias de Sofala, Manica, Tete e Cabo Delgado no âmbito da implementação do Projecto Integrado de Desenvolvimento de Estradas Rurais – IFRDP. Para cumprir com as regras e salvaguardas ambientais e sociais do Banco Mundial e o processo de licenciamento ambiental, previsto pela Lei 54/2015. Em cumprimento desta legislação, a ANE, pretende levar a cabo consulta Pública, para apresentação e discussão do quadro de políticas ambientais e de reassentamento (ESMF e RPF), nos seguintes locais:

Local	Data	Hora	Local
Cidade da Beira	25 de Julho de 2019	12.00- 14.00	Hotel Lunamar
Cidade de Chimoio	26 de Julho de 2019	9.00- 12.00	Centro de Formação de Estradas
Cidade de Tete	01 de Agosto de 2019	9.00- 12.00	Hotel VIP Executive
Cidade de Pemba	01 de Agosto de 2019	9.00- 12.00	Secretaria Provincia

Para mais informações, consulte os documentos de discussão (ESMF e RPF) na Página da Administração Nacional de Estradas, com o seguinte Link:

<http://www.ane.gov.mz/Projectos/Projectos por Licitação/ Projecto Integrado de Desenvolvimento de Estradas Rurais>

Para quaisquer esclarecimentos, contactar a Eng. Emilia Tembe Boene, chefe do Departamento de Monitoria pelo E-mail: [mirly71k@gmail.com](mailto:mirly71k@gmail.com) ou Telefone: +258 3299120

Maputo, 17 de Julho de 2019

## Invitation Letter



Exmos Senhores:

Sua referência

Sua Comunicação de

Nossa Referência  
DIPRO/DEM/360/2019

Nossa Comunicação de  
17/07/2019

### ASSUNTO: Projecto Integrado de Desenvolvimento de Estradas Rurais (IFRDP)

#### *-Convite para Reunião de Consulta Pública -*

Exmos. Senhores,

A Administração Nacional de Estradas (ANE) recebeu do Banco Mundial, através de fundos adicionais ao Projecto Integrado de Desenvolvimento de Estradas Rurais, um crédito que pretende usar para as obras de emergência pós ciclones IDAI e Keneth nas províncias de Sofala, Manica, Tete e Cabo Delgado para a reabilitação de estradas rurais de modo a reestabelecer a conectividade. Para cumprir com as regras e salvaguardas ambientais e sociais do Banco Mundial e o processo de licenciamento ambiental, previsto pela Lei 54/2015. Em cumprimento desta legislação, a ANE, pretendem levar a cabo consulta Pública, para apresentação e discussão do quadro de políticas ambientais e de reassentamento (ESMF e RPF), no dia 1 de Agosto de 2019 nos seguintes locais:

Local	Data	Hora	Local
Cidade da Beira	25 de Julho de 2019	12.00- 14.00	Hotel Lunamar
Cidade de Chimoio	26 de Julho de 2019	9.00- 12.00	Centro de Formação de Estradas
Cidade de Tete	01 de Agosto de 2019	9.00- 12.00	Hotel VIP Executive
Cidade de Pemba	01 de Agosto de 2019	9.00- 12.00	Secretaria Provincia

Assim, a ANE tem o prazer de convidar Vossa (s) Excia (s) a participar na Reunião de Consulta Pública a ser realizada nos dias acima propostos, durante a qual serão apresentados e discutidos os seguintes tópicos:

Av. de Moçambique n° 1225 Caixa Postal 1405 Telefones 476163/7. Telefax n° 475863 Maputo. Moçambique



- Apresentação do Projecto;
- Apresentação do Resumo do Quadro de Políticas Ambientais e Sociais (ESMF) e do Quadro de Políticas de Reassentamento (RPF).

Para mais informações relacionadas com o Projecto, consulte os documentos de discussão (ESMF e RPF) na Página da Administração Nacional de Estradas, com o seguinte Link:

<http://www.ane.gov.mz/Projectos/Projectos> por Licitação/ Projecto Integrado de Desenvolvimento de Estradas Rurais

Para quaisquer esclarecimentos queira, por favor, contactar a Eng. Emilia Boene, chefe do Departamento de Monitoria pelo E-mail: [mirly71k@gmail.com](mailto:mirly71k@gmail.com) ou Telefone: +258 3299120  
Ou ainda u as Delegações Provinciais da ANE nas Províncias de Sofala, Manica, Tete e Cabo Delgado.

O Director Geral

/César Luís Macuácu/  
(Técnico Superior de OP N1)

### ***List of Participants in the meetings***



REPUBLIC OF MOZAMBIQUE

MINISTRY OF PUBLIC WORKS, HOUSING AND WATER RESOURCES

NATIONAL ROADS ADMINISTRATION (ANE)

UPDATE OF SAFEGUARDS INSTRUMENTS PREPARED FOR THE INTEGRATED FEEDER ROADS DEVELOPMENT  
PROJECT CONSIDERING THE ADDITIONAL FINANCING

Public consultation

Maputo, 13 June 2019

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REPUBLIC OF MOZAMBIQUE

MINISTRY OF PUBLIC WORKS, HOUSING AND WATER RESOURCES

NATIONAL ROADS ADMINISTRATION (ANE)

UPDATE OF SAFEGUARDS INSTRUMENTS PREPARED FOR THE INTEGRATED FEEDER ROADS DEVELOPMENT  
PROJECT CONSIDERING THE ADDITIONAL FINANCING UNDER THE EMERGENCE ACTIVITIES

(PROJECT -- P171093)

Sofala, 25 of July 2019

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REPUBLIC OF MOZAMBIQUE

MINISTRY OF PUBLIC WORKS, HOUSING AND WATER RESOURCES

NATIONAL ROADS ADMINISTRATION (ANE)

UPDATE OF SAFEGUARDS INSTRUMENTS PREPARED FOR THE INTEGRATED FEEDER ROADS DEVELOPMENT  
PROJECT CONSIDERING THE ADDITIONAL FINANCING UNDER THE EMERGENCE ACTIVITIES

(PROJECT -- P171093)

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REUNIÃO DE CONSULTA PÚBLICA PARA APRESENTAÇÃO DO QUADRO DE POLÍTICAS DE GESTÃO AMBIENTAL E SOCIAL E DO QUADRO DE POLÍTICA DE REASSENTAMENTO

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Tete, 01 de Agosto de 2019

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REUNIÃO DE CONSULTA PÚBLICA PARA APRESENTAÇÃO DO QUADRO DE POLÍTICAS DE GESTÃO AMBIENTAL E SOCIAL E DO QUADRO DE POLÍTICA DE REASSENTAMENTO

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REUNIÃO DE CONSULTA PÚBLICA PARA APRESENTAÇÃO DO QUADRO DE POLÍTICAS DE GESTÃO AMBIENTAL E SOCIAL E DO  
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REUNIÃO DE CONSULTA PÚBLICA PARA APRESENTAÇÃO DO QUADRO DE POLÍTICAS DE GESTÃO AMBIENTAL E SOCIAL E DO QUADRO DE POLÍTICA DE REASSENTAMENTO

Lista de Participantes  
Cabo Delgado, 01 de Agosto de 2019

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REUNIÃO DE CONSULTA PÚBLICA PARA APRESENTAÇÃO DO QUADRO DE POLÍTICAS DE GESTÃO AMBIENTAL E SOCIAL E DO QUADRO DE POLÍTICA DE REASSENTAMENTO

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