



**REPÚBLICA DE MOÇAMBIQUE**

**MINISTÉRIO DA TERRA, AMBIENTE E  
DESENVOLVIMENTO RURAL (MITADER)**

**Agriculture and Natural Resource  
Landscape Management Project**

**(PROJECT -- P149620)**

**ENVIRONMENTAL AND SOCIAL  
MANAGEMENT FRAMEWORK (ESMF)**

**Final Draft Report**

Maputo, March 2016

## **LIST OF ACRONYMS**

ANE	National Roads Administration
ANRLMP	Agriculture and Natural Resources Landscape Management Project
CBNRM	Community-Based Natural Resource Management
CESMP	Contractor's Environmental and Social Management Plan
DA	District Administration
DCC	District Consultative Council
DLA	Department of Environmental Licensing
DNA	National Directorate of Environment
DNA	National Directorate for Water
DNE	National Directorate for Energy
DNOTR	National Directorate of Land Planning and Resettlement
DPASA	Provincial Directorate of Agriculture and Food Security
DPOPHRH	Provincial Directorate of Public Works, Housing and Water Resources
EA	Environmental Assessment
EDM	Electricidade de Moçambique/Electricity Company
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GOM	Government of Mozambique
IDA	International Development Association
IDCF	Innovation and Demonstration Catalytic Fund

MEF	Ministry of Economics and Finance
MDP	Municipal Development Project
MICOA	Ministry for the Coordination of Environmental Affairs
MASA	Ministry of Agriculture and Food Security
MISAU	Ministry of Health
MITADER	Ministry of Land, Environment and Rural Development
MOPHRH	Ministry of Public Works, Housing and Water Resources
MSME	Micro Small and Medium Enterprises
MZM	Mozambique Metical (national currency)
NCSD	National Commission for Sustainable Development
NEMP	National Environmental Management Program
NGO	Non-Governmental Organization
PARPA	Action Plan for the Reduction of Absolute Poverty
PEDSA	Strategic Plan for Agricultural Development
PCU	Project Coordination Unit
PDD	District Development Plans (Plano Distrital de Desenvolvimento)
PDPF	Provincial Directorate of Planning and Finance
PDUT	District Land Use Plan
PEPA	Environmental Quality Standards of Mozambique Projects
PLPP	Provincial level project personnel (with monitoring responsibilities)
PNI	National Irrigation Program
PNISA	National Agriculture Investment Plan
PP	Urban Detailed Plan/Plano de Pormenor
PPP	Public Private Partnership
PPU	Provincial Project Unit
PPU	Partial Urban Plan/Plano Parcial de Urbanização

PRS	Poverty Reduction Strategy
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SDAE	District Services of Economic Activities
SDMAS	District Services of Women, Social Affairs and Health
SDPI	District Services of Planning and Infrastructure
TOR	Terms of Reference
UCA	Coordination and Support Unit
UNDP	United Nations Development Program
USD	United States of America Dollar
WB	World Bank
WHO	World Health Organization
ZVDA	Zambezi Valley Development Agency

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# **EXECUTIVE SUMMARY**

## **Introduction**

This document sets up the Environmental and Social Management Framework (ESMF) for the proposed **Agriculture and Natural Resources Landscape Management Project** (ANRLMP) (the Project) to be implemented by the Government of Mozambique (GOM) with the World Bank Assistance.

The ANRLMP is aimed at promoting integrated sustainable rural development at the same time that sets out a model for interventions in integrated rural development in Mozambique in a way that it is responsive to the country's current aspirations and vision. There will be two main phases of project implementation where Phase I is aimed at "contributing to integrate rural households into sustainable agriculture and forest-based value chains in the project area and in the event of an eligible crisis or emergency to provide immediate and effective response to said eligible crisis or emergency", and forms the focus of this ESMF.

The project's physical interventions will be in the form of **feeder road upgrade and maintenance, rural bridges, small and medium scale irrigation schemes, storage facilities, and other types of priority infrastructure**, as well as land delimitation and restoration of habitats. These will have positive and at times negative implications on the receiving natural and socioeconomic environment and as such they should be designed, implemented and operated in such a way as to avoid causing harm to both the natural and social environment in order to conform to the GOM and WB principles and guidelines related to environmental and social management.

The Environmental and Social Management Framework (ESMF) is meant to be a guide to the screening of the proposed Project interventions (sub-projects) to ensure that they do not affect negatively the natural and social environment. The ESMF outlines a number of principles, which include:

- A systematic procedure for participatory screening for sub-project sites and sub-project activities for environmental and social considerations;
- A step-by-step procedure for predicting the main potential environmental and social impacts of the planned sub-project activities;
- A typical environmental and social management plan for addressing negative externalities in the course of sub-project implementation (planning, construction and operation);
- A step by step monitoring and evaluation system for implementation of mitigation measures; and
- An outline of recommended capacity building measures for environmental and social planning and monitoring of the sub-project activities; and
- A budget to ensure that the Project has adequate resources to meet its own interests, especially financial resources for the preparation and implementation sub-projects ESIA's, ESMPs and RAPs

The ESMF basic principles and requirements will be applied throughout the entire Project life cycle.



- Capacity Building of Small Emerging Commercial Farmers and SME Agribusiness (US\$9.0M IDA).
- Agribusiness finance to value chain actors (US\$20M IDA). SECFs, Agribusiness, Weather based insurance.
- Improving rural infrastructure (US\$28.0M IDA)

## **Component 2: Securing Land Tenure Rights and Increasing Natural Resources Resilience (US\$18M IDA)**

**The objectives of the component are to: (a) promote integrated landscape management in the targeted landscape; (b) secure land tenure rights of 450 rural communities and 55,000 individuals; and (c) protect, enhance and restore 3,000 hectares of critical natural habitats in the landscape.** This would be achieved by: (a) strengthening Provincial and District capacity to pursue integrated landscape management, including multi-stakeholder platforms, spatial planning<sup>1</sup> and joint planning and monitoring tools; (b) supporting community land delimitation and individual land tenure titling; (c) streamlining land delimitation and titling processes at the Provincial and District levels and strengthening the capacity of Provincial and District offices to issue CDCs and DUATs; and (d) protecting and restoring natural habitats critical for the value chains in the landscape. This component would finance consultants (service providers), goods and operational costs related to delimiting communities and carrying out land titling work, providing needed inputs, equipment and training for landscape restoration, operational costs, and priority civil works in the targeted landscape. The components would support the following activities:

- Supporting land tenure regularization (US\$7M IDA)

**The objective of this activity is to contribute to: (a) strengthen land tenure security of rural communities and individuals; and (b) increase their ability to negotiate with investors requiring land and participate in value chains.** This would be achieved through: (a) supporting community delimitation and individual land tenure titling (DUATs); and (b) strengthening Natural Resources Management Committees (CGRNs) and other community-based organizations (CBOs). Community land delimitation will be carried out systematically and reach over 50 per cent of communities in the Project area (about 270 of an estimated total of 450 communities). The development of community-level land use plans (micro-zoning) and strengthening of CGRNs and other CBOs will be promoted during the delimitation process. Additionally, the Project is expected to support the issuance of about 150,000 DUATs, contributing to the 5 million target established under *Terra Segura* for the period of 2015-2019.

This activity will finance: priority civil works, consultants, goods and operational costs; development of harmonized and simplified methodology for land delimitation, service provider to support the delimitation and capacity building of about 270 local communities, complete with community-level land use plans, and the issuance of 150,000 individual DUATs and; and the piloting of Fit-for-Purpose methodology aimed at identifying and titling sub-community DUATs at select areas within the targeted landscape. This activity will be implemented mainly by a service provider hired to conduct the systematic community land delimitation and gather the needed data for issuing DUATs. The service provider will be supervised by DPTADER and the

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<sup>1</sup> This includes the development of community-level land use plans.

Provincial Implementation Units, and work in coordination with the District Cadaster and Land Registration Services and the Provincial Services of Geography and Cadaster in Nampula and Zambézia.

- Strengthening land administration services (US\$3 M IDA)

**The objective of this activity is to contribute to: (a) improving the competencies of SPGCs and District officers, and of DINAT staff assigned to the Project activities; and (b) strengthening the capacity in land administration services. This will be achieved through: (a) training relevant staff; (b) addressing equipment needs in the Project area; and (c) ensuring the application of Mozambique's land information and management system in the Project area, as well as supporting the implementation of two continuously operating reference stations (CORS).** Trainings provided will ensure that staff at District and Provincial level in the targeted landscape performs effectively actions needed for the swift implementation of the land tenure regularization support activity. The implementation of the two CORS will ensure the efficiency of service providers' work in land tenure regularization.

This activity will finance: priority civil works, consultants, goods and operational costs; ICT and other equipment needed for the effective functioning of SIGIT and DINAT; recorded trainings of relevant staff; and purchase of geospatial data related to the target area to support land regularization activities. The trainings will be implemented by a service provider, under the supervision of Provincial Implementation Units and the Project Coordination Unit.

- Strengthen Provincial and District capacity on integrated landscape management (US\$ 3M IDA)

**The objective of this activity is to enhance local capacity of public and private sector stakeholders (Provincial and District government, private sector entities working on land use and civil society organizations) to utilize tools related to integrated landscape management. This will be achieved through: (a) strengthening Multi-Stakeholder Landscape Forums at the Provincial level; (b) promoting spatial tools that can inform land use planning and addressing Government equipment needs for integrated landscape management; and (c) providing trainings to relevant Government staff at Provincial and District levels.** Provincial and District authorities will also be supported to develop and implement relevant land uses plans and maintain a Landscape GIS database that will inform Project implementation.

This activity will finance: operational costs of the Multi-Stakeholder Landscape Forums, including communication material preparation, workshops, annual meetings; staff training and capacity building of DPTADER, as well as equipment needed for its effectiveness; and recruitment, training and basic equipment for District-level Landscape Facilitators. The Provincial Coordination Units (PIUs) in Nampula and Zambézia would be responsible for ensuring the Forums are operational, implementing the capacity building activities and liaising with the targeted Districts. The spatial and analytical tools would be designed by a service provider, in partnership with the local academia.

- Protect and restore natural habitats critical for the value chains in the landscape (US\$5M IDA)

The objective of this activity is to contribute to protecting the natural resources (soil, water and forests) and restoring degraded lands that are critical for the value chains promoted by the Project. This will be achieved through: (a) involving local communities in the sustainable management of natural resources; (b) promoting assisted natural regeneration and active enrichment planting with natural and exotic species and natural species planting for domestic and commercial uses in priority areas within the landscape; (c) addressing small equipment needs and providing training to Provincial law enforcement officials responsible for ensuring compliance with environmental regulations; and (d) promoting awareness raising focusing on the importance of critical natural habitats, national environmental legislation, fire management and other natural resources management best practices.

This activity will finance: restoration of 3,000 hectares of degraded land in critical areas for the value chains; identification of efficient and cost-effective technologies to restore degraded land with the potential for scaling up; trainings to Provincial law enforcement officials responsible for ensuring compliance with environmental regulations awareness campaigns on the importance of critical natural habitats, This activity will be implemented mainly by a service provider, which will be hired to support the protection and conservation activities, working in close coordination with the DPTADER and District authorities.

### **Component 3: Project Coordination and Management (US\$6M IDA)**

**This component includes activities related to project coordination and management, fiduciary management, safeguards management, M&E, and communications.** A Project Coordinating Unit (*Unidade de Gestão de Fundos Internacionais*, UGFI) has been established at MITADER, with significant capacity at the national level. Provincial Implementation Units (PIU) of 4 technical staff have been hired to oversee the implementation of the operation in each Province. A team of decentralized Landscape Facilitators at the provincial and district levels will be deployed at the start of the project. Further details of the role and functions of the UGFI and PIU members are in Section V and Annex 3.

### **Component 4: Contingency Emergency Response (US\$ 0M)**

This component will provide immediate response in the event of an eligible crisis or emergency. By including a "zero-dollar" Contingency Emergency Response Component (CERC) the project can finance emergency works in case of a disaster event. Following an adverse event that causes a major disaster, the GoM may request the Bank to channel resources from this component into an Immediate Response Mechanism (IRM). The IRM would enable the use of a portion of uncommitted funds from the overall IDA portfolio to respond to emergencies. Specific details around this component (including activation criteria, eligible expenditures, and specific implementation arrangements, as well as required staffing for the Coordinating Authority) will be defined in greater detail an IRM Operations Manual, which would go through a consultation and clearance process by project effectiveness

Physical interventions, which will be mainly associated with Component 1, will be in the form of: (i) feeder road upgrade and maintenance; (ii) rural bridges (iii) small and medium scale irrigation schemes; (iv) storage facilities; and (v) other types of priority infrastructure.

### **Project Formulation and Implementation Arrangements**

ANRLMP is the first phase of WBG support to the national Government-led Program to promote integrated sustainable rural development (*Programa Estrela*). As such, it is part of a longer term Program geared towards the establishment of a model for promoting integrated rural development, which would be scaled up through different sources of financing, including a planned phase two and potential additional WBG financing in the future.

The project incorporates impact evaluation as its integral element, which will be linked to the drawing of lessons learned and respective dissemination and adoption in selected contexts.

Project preparation and launching already incorporate the importance of knowledge and informed decision making. Focus is in areas such as (i) **Agriculture value chains analysis**; (ii) **Forest value chain analysis**; (iii) **Land Administration and Community-Based Land and Natural Resources Management**, which are being further investigated in order to establish readiness for project implementation.

Arrangements have also been made for the preparation of the Project's safeguards instruments, namely (i) Environmental and Social Management Framework (ESMF), (ii) Integrated Pest Management Plan (IPMP) and (iii) Resettlement Policy Framework (RPF). The preparation of these instruments will be followed by the hiring of dedicated Environmental & Social Safeguards Specialists who will provide day-to-day support to the Project, including overseeing the screening, monitoring and reporting of the safeguards aspects of the project specific interventions. The Project's appraisal mission will not take place before the safeguards instruments are disclosed both in-country and at the WB Infoshop.

## **Development Context**

ANRLMP happens at a stage of the country's development under which it is growing at a fast pace, making it one of the fastest growing countries in the world in the last 5-6 years despite signs of certain deterioration of important economic and financial indicators in the last 1-2 years.

However, despite the remarkable growth, the country continues to be among the poorest in the world. The country is in the 180<sup>th</sup> position among 188 countries in terms of human development index. A number of institutional and other constraints continue to hamper the delivery of basic social services.

The country's economy is characterized by a very small number of mega-projects on one hand, and the family and informal sector, on the other, which encourages imbalances in development and affects diversification of production and access to the benefits of the development by a significant proportion of the population. Investments in infrastructure such as roads, water supply and sanitation, energy, telecommunications, etc. should continue to play a role in this process of stabilization and gradual elimination of imbalances. Strengthening micro, small and medium size enterprises (MSMEs) is seen as key to changing the prevalent situation.

The two provinces that define the project area, i.e. Nampula and Zambézia, are rich and diverse in terms of the receiving physical, biological and socioeconomic environment. Interventions need to be adequately planned, implemented, monitored and evaluated to ensure that such environment is not adversely affected.

## **World Bank Safeguards Policies and GOM Regulations**

The objective of the ESMF is to ensure that relevant World Bank Safeguards Policies and GOM environmental and social regulations are strictly adhered to. The Project has triggered six of the World Bank's 10+2 Safeguards Policies, namely, Environmental Assessment (OP/BP 4.01), Pest Management (OP 4.09), Involuntary Resettlement (OP/BP 4.12), Natural Habitats (OP/BP 4.04), Forests OP/BP 4.36, Safety of Dams (OP/BP 4.37) , as well as adhered to the World Bank Group General Environmental, Health and Safety Guidelines (EHS), Tourism and Hospitality Development EHS Guidelines and the applicable Agribusiness/Food Production EHS Guidelines from April 2007. The ESMF has made provision to address potential concerns afferent to OP/BP 4.04 (Natural Habitats), OP/BP 4.36 Forest, OP/BP 4.37 (Safety of Dams) including possible impacts under OP/BP 4.11 (Physical Cultural Resources). A Resettlement Policy Framework (RPF) has been prepared to satisfy the Involuntary Resettlement (OP/BP 4.12) Safeguard Policy requirements and an Integrated Pest Management Plan (IPMP) has been prepared to satisfy OP 4.09 requirements. These two documents have been prepared separately, however they should be used together with this ESMF. Under World Bank Safeguards Policies, the project falls under Category B.

The Project will also be implemented in light of the GOM reform in the environmental sector in terms of: (a) adherence to and adoption of a series of international and regional environmental protection and conservation conventions and protocols; (b) approval of a significant set of legislations with direct and indirect implications to environmental and social protection; (c) creation of specific public institutions and/or strengthening of existing institutions dedicated to both environmental and social management in the country. In terms of national laws particular reference should be made to Decree 45/2004 and the upcoming Decree 54/2015, which regulate the environmental and social impact assessment processes as well as Decree 31/2012 on resettlement and expropriation.

The project is going to be implemented in an area endowed with vast natural resources, which include four forests reserves (Mpalwé, Ribaué, Mecubúri and Baixo Pinda) and one national reserve (Gilé) and is one of the most dynamic areas of the country in terms of development initiatives (e.g. Nacala Corridor, Forests Business (Lurio Green Resources)) and size of its population.

ANRLMP is expected to play a positive role in enhancing the various aspects already at play in the area. However, if not adequately designed and implemented it also has the potential of aggravating a number of problems that have been associated with some of the developments.

Both WB safeguards policies and GOM environmental regulations will be applied to ensure that potential negative environmental and social impacts on land resources, soils, water resources, biodiversity, vegetation, local communities and the society at large are adequately managed and positive impacts are enhanced.

### **Subproject Formulation and Selection**

As part of the ESMF a social and environmental screening process will help (i) determine which construction or rehabilitation and environmental restoration activities are likely to have potential negative environmental and/or social impacts; (ii) determine the level of environmental and social work required, including whether an ESIA/ESMP or a site specific ESMP will be required or not; (iii) determine appropriate mitigation measures for addressing adverse impacts; (iv) incorporate mitigation measures into the subprojects financed by ANRLMP; (v) indicate the need for the preparation of a Resettlement Action Plan (RAP), which would be prepared in line with the



Resettlement Policy Framework (RPF), prepared for the Project; (vi) facilitate the review and approval of the construction and rehabilitation proposals; and (vii) **create, enhance or protect** the same type of resources at another suitable and acceptable location, compensating for lost resources.

Given the multisector character and complexity of the project, and to ensure appropriate implementation and monitoring of social and environmental issues, the ESMF recommends to work with (i) one Safeguard Specialist at central level and two Provincial Community Management Officials (one in each province) that will work closely with a focal point for environment and social issues identified within the Provincial Directorate for MITADER and will respond to the Landscape Project Provincial Coordinators and (ii) a Communication Officer with a good knowledge of environmental and social safeguards for the PCU based in Maputo. These will work closely with MITADER at both central and provincial levels and relevant ministries and be responsible for the proper handling of Environmental, Social and Communication dimensions of the project throughout its life cycle. These staff will be trained by WB Safeguards Specialists, and in close collaboration with MITADER.

### **Environmental and Social Management Plans (ESMP)**

Where relevant, site specific Environmental and Social Impacts Assessment (ESIA) with a costed Environmental and Social Management Plan (ESMP) or just an Environmental and Social Management Plans (ESMP) will be prepared so that the Project **(i) avoids activities** that could result in adverse environmental and social impacts on resources or areas considered as sensitive; **(ii) prevents the occurrence** of negative environmental and social impacts; **(iii) prevents any future actions** that might adversely affect environmental and social resources; **(iv) limits or reduces the degree**, extent, magnitude or duration of adverse impacts by scaling down, relocating, redesigning elements of the project; **(v) repairs or enhances affected resources**, such as natural habitats or water resources, particularly when previous developments have resulted in significant resource degradation; **(vi) restores affected resources** to an earlier (and possibly more stable and productive) state, typically 'background/pristine' condition; and **(vii) creates, enhances or protects** the same type of resources at another suitable and acceptable location, compensating for lost resources, including compensating people and other entities for any loss of assets and/or opportunities as defined under WB OP/BP 4.12 on Involuntary Resettlement.

Moreover, the ESMF includes standard Environmental and Social Clauses (ESC), which will be included in all bidding documents and in the various contracts (contractual clauses) for the design, construction and appropriate operation of the interventions to be adopted for simple subprojects. Contractors for simple projects will be responsible for the implementation of these Environmental and Social Clauses during construction and will need to recruit qualified staff, responsible for environment/social and health and safety issues, to do this. Contractors for more complex subprojects will need to prepare and implement their own Environmental and Social Impacts Assessment (ESIA) and associated Environmental and Social Management Plan (Contractor ESMP). Contractors will need to employ qualified environmental/social, health and safety specialist(s) for this purpose. In all cases the Supervising Engineer will be required by contractual arrangement to supervise the adequate implementation of the Environmental and Social Clauses and the Contractor ESMPs. Once reviewed and cleared by ASPEN (the Africa Regional Safeguards Advisory Unit) the Environmental and Social Management Framework (ESMF) will be publicly disclosed both in-country and at the InfoShop prior to the project appraisal.

## **Pest Management Plan (PMP) and a Resettlement Policy Framework (RPF)**

A separate Pest Management Plan (PMP) and a Resettlement Policy Framework (RPF) have been prepared to be used along with the ESMF. As for the ESMF, the RPF and PMP will also be reviewed and cleared by ASPEN and then publicly disclosed both in-country and at the InfoShop prior to project appraisal.

The PMP will assist in the implementation of the WB approach/vision and the GOM's strategy that promote integrated pest management (IPM) approaches, such as biological control, cultural practices, and the development and use of crop varieties that are resistant or tolerant to the pest. In addition to agricultural insect pests and plant diseases, pests also include weeds, birds, rodents, and human or livestock disease vectors. Finally, the PMP also includes mitigations measures to reduce the impacts on human health, such as the adequate selection and safe use of pesticides, safe storage of pesticides and the safe disposal of pesticide containers. People who are vulnerable are elderly people, children, women and illiterate farmers, and require special attention.

The RPF will also ensure that involuntary resettlement is avoided where feasible, or minimized, exploring all viable alternative project designs. Where it will not be feasible to avoid resettlement, a Resettlement Action Plan (RAP) will be prepared and disclosed accordingly. Project Affected People (PAP) will be compensated and/or assisted prior to the start of any construction activity. Resettlement activities will be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. PAPs will be meaningfully consulted and be given opportunities to participate in planning and implementing resettlement programs. PAPs will be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher”.

## **Training and Capacity Building**

Extensive training and capacity building will be carried out in order to prepare relevant institutions and community at the various levels to plan, implement, monitor and evaluate the different aspects involved in sound environmental and social management as elaborated in this ESMF in particular, and in both the PMP and RPF.

Based on needs identification a specific institutional and human capacity building program for environmental and social management, as well as human health and safety will be developed as part of the ANRLMP. Beneficiary institutions will be the Ministry of Land, Environment and Rural Development (MITADER), especially at its provincial and district levels, relevant line ministries at its provincial and district levels (e.g. agriculture, public works, energy, health, education, economy and finance, etc.), including local authorities (e.g. municipalities and others such as CSOs). The details of the capacity-building program and the institutions to be supported at provincial and/or local level, still has to be developed once specifics of the subproject and beneficiaries are known.

Practical ways of reaching out to all target groups will need to be devised for training and capacity needs assessments as well as for delivery of the training. The “*Learning by Doing*” approach will be given utmost priority.

## **Monitoring**

Monitoring will also be fundamental to ensure that the objectives set forth in the ESMF and the ESIAs/ESMPs are being achieved satisfactorily and where there are nonconformities, timely corrective action can be taken. The ANRLMP Management Team will have the overall responsibility for coordinating and monitoring implementation of the ESMF.

### **Estimated ESMF Implementation Budget**

The total cost for implementing this ESMF and for preparing and implementing the site specific ESIAs/ESMPs stands at **US\$ 1,400,000.00 (one million, four hundred thousand American Dollars)**, estimated as a percentage (4%) of the components that will require preparation of ESIAs and ESMPs.

# SUMÁRIO EXECUTIVO

## Introdução

O presente documento estabelece o Quadro de Gestão Ambiental e Social (QGAS) a ser adoptado em relação ao proposto **Projecto *Landscape de Gestão Integrada de Agricultura e Recursos Naturais (ANRLMP)*** (o Projecto), a ser implementado pelo Governo de Moçambique (GOM), com a assistência do Banco Mundial.

O ANRLMP visa promover o desenvolvimento rural integrado de forma sustentável ao mesmo tempo que estabelece um modelo para intervenções no desenvolvimento rural integrado em Moçambique de uma forma que o mesmo atenda às aspirações e visão actuais do país nesta matéria. Haverá duas principais fases de implementação do projecto, em que a Fase I visa “contribuir para melhorar a renda das famílias rurais através da promoção de cadeias de valor agrário e de base florestal inclusivas e sustentáveis e fortalecer a resiliência dos recursos naturais, à segurança de posse, e desempenho institucional integrada gestão na paisagem alvo”, e constitui o foco deste ESMF.

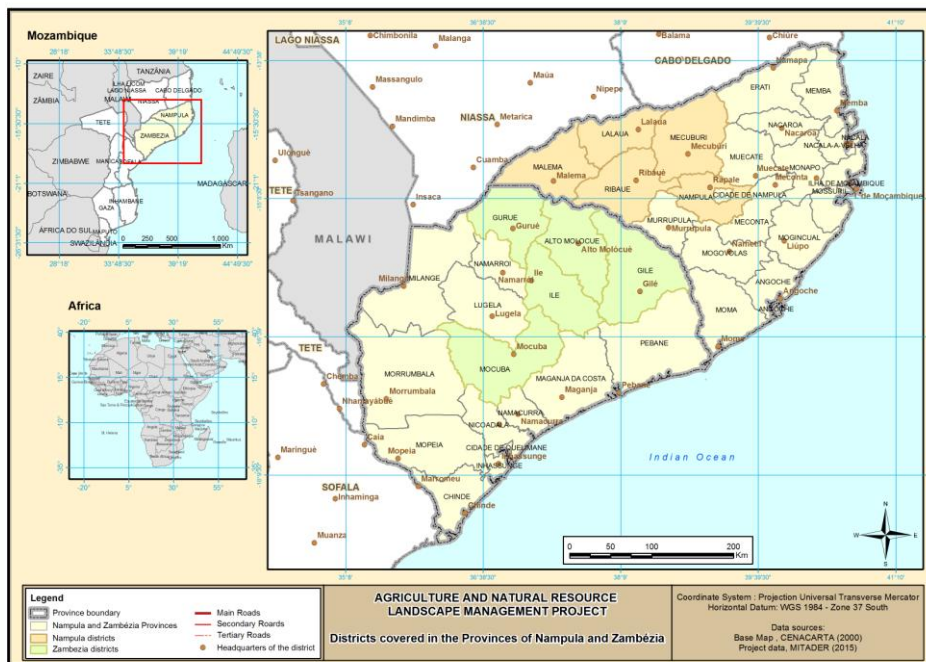
As intervenções físicas do projecto serão sob a forma de melhoramento e manutenção de estradas terciárias; pontes rurais; pequenos sistemas de irrigação; infra-estruturas de armazenamento; electrificação rural; e outros tipos de infra-estrutura prioritária. Estes terão implicações positivas e negativas sobre o ambiente natural e socioeconómico receptor e, como tal, devem ser concebidos, implementados e postos a funcionar de forma a evitar causar danos tanto sobre o ambiente natural como sobre o social, a fim de estar em conformidade com os princípios e directrizes do Governo de Moçambique e do Banco Mundial relacionadas com a gestão ambiental e social.

O Quadro de Gestão Ambiental e Social (QGAS) vai se constituir em guia para a selecção das intervenções (subprojectos) do projecto proposto para garantir que os mesmos não afectem negativamente o meio ambiente natural e social. O QGAS define uma série de princípios, que incluem:

- Um procedimento sistemático para a selecção participativa dos locais para os subprojectos e actividades dos subprojecto de forma que se tenha em consideração as questões ambientais e sociais;
- Um procedimento faseado para prever os principais potenciais impactos ambientais e sociais das actividades dos subprojectos previstos;
- Um plano de gestão ambiental e social típico para abordar as externalidades negativas no decurso da implementação dos subprojectos (planificação, construção e operação);
- Um sistema faseado das acções de monitoria e de avaliação para a implementação de medidas de mitigação; e
- Um esboço de medidas de reforço das capacidades recomendadas para a planificação e monitoria ambiental e social das actividades dos subprojectos; e
- Um orçamento para garantir que o projecto tenha recursos adequados para atender aos seus próprios interesses, especialmente recursos financeiros para a preparação e execução dos EIAs, PGASs e PARs dos subprojectos

Os princípios e requisitos básicos do QGAS serão aplicados ao longo de todo o ciclo de vida do projecto.

## A área do Projecto (Províncias de Nampula e Zambézia)



## Componentes do Projecto

O projecto terá quatro componentes principais, com a seguinte alocação preliminar de fundos:

- **Componente 1: Desenvolvimento Inclusivo da Cadeia de Valor Agrário e Florestal (US \$ 30M IDA - fase 1 US \$ 15M e fase 2 US \$ 15M).** Esta componente irá promover a agricultura e as cadeias de valor de recursos naturais relacionadas com as culturas (de segurança alimentar e de rendimento) e florestas (madeira e produtos não-madeireiros decorrentes de florestas plantadas e naturais). Os investimentos vão expandir o acesso inclusivo aos insumos (especialmente sementes e fertilizantes), serviços de extensão, mercados, informação e finanças. Serão concebidos mecanismos financeiros e modalidades para apoiar os agricultores e as comunidades de pequenos agricultores no desenvolvimento de uma agricultura e florestas viáveis baseadas numa gestão comunitária das cadeias de valor (por exemplo, programa de bolsas, fundos desafio, garantias financeiras, partilha de custos, etc.), destinados a facilitar o desenvolvimento ao acesso sustentável à exportação e / ou mercados locais.
- **Componente 2: Gestão Sustentável dos Recursos Naturais (US \$ 10M IDA, fase 1 US \$ 5M e fase 2 US \$ 5M).** Esta componente contribuirá para melhorar as condições de vida das famílias rurais através da promoção de uma gestão sustentável dos recursos naturais (florestas, água, solo) na Paisagem alvo, e melhorar a resiliência destes recursos naturais às mudanças climáticas. A componente irá promover a gestão e planificação integradas dos recursos naturais, aumentar a protecção e reabilitação de áreas de alto valor de conservação (AAVC), fortalecer as organizações de base comunitária para gerir de forma sustentável os recursos naturais e promover o Ordenamento Territorial ao Nível Distrital e promover sistemas de produção ambientalmente sustentáveis. Estes resultados chave irão garantir que o desenvolvimento das

cadeias de valor agrárias e florestais sejam baseadas no uso sustentável da base de recursos de que dependem.

- **Componente 3: Administração e Gestão da Terra (US \$ 20M, fase 1 \$ 10M e fase 2 US \$ 10M).** O objectivo estratégico desta componente é: Melhorar a gestão e segurança da posse da terra, apoiar o desenvolvimento de planos de uso da terra locais, e aumentar a acessibilidade e desempenho dos serviços de registo cadastral e da terra. Este objectivo será alcançado através de três subcomponentes, nomeadamente: 1. melhorar os serviços de gestão e administração da terra e facilitar o desenvolvimento institucional; 2. delimitação de terras comunitárias, incluindo planos de uso da terra de base comunitária e regularização fundiária, conforme for adequado; 3. capacitação e formação em gestão e administração da terra para os sectores público, privado e outras partes interessadas.
- **Componente 4: Desenvolvimento, Reabilitação e Manutenção de Infra-estrutura (US \$ 15M, fase 1 US \$ 5M e fase 2 US \$ 10M).** Esta componente visa resolver as limitações de infra-estrutura específica/local com base em informações detalhadas obtidas das partes interessadas envolvidas nas várias cadeias de valor visadas pelo projecto (por exemplo, governos/autoridades locais, comunidades, investidores, agricultores e outros participantes da cadeia de valor). As restrições referidas podem incluir melhoramento e manutenção de estradas terciárias; pontes rurais; pequenos esquemas de irrigação; infra-estruturas de armazenamento; electrificação rural; e outros tipos de infra-estrutura prioritária. Todas as propostas emergentes devem ser integradas em documentos de planificação local, a fim de assegurar a sua sustentabilidade, garantir a sua integração com outras iniciativas na mesma área e salvaguardar a sua manutenção continuada ao longo do tempo.
- **Componente 5: Coordenação e Gestão de Projectos (US \$ 5M, fase 1 US \$ 2,5M e fase 2 US \$ 2,5 milhões).** Esta componente inclui actividades relacionadas com a coordenação e gestão do projecto, consultas às e diálogo com a partes interessadas, M&E, um programa e estratégia de comunicação

Ao abrigo deste projecto as principais intervenções físicas, principalmente relacionadas com a Componente 1, serão sob a forma de: (i) melhoramento e manutenção de estradas terciárias; (ii) pontes rurais (iii) pequenos esquemas de irrigação; (iv) infra-estruturas de armazenamento; (v) electrificação rural; e (vi) outros tipos de infra-estrutura prioritária.

### **Arranjos para a Formulação e Implementação do Projecto**

O ANRLMP (*Landscape*) é a primeira fase do apoio do Grupo do Banco Mundial ao Programa liderado pelo governo para promover o desenvolvimento rural integrado que seja sustentável (Programa Estrela). Como tal, o mesmo é parte de um programa de mais longo prazo orientado para a criação de um modelo para promover o desenvolvimento rural integrado, que depois deverá ser ampliado através de diferentes fontes de financiamento, incluindo uma prevista fase dois de potencial financiamento adicional pelo Grupo Banco Mundial no futuro.

O projecto incorpora a avaliação de impacto como elemento integrante, que será vinculado à apreensão de lições aprendidas e respectiva divulgação e adopção em contextos seleccionados.

A preparação e o lançamento do projecto já incorporam a importância do conhecimento e da tomada de decisão informada. O enfoque está a ser sobre áreas tais como (i) **Análise da cadeia de valor na agricultura;** (ii) **Análise da cadeia de**

**valor nas florestas; (iii) Administração de Terras e Gestão da Terra e de Recursos Naturais Baseados na Comunidade**, que estão a ser investigados, a fim de estabelecer prontidão para a implementação do projeto.

Foram igualmente feitos arranjos para a preparação de instrumentos de salvaguardas ambientais e sociais do projecto, nomeadamente: (i) Quadro de Gestão Ambiental e Social (QGAS), (ii) Plano de Gestão Integrada de Pragas (IPMP) e (iii) Quadro de Política Reassentamento (QPR). A preparação destes instrumentos será seguido pela contratação de oficiais de salvaguardas Ambientais e Sociais dedicados particularmente ao projecto que irão fornecer apoio do dia-a-dia na implementação do Projeto, incluindo a supervisão da avaliação preliminar e comunicação de aspectos de salvaguardas relacionados com as intervenções específicas do projecto. A missão da avaliação do projecto não poderá ter lugar antes de os instrumentos das salvaguardas terem sido divulgados tanto pelo Governo como no Infoshop do BM.

### **Contexto de Desenvolvimento**

O ANRLMP acontece num altura de desenvolvimento em que o país está a registar um rápido crescimento, o que faz dele um dos países de mais rápido desenvolvimento no mundo nos últimos 5-6 anos apesar de os últimos 1-2 anos terem sido caracterizados por uma relativa deterioração dos principais indicadores económicos e financeiros.

Apesar do seu crescimento notável, o país continua a estar entre os mais pobres do mundo. O país está na posição 180 entre 188 países em termos de índice de desenvolvimento humano. Existe uma série de constrangimentos institucionais e outras restrições que continuam a dificultar a prestação de serviços básicos.

A economia do país é caracterizada por um número muito reduzido de grandes projectos, por um lado, e o sector familiar e informal, por outro, o que encoraja desequilíbrios no desenvolvimento e afecta a diversificação da produção e o acesso aos benefícios do desenvolvimento por uma significativa proporção da população. Investimentos em infra-estrutura, como estradas, abastecimento de água e saneamento, energia, telecomunicações, etc. devem continuar a desempenhar um papel neste processo de estabilização e eliminação gradual dos desequilíbrios. Reforçar as pequenas e médias empresas (PME) é visto como chave para mudar a situação prevaiente.

As duas regiões que definem a área do projecto são ricas e diversificadas em termos do ambiente físico, biológico e socioeconómico receptor. As intervenções precisam de ser adequadamente planificadas, implementadas, monitoradas e avaliadas para garantir que o ambiente receptor não seja prejudicado.

### **Políticas de Salvaguardas do Banco Mundial e Regulamentos do GOM**

O objectivo do QGSA é o de garantir que as Políticas de Salvaguardas do Banco Mundial e que os regulamentos ambientais e sociais relevantes do GOM sejam rigorosamente respeitados. O Projecto irá desencadear seis das 10+2 Salvaguardas e Políticas do Banco Mundial, nomeadamente, Avaliação Ambiental (OP/BP 4.01), Gestão de Pragas (OP 4.09), Reassentamento Involuntário (OP/BP 4.12), Habitats Naturais (OP/BP 4.04), Florestas (OP/BP 4.36), Segurança de Barragens (OP/BP 4.37), assim como as Directrizes do Grupo do Banco Mundial sobre o Ambiente, Saúde e Segurança Gerais, Desenvolvimento do Turismo, Directrizes de SSA aplicáveis ao Agribusiness/Produção de Alimentos, de Abril de 2007. Foi preparado um Quadro de Política de Reassentamento (QPR) para ir de encontro à Política de

Salvaguarda de Reassentamento Involuntário (OP/BP 4.12) e foi preparado um Plano da Gestão de Pragas para ir de encontro à (OP 4.09). Estes dois documentos foram preparados em separado e devem ser utilizados em conjunto com este QGSA.

O QGSA também será implementado à luz da reforma do GOM no sector do ambiente, em termos de: (a) adesão e adopção de uma série de convenções e protocolos regionais e internacionais de protecção ambiental e de conservação; (b) aprovação de um conjunto significativo de legislação com implicações directas e indirectas para a protecção ambiental e social; (c) criação de instituições públicas específicas e/ou o fortalecimento de instituições existentes dedicadas à gestão ambiental e social no país.

Tanto as políticas de salvaguarda do Banco Mundial como os regulamentos do GOM serão aplicados para garantir que o potencial de afectar negativamente os recursos terrestres, solos, recursos hídricos, da vegetação e da sociedade em geral seja adequadamente gerido e os impactos positivos sejam realçados.

### **Formulação e Selecção de Subprojectos**

Como parte do QGSA haverá um processo de selecção para (i) determinar que actividades de construção e reabilitação são susceptíveis de ter potenciais impactos ambientais e sociais, (ii) determinar o nível de acção ambiental necessária, incluindo se uma AIAS/PGAS ou apenas um simples PGAS são necessários ou não, (iii) determinar as medidas de mitigação apropriadas para lidar com os impactos adversos, (iv) incorporar medidas de mitigação nos subprojectos financiados pelo ANRLMP, (v) indicar a necessidade de preparação de um Plano de Acção de Reassentamento (RAP), que será elaborado em conformidade com o Quadro da Política de Reassentamento (RPF), também preparado para o Projecto, (vi) facilitar a revisão e aprovação das propostas de construção e de reabilitação, e (vii) fornecer orientações para o monitoramento de parâmetros ambientais durante a implementação e funcionamento das actividades dos subprojectos.

Dado o carácter multisectorial e a complexidade do projecto, e para garantir a implementação e monitorização adequadas das questões sociais e ambientais, o QGSA recomenda que se trabalhe com (i) um especialista de salvaguardas ambientais e sociais a nível central e dois Oficiais Provinciais de Maneio Comunitário (um em cada província) que irão trabalhar directamente com um ponto focal de Ambiente da Direcção Provincial do MITADER, e irão responder aos Coordenadores Provinciais do Projecto Landscape; (ii) o recrutamento de um Oficial de Comunicação com bons conhecimentos de salvaguardas ambientais e sociais para a UCP sediado em Maputo, para que de forma atempada possa trabalhar com os Oficiais de Maneio Comunitário. Estas pessoas trabalharão serão responsáveis pela gestão adequada das dimensões Ambientais, Sociais e de Comunicação do projecto. Este pessoal vai ser formado por especialistas de salvaguarda do BM e em estreita colaboração com o MITADER.

### **Planos de Gestão Ambiental e Social (PGAS)**

Onde for relevante serão preparados Estudos de Impacto Ambiental e Social (EIAS) contendo um Plano de Gestão Ambiental e Social orçamentado ou simplesmente serão preparados Planos de Gestão Ambiental e Social (PGAS) para que o Projecto (i) **evite actividades** que possam resultar em impactos ambientais e sociais negativos, bem como que recaiam sobre recursos ou áreas consideradas sensíveis, (ii) **previna a ocorrência** de impactos ambientais e sociais negativos, (iii) **impeça quaisquer** acções futuras que possam afectar negativamente recursos ambientais e sociais, (iv)



**limite ou reduza o grau**, extensão, magnitude e duração dos impactos adversos por intermédio da minimização, deslocação, redesenho de elementos do projecto, (v) **reparação ou melhoramento** de recursos afectados, como os habitats naturais ou recursos hídricos, especialmente quando desenvolvimentos anteriores tenham resultado em significativa degradação desses recursos; (vi) **restauração de recursos afectados** ao estado anterior (e, possivelmente, estado mais estável e produtivo), tipicamente mais natural, e (vii) **crie, melhore ou proteja** o mesmo tipo de recursos num outro local adequado e aceitável, compensando recursos perdidos, incluindo compensar as pessoas e outras entidades por qualquer perda de activos e/ou oportunidades tal como isso é definido na PO do BM acerca do Reassentamento Involuntário.

Para além disso, o QGAS inclui Cláusulas Sociais e Ambientais (CSA) padrão que serão incluídas em todos os documentos de concurso e contratos (cláusulas contratuais) relacionados com o desenho, construção e funcionamento adequado das intervenções a ser adoptadas como subprojectos simples. Os empreiteiros de projectos simples serão responsáveis pela implementação destas Cláusulas Sociais e Ambientais durante a construção e, nesse sentido, precisarão de recrutar pessoal qualificado para ser responsável pelas questões ambientais/sociais e de saúde e segurança. Para os subprojectos mais complexos o Especialista de Salvaguarda do QGAS vai preparar uma Avaliação de Impacto Ambiental e Social (AIAS)/PGAS. Com base nos documentos dos PGAS os empreiteiros a envolver em subprojectos mais complexos precisarão de preparar e implementar os seus próprios Planos de Gestão Ambiental e Social (PGAS dos Empreiteiros). Os Empreiteiros precisarão de empregar especialistas ambientais/sociais, de saúde e segurança para este efeito. Em todos os casos, os arranjos contratuais vão exigir que o Engenheiro de Supervisão fiscalize a implementação adequada das Cláusulas Sociais e Ambientais e dos PGAS dos Empreiteiros. O QGAS será aprovado pelo Banco Mundial depois de ser divulgado para o público no país e na InfoShop do BM antes da avaliação do projecto.

### **Plano de Gestão de Pragas (PGP) e Quadro da Política de Reassentamento (RPF)**

Em separado foram preparados o Plano de Gestão de Pragas (PGP) e Quadro da Política de Reassentamento (QPR/RPF) para ser usados em conjunto com este QGSA. Tal como o QGAS, os PGP e QPR serão aprovados pelo Banco Mundial depois de ser divulgados para o público no país e na InfoShop do BM antes da avaliação do projecto.

O PMP vai ajudar na implementação da abordagem e da visão assim como das estratégias do BM e do GOM que promovem abordagens sobre a Gestão Integrada de Pragas (GIP), tais como o controlo biológico, práticas culturais e para o desenvolvimento e uso de variedades resistentes ou tolerantes às pragas. Para além das pragas de insectos e doenças das plantas, as pragas incluem ervas daninhas, aves, roedores, e vectores de doenças humanas ou de animais. Por fim, o PGP também inclui medidas de mitigação com vista a reduzir impactos sobre a saúde humana, como é o caso da adequada selecção e uso seguro de pesticidas, armazenamento seguro de pesticidas e a deposição segura dos contentores de pesticidas. As pessoas que são mais vulneráveis a estas substâncias são as pessoas idosas, crianças, mulheres e agricultores analfabetos e requerem atenção especial.

O QPR também irá garantir que “o reassentamento involuntário seja evitado sempre que possível, ou minimizado, explorando todas as alternativas de desenho dos projectos que sejam viáveis. Onde não for possível evitar o reassentamento, será, em conformidade, preparado e publicitado um Plano de Acção do Reassentamento (PAR).

As pessoas afectadas pelo projecto (PAPs) serão compensadas e/ou apoiadas antes do início de quaisquer actividades de construção. As actividades de reassentamento serão concebidas e executadas como programas de desenvolvimento sustentável, fornecendo recursos de investimento suficientes para permitir que as pessoas deslocadas pelo projecto possam partilhar os benefícios do mesmo. As pessoas afectadas pelo projecto serão significativamente consultadas e terão a oportunidade de participar na planificação e implementação dos programas de reassentamento. Essas pessoas serão assistidas nos seus esforços para melhorar os seus meios e padrões de vida, ou pelo menos para restaurá-los, em termos reais, a níveis prevalecentes antes do início da implementação do projecto, conforme o que vai ser melhor”.

### **Formação e Capacitação**

Haverá extensa formação e capacitação a fim de preparar as instituições relevantes aos diferentes níveis para planificar, implementar, monitorar e avaliar os diferentes aspectos envolvidos na gestão ambiental e social tal como elaborado neste QGSA em particular, e no PGP e QPR.

Com base na identificação das necessidades de formação será desenvolvido um programa específico de fortalecimento institucional e humano e da capacidade de gestão ambiental e social assim como de saúde e segurança humanas como parte do Projecto. As instituições beneficiárias serão o Ministério da Terra, Ambiente e Desenvolvimento Rural (MITADER), particularmente aos níveis provincial e distrital, os ministérios relevantes (por exemplo, agricultura, obras públicas, energia, recursos minerais, saúde, educação, economia e finanças, etc.), incluindo autoridades locais (municípios por exemplo, e outros, como as OSCs). Os detalhes do programa de capacitação e as instituições que serão apoiadas e a que nível: provincial e/ou local, ainda terão que ser desenvolvidos.

Deverão ser elaboradas formas práticas de atingir todos os grupos-alvo para a avaliação das necessidades de formação e capacitação, bem como para a realização da formação. Será dada prioridade à abordagem de “*aprender a fazer fazendo*”.

### **Monitoria**

A monitoria também será fundamental para garantir que os objectivos estabelecidos no QGSA e nas AIASs/PGASs/PARs sejam alcançados de forma satisfatória e onde não houver conformidade para que se possa, em tempo útil, introduzir alterações. A Equipa de Gestão do Projecto terá a responsabilidade geral pela coordenação e acompanhamento da execução do QGSA.

### **Orçamento Estimativo do QGSA**

A implementação do QGAS dos respectivos AIASs/PGASs específicos nos diferentes locais está orçada em **US\$ 1,400,000.00 (um milhão quatrocentos mil Dólares Norte-americanos)**, calculados com base numa percentagem (de 4%) em relação às componentes que vão requerer a preparação de EIAS e PGAS.

# **1- INTRODUCTION**

This document sets up the Environmental and Social Management Framework (ESMF) for the proposed **Agriculture and Natural Resources Landscape Management Project** (ANRLMP) (the Project) to be implemented by the Government of Mozambique (GOM) with the World Bank Assistance. The ANRLMP aim is to promote integrated sustainable rural development at the same time that sets out a model for interventions in integrated rural development in Mozambique in a way that it is responsive to the country's current aspirations and vision in regard to this important development topic. Under the Project a series of interventions will be designed and implemented in order to support production and value addition activities of selected value chains, strengthening natural resource management, upgrading the land administration system for increased land tenure security, improving rural infrastructure, and strengthening the institutional capacity of key public and private institutions at central and local levels.

Project implementation will be divided into two main phases with Phase I aimed at "contributing to integrate rural households into sustainable agriculture and forest-based value chains in the project area and in the event of an eligible crisis or emergency to provide immediate and effective response to said eligible crisis or emergency", being the focus of this ESMF.

Besides Coordination and Management, the Project will comprise four leading components, namely: (i) Agriculture and forest-based value chain development; (ii) Securing land tenure rights and increasing natural resources resilience; (iii) Project coordination and management; and (iv) Contingency emergency response. These components will be combined creatively to develop and provide good examples of how integrated rural development in the current phase of the country's development should be undertaken. Mozambique has been actively pursuing good examples of integrated rural development since independence in 1975. With the overwhelming majority of its population living in rural areas and relying heavily on natural resources, which are largely exploited using rather rudimentary technologies and practices, the country has intrinsic interest in finding sustainable ways of ensuring that the wealth of natural resources with which it is endowed are adequately used to promote economic and social growth and development that are inclusive, diverse and sustainable.

Lately, in addition to the traditional and increasingly more frequently unsustainable use of natural resources, dictated mainly by exponential population growth small, medium and even large business operators have been contributing to worsen the situation in a way that if left unattended will put at risk the long term interests of the country and its natural base. Large amounts of resources (mainly forests and mineral resources) are being exploited in an unsustainable manner in a process driven that at times is driven by unscrupulous domestic and external operators and markets.

It should be highlighted that Mozambique is one of the best endowed countries in Africa in the area of natural resources. According to an AFD study (AFD, 2009), 49% of the country's total wealth is natural capital, as opposed to the average of 24% in the other sub-Saharan African countries. If used wisely existing resources, which include land, water, mining, forests, fisheries, etc. can serve as a powerful platform for inclusive economic growth and development as well as poverty alleviation, with strong repercussions in rural areas where resources are concentrated and the majority of the people live. This is in dire contrast with the current reality that translates into a situation where more than half of the country's population lies below the poverty line and the country's ecosystems are also extremely vulnerable.

Agriculture (plant and animal production, forests and wildlife) and fisheries are seen as the base of the economy with a pivotal role to play in order to (i) provide opportunities for productive employment for a large part of the country's population including direct access by such people to the income arising from related occupations; (ii) ensuring food security; (iii) diversification of food production and of a series of productive sectors and sub-sectors (e.g. industry, trade, tourism, etc...); (iv) improve the balance of payments through a reduction in imports and increase in exports, etc. Evidence shows that one of the crucial aspects required to make local economies more dynamic is the development of activities that add value to selected production systems and/or products at the local and grassroots level by linking them to domestic and external markets.

Under ANRLMP and in permanent and close consultation with the GOM the World Bank will ensure that the strategic interest of inclusion, diversification, creation of employment and income generating opportunities are created around local initiatives in the project area. In this regard priority infrastructure will be identified, planned and built and training, capacity building and demonstration activities will be carried out to specifically respond to the expectations of local beneficiaries. Efforts will be made to create an enabling environment including the adoption of adequate measures for intervention monitoring and evaluation, drawing lessons learned and improve the interventions and scaling up the activities into the second phase of the project and beyond including expanding lessons learned to the country at large.

Infrastructure development (e.g. **feeder road upgrade and maintenance, rural bridges, small and medium scale irrigation schemes, storage facilities, and other types of priority infrastructure** as well as **land demarcation and titling**), which will be the focus of physical interventions under the Project (Component 1) will have positive and negative implications on the receiving natural and socioeconomic environment. In line with the GOM and WB principles and guidelines related to environmental and social management, such interventions should be designed, implemented and operated in such a way as to avoid causing harm to both the natural and social environment.

At the stage of formulation of this ESMF the exact location, number, specific scale of the above-mentioned interventions, which could justify conducting the environmental and social impact assessments and respective environmental and social management plans, were not yet known. It is only after project start-up that an initial exercise will be carried out to make a detailed selection of the subprojects at the pre-feasibility study phase to be followed by feasibility studies and design of each subproject. Under such circumstances the preparation of the Environmental and Social Management Framework is considered the best management instrument for WB funded projects.

The Environmental and Social Management Framework (ESMF) is meant to be a guide to the screening of the proposed Project interventions (sub-projects) to ensure that they do not affect negatively the natural and social environment. The ESMF is particularly relevant in a situation where there is still an unclear definition of the project interventions, as is the case of the Project at this stage. The ESMF outlines a number of principles, which include:

- A systematic procedure for participatory screening for sub-project sites and sub-project activities for environmental and social considerations;
- A step-by-step procedure for predicting the main potential environmental and social impacts of the planned sub-project activities;

- A typical environmental and social management plan for addressing negative externalities in the course of sub-project implementation (planning, construction and operation);
- A step by step monitoring and evaluation system for implementation of mitigation measures; and
- An outline of recommended capacity building measures for environmental and social planning and monitoring of the sub-project activities; and
- A budget to ensure that the Project has adequate resources to meet its own interests, especially financial resources for the preparation and implementation sub-projects ESIA, ESMPs and RAPs

The ESMF basic principles and requirements will be applied throughout the entire Project life cycle.

In addition to this introductory chapter this ESMF comprises thirteen (13) chapters that deal successively with:

- (i) project description;
- (ii) project implementation arrangements;
- (iii) development context in Mozambique and the project area;
- (iv) project targeted areas and the receiving natural and social environment;
- (v) WB safeguards policies;
- (vi) legal and institutional framework for environmental and social management in Mozambique;
- (vii) environmental and social concerns of targeted areas;
- (viii) potential environmental and social impacts and mitigation measures;
- (ix) guidelines for sub-project screening, preparation, appraisal, approval and monitoring;
- (x) guidelines for environmental and social management plan and monitoring requirements;
- (xi) training and capacity building requirements;
- (xii) ESMF monitoring requirements;
- (xiii) proposed estimated implementation budget.

A series of annexes are used to complement issues presented and discussed throughout the report.

The data and information in this document result from a combination of methods of data collection and processing, from the following main sources (i) extensive literature review; (ii) interviews and discussions with key informants including experts in relevant project sectors (agriculture, irrigation, public infrastructure (roads, bridges, buildings, land use planners, etc.) and other key informants in the field as well as from public consultation meetings that took place in February 2016, as detailed in Annex 8; (iii) review of similar projects, mainly PROIRRI and MOZBIO; and (iv) direct observations in the project area, which are combined with a rapid assessment by the Consultant.

## **2 PROJECT DESCRIPTION**

The **Agriculture and Natural Resources Landscape Management Project** (ANRLMP) will focus on the development of agriculture and forests in the project area, by strengthening value chains in a way that will improve the sustainability of local livelihoods at the same time that link these households with a larger socioeconomic context.

The project will have four main components to be implemented over two distinct phases with the following estimated allocation of funds:

1. **Component 1:** Agriculture and Forest-Based Value Chain Development (US\$57M IDA).
2. **Component 2:** Securing Land Tenure Rights and Increasing Natural Resources Resilience (US\$18M IDA)
3. **Component 3:** Project Coordination and Management (US\$6M IDA)
4. **Component 4:** Contingency Emergency Response (US\$ 0M)

### **2.1 Project Development Objectives and Principles**

The **Project Development Objectives** (PDO), phase 1, is to contribute to integrating rural households into sustainable agriculture and forest-based value chains in the project area and in the event of an eligible crisis or emergency to provide immediate and effective response to said eligible crisis or emergency. The PDO will be achieved by support production and value addition activities of selected value chains, strengthening natural resource planning and management, supporting land tenure regularization and upgrading the land administration and management, and strengthening the institutional capacities of key public and private institutions at central and local levels.

### **2.2 Project Components**

The four Project components and respective subcomponents can be summarily presented as follows:

#### **Component 1: Agriculture and Forest-Based Value Chain Development (US\$57.0M IDA)**

**The objective of the component is to contribute to:** increase smallholder and small emerging commercial farmers' participation in key agriculture and forest-based value chains; and enhancing their overall competitiveness, sustainability and resilience. This would be achieved through: (a) identifying and supporting a replicable/scalable small emerging commercial farmer's network for increase rural household's participation in value chain development (VCD) while promoting the adoption of climate-smart practices; (b) expanding value chain actors' access to finance and financial services including weather based insurance; and (c) addressing key infrastructure constraints. This component would finance consultants, goods, civil works and operational costs, including investments via matching grants and partial credit guarantee to support agriculture and forest-based value chains. The investments will expand access to inputs (especially seeds/seedlings and fertilizers), extension services, markets, and agribusiness finance. In order to meet the above objectives, the component will support the following activities which will be launched in year 1 of Project implementation:

- Capacity Building of Small Emerging Commercial Farmers and SME Agribusiness (US\$9.0M IDA).
- Agribusiness finance to value chain actors (US\$20M IDA). SECFs, Agribusiness, Weather based insurance.
- Improving rural infrastructure (US\$28.0M IDA)

## **Component 2: Securing Land Tenure Rights and Increasing Natural Resources Resilience (US\$18M IDA)**

**The objectives of the component are to: (a) promote integrated landscape management in the targeted landscape; (b) secure land tenure rights of 450 rural communities and 55,000 individuals; and (c) protect, enhance and restore 3,000 hectares of critical natural habitats in the landscape.** This would be achieved by: (a) strengthening Provincial and District capacity to pursue integrated landscape management, including multi-stakeholder platforms, spatial planning<sup>2</sup> and joint planning and monitoring tools; (b) supporting community land delimitation and individual land tenure titling; (c) streamlining land delimitation and titling processes at the Provincial and District levels and strengthening the capacity of Provincial and District offices to issue CDCs and DUATs; and (d) protecting and restoring natural habitats critical for the value chains in the landscape. This component would finance consultants (service providers), goods and operational costs related to delimiting communities and carrying out land titling work, providing needed inputs, equipment and training for landscape restoration, operational costs, and priority civil works in the targeted landscape. The components would support the following activities:

- Supporting land tenure regularization (US\$7 M IDA)

**The objective of this activity is to contribute to: (a) strengthen land tenure security of rural communities and individuals; and (b) increase their ability to negotiate with investors requiring land and participate in value chains.** This would be achieved through: (a) supporting community delimitation and individual land tenure titling (DUATs); and (b) strengthening Natural Resources Management Committees (CGRNs) and other community-based organizations (CBOs). Community land delimitation will be carried out systematically and reach over 50 per cent of communities in the Project area (about 270 of an estimated total of 450 communities). The development of community-level land use plans (micro-zoning) and strengthening of CGRNs and other CBOs will be promoted during the delimitation process. Additionally, the Project is expected to support the issuance of about 150,000 DUATs, contributing to the 5 million target established under *Terra Segura* for the period of 2015-2019.

This activity will finance: priority civil works, consultants, goods and operational costs; development of harmonized and simplified methodology for land delimitation, service provider to support the delimitation and capacity building of about 270 local communities, complete with community-level land use plans, and the issuance of 150,000 individual DUATs and; and the piloting of Fit-for-Purpose methodology aimed at identifying and titling sub-community DUATs at select areas within the targeted landscape. This activity will be implemented mainly by a service provider hired to conduct the systematic community land delimitation and gather the needed data for issuing DUATs. The service provider will be supervised by DPTADER and the

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<sup>2</sup> This includes the development of community-level land use plans.

Provincial Implementation Units, and work in coordination with the District Cadaster and Land Registration Services and the Provincial Services of Geography and Cadaster in Nampula and Zambézia.

- Strengthening land administration services (US\$3 M IDA)

**The objective of this activity is to contribute to: (a) improving the competencies of SPGCs and District officers, and of DINAT staff assigned to the Project activities; and (b) strengthening the capacity in land administration services. This will be achieved through: (a) training relevant staff; (b) addressing equipment needs in the Project area; and (c) ensuring the application of Mozambique's land information and management system in the Project area, as well as supporting the implementation of two continuously operating reference stations (CORS).** Trainings provided will ensure that staff at District and Provincial level in the targeted landscape performs effectively actions needed for the swift implementation of the land tenure regularization support activity. The implementation of the two CORS will ensure the efficiency of service providers' work in land tenure regularization.

This activity will finance: priority civil works, consultants, goods and operational costs; ICT and other equipment needed for the effective functioning of SIGIT and DINAT; recorded trainings of relevant staff; and purchase of geospatial data related to the target area to support land regularization activities. The trainings will be implemented by a service provider, under the supervision of Provincial Implementation Units and the Project Coordination Unit.

- Strengthen Provincial and District capacity on integrated landscape management (US\$ 3M IDA)

**The objective of this activity is to enhance local capacity of public and private sector stakeholders (Provincial and District government, private sector entities working on land use and civil society organizations) to utilize tools related to integrated landscape management. This will be achieved through: (a) strengthening Multi-Stakeholder Landscape Forums at the Provincial level; (b) promoting spatial tools that can inform land use planning and addressing Government equipment needs for integrated landscape management; and (c) providing trainings to relevant Government staff at Provincial and District levels.** Provincial and District authorities will also be supported to develop and implement relevant land uses plans and maintain a Landscape GIS database that will inform Project implementation.

This activity will finance: operational costs of the Multi-Stakeholder Landscape Forums, including communication material preparation, workshops, annual meetings; staff training and capacity building of DPTADER, as well as equipment needed for its effectiveness; and recruitment, training and basic equipment for District-level Landscape Facilitators. The Provincial Coordination Units (PIUs) in Nampula and Zambézia would be responsible for ensuring the Forums are operational, implementing the capacity building activities and liaising with the targeted Districts. The spatial and analytical tools would be designed by a service provider, in partnership with the local academia.

- Protect and restore natural habitats critical for the value chains in the landscape (US\$5M IDA)



The objective of this activity is to contribute to protecting the natural resources (soil, water and forests) and restoring degraded lands that are critical for the value chains promoted by the Project. This will be achieved through: (a) involving local communities in the sustainable management of natural resources; (b) promoting assisted natural regeneration and active enrichment planting with natural and exotic species and natural species planting for domestic and commercial uses in priority areas within the landscape; (c) addressing small equipment needs and providing training to Provincial law enforcement officials responsible for ensuring compliance with environmental regulations; and (d) promoting awareness raising focusing on the importance of critical natural habitats, national environmental legislation, fire management and other natural resources management best practices.

This activity will finance: restoration of 3,000 hectares of degraded land in critical areas for the value chains; identification of efficient and cost-effective technologies to restore degraded land with the potential for scaling up; trainings to Provincial law enforcement officials responsible for ensuring compliance with environmental regulations awareness campaigns on the importance of critical natural habitats, This activity will be implemented mainly by a service provider, which will be hired to support the protection and conservation activities, working in close coordination with the DPTADER and District authorities.

### **Component 3: Project Coordination and Management (US\$6M IDA)**

**This component includes activities related to project coordination and management, fiduciary management, safeguards management, M&E, and communications.** A Project Coordinating Unit (*Unidade de Gestão de Fundos Internacionais*, UGFI) has been established at MITADER, with significant capacity at the national level. Provincial Implementation Units (PIU) of 4 technical staff have been hired to oversee the implementation of the operation in each Province. A team of decentralized Landscape Facilitators at the provincial and district levels will be deployed at the start of the project. Further details of the role and functions of the UGFI and PIU members are in Section V and Annex 3.

### **Component 4: Contingency Emergency Response (US\$ 0M)**

This component will provide immediate response in the event of an eligible crisis or emergency. By including a "zero-dollar" Contingency Emergency Response Component (CERC) the project can finance emergency works in case of a disaster event. Following an adverse event that causes a major disaster, the GoM may request the Bank to channel resources from this component into an Immediate Response Mechanism (IRM). The IRM would enable the use of a portion of uncommitted funds from the overall IDA portfolio to respond to emergencies. Specific details around this component (including activation criteria, eligible expenditures, and specific implementation arrangements, as well as required staffing for the Coordinating Authority) will be defined in greater detail an IRM Operations Manual, which would go through a consultation and clearance process by project effectiveness.

## **2.3 Anticipated sub-Project types under the Project**

Physical interventions under ANRLMP will be in the form of:

- feeder road upgrade and maintenance;
- rural bridges construction and upgrading
- small and medium size irrigation schemes

- storage facilities;
- other types of priority infrastructure; and
- land delimitation and individual land tenure titling.

A consultative and participatory process will be adopted in the identification and selection of specific and final sub-projects to be considered for funding. Among other aspects to be considered in the process the provinces, districts and municipalities will review their strategic development plans and ensure that relevant plans and projects become part of the Project. This will extend to the harmonization of ANRLMP with other past, current and planned development interventions that would be seen as relevant to streamline with this project such as the cases of PROIRRI, MOZBIO and other.

## **2.4 Sub-project activities ineligible for funding**

The following type of sub-projects is not eligible for funding:

- Involve the significant conversion or degradation of critical natural habitats;
- Are in locations that are ecologically sensitive such as forests, wetlands, and other unique habitats;
- Are located in gazetted national parks, wildlife reserves, controlled hunting areas or forest reserves;
- Imply the construction of large dams as defined in OP/BP 4.37 Safety of Dams, as well as small dams, which would trigger OP/BP 4.37 and the World Bank Policy of Projects on International Waterways OP/BP 7.50;
- Involve sub-projects which need large-scale land acquisitions from communities;
- Involve growing or purchase of tobacco or drugs;

Financing of Genetic Modified Organisms will need to be in compliance of Mozambican legislation and will need an in-depth analysis of their beneficial or negative impacts before a decision on financing will be taken. It is recommended that these sub-projects not be eligible;

Clear selection criteria for the collaboration with investors will be developed with the objectives to minimize the environmental impacts as well as risks of significant social impacts, such as land grabbing.

### **3 PROJECT IMPLEMENTATION ARRANGEMENTS**

ANRLMP is the first phase of WBG support to the national Government-led Program to promote integrated sustainable rural development (*Programa Estrela*). As such, ANRLMP is part of a longer term Program geared towards the establishment of a model for promoting integrated rural development, which would be scaled up through different sources of financing, including a planned phase two and potential additional WBG financing in the future.

MITADER will be the host organization for the project with specific initiatives being managed in line with the sectoral division of responsibilities within the current GOM structure. Agricultural initiatives (e.g. irrigation and plant and animal production in general) will be under the Ministry of Agriculture and Food Security (MASA), Infrastructure development, mainly roads, bridges and other facilities will fall under the Ministry of Public Works, Housing and Water Resources (MOPHRH) and the National Roads Administration (ANE) while land demarcation and titling will be the direct responsibility of MITADER. The development of other infrastructures will also be done in line with the sectoral responsibilities including the involvement of the Ministry of Industry and Trade. MITADER latter will also deal with the environmental and social licensing of subprojects as provided for in the legislation in force in the country. The provinces and districts will also contribute by assisting in the transformation of sectoral plans into horizontal/territorial plans that are in line with local development interests. The table below provides an overview of the main actors and their roles:

**Table 1: Sectoral responsibilities in project management and subproject development**

Areas of intervention	Responsible institutions	
	Lead institutions	Collaborative institutions
Project management	MITADER	MASA, MOPHRH/ANE  PMU, Hired Service Providers including Environmental and Social Safeguards Specialists
Irrigation subprojects	MASA	MOPHRH/ARAs <sup>3</sup> , Provinces and Districts
Plant and animal production subprojects	MASA	MIC <sup>4</sup> Provinces and Districts
Roads and bridges	MOPHRH/ANE	PMU, Hired Service Providers including Environmental and Social Safeguards Specialists, Provinces and Districts
Storage facilities;	MIC	PMU, MOPHRH, Provinces and Districts
Other types of priority infrastructure;	MOPHRH/ANE	PNU, MIC, Provinces and Districts

<sup>3</sup> Regional Water Administrations, mainly ARA Centro Norte and ARA Norte.

<sup>4</sup> Ministry of Industry and Trade

Areas of intervention	Responsible institutions	
	Lead institutions	Collaborative institutions
Land delimitation and individual land tenure titling	MITADER	PMU, Provinces and Districts
Environmental licensing	MITADER	PMU, Hired Service Providers including Environmental and Social Safeguards Specialists, Provinces and Districts

The sectors will formulate specific subprojects following their development policies and strategies for the whole country and where these exist (e.g. irrigation and roads) specific programs for the sectors and subsectors, which usually have a clear mapping and categorizations of interventions across the country.

To ensure adequate implementation of the Safeguards requirements and applicable national regulations there will be two Safeguard Specialists at central level one responsible for natural environment and the other for social issues. At the central level there will also be a Communication Officer to give support to the Safeguard Specialists when related to social issues. This Specialist will be responsible for the crucial communication aspects of the project such as keeping all stakeholders and PAP aware of the main issues around the project at each and every phase. At the provincial level there will be one Project Implementation Unit (PIU) in each province, comprised by three Specialists (Value Chain, Land and Forest) who will respond to the Landscape Project Provincial Coordinators. The Safeguard Specialists for Natural Environment as well as the Communication Officer have already been hired and have been working at the central level. They participated actively in the formulation of the Safeguard Instruments including this ESMF. Before the project start up these will be joined by the Specialist for Social Issues.

The project incorporates impact evaluation as its integral element, which will be linked to the drawing of lessons learned and respective dissemination and adoption in selected contexts. The importance of knowledge and informed decision making and definition of sound project implementation options is also demonstrated by the way in which the project is being prepared. Among other aspects this includes the launching by the WBG of a series of analytical works to generate crucial information for project preparation around important area such as (i) **Agriculture value chains analysis under which** a preliminary agriculture sector review was completed to provide an overview of sector performance, and an initial assessment of agribusiness development and development potential in Mozambique. This will be followed by an in-depth analysis of the institutional framework for agriculture investment in Mozambique and selected agribusiness value chains and operational models to identify best practice models of investor-out grower linkages, to be completed shortly (ii) **Forest value chain analysis around planted forests** to identify barriers to the promotion of private investments in the planted forests sectors and of models for the integration of smallholders into different planted forests supply chains and *Natural forests value chains* to identify the most promising supply chains from the management of natural forests; (iii) **Land Administration and Community-Based Land and Natural Resources Management** to examine challenges related to increasing land rights security (e.g. formalization of community delimitation, individual and collective DUATs), and securing land for investors in collaboration with local communities that already hold rights over the land in question. The promotion of efficient land use patterns and regulatory capacity, and strengthen institutional capacity is also envisaged, under which key factors for the success of Community-Based Organizations, particularly

those in charge of managing natural resources (forests, wildlife and conservation areas) will be identified and streamlined in the project final design and implementation.

Of interest for this particular document arrangements were also made for the preparation of the Project's safeguards instruments, namely (i) Environmental and Social Management Framework (ESMF), (ii) Integrated Pest Management Plan (IPMP) and (iii) Resettlement Policy Framework (RPF). The preparation of these instruments including conducting the public consultation process took place between November 2015 and February 2016. To ensure adequate implementation of the Safeguards requirements and applicable national regulations the Government has hired a dedicated Environmental & Social Safeguards Specialist (E&S Specialist) who will provide day-to-day support to the Project, including overseeing the screening, monitoring and reporting of the safeguards aspects of the project.

## **4 DEVELOPMENT CONTEXT IN MOZAMBIQUE AND THE PROJECT AREA**

### **4.1 General Country Development Context and Project Relevance**

#### **4.1.1 General Context**

Mozambique has a total area of approximately 800,000 km<sup>2</sup>. In 2007 it was found to have 20.4 million inhabitants (INE, 2007), which under current annual growth rates (2.8% average) is estimated to be slightly around 26.5 million at present. The country's GDP per capita is estimated at 1,123.40 USD (UNDP, 2015).

After about a decade of centralized economy and just over 16 years of armed conflict from the mid-1990s, the country's economy started recording accelerated growth rates on an annual average of 7% in real terms, from early-mid 2000s. Up until recently (2013-14) growth had been supported by high levels of assistance from Development Partners, efforts in the field of macroeconomic policy management and strengthening the enabling environment for promotion of domestic and foreign private investment including (i) foreign direct investment in mega projects<sup>5</sup> and operating large-scale high-value agricultural products such as cotton, sugar and tobacco, (ii) the favorable agricultural growth at the family sector level, and (iii) infrastructure rehabilitation projects, including roads.

In more recent times (2014-15) there have been signs of a significant level of deterioration of the main economic and financial indicators such as inflation, exchange and interest rates. These are informed by unfavorable domestic and external circumstances particularly a reduced level of demand and prices for commodities that the country is and was becoming a potential exporter (e.g. coal, gas and other high value mineral resources), continued low domestic production as well as reduced level of foreign assistance. Despite these factors the country continues to be expected to maintain its high economic growth rates of 7% or more during 2015 and 2016. The 7% growth rate has been confirmed for 2015 and is expected to reach 7.5% by 2016 (IMF, 2015).

However, despite the remarkable past and ongoing growth progress, the country continues to be among the poorest in the world. The latest report released on 14 December 2015<sup>6</sup> compiled on the basis of estimates for 2014 by the United Nations indicates that Mozambique is in the 180th position among 188 countries in terms of human development index (0.416). Even though this is a slight improvement when compared with the rating in the last 4-5 years, when Mozambique was among the worst 3-5 countries continues to be demonstrative of the precarious situation in which the country finds itself in. A number of institutional constraints and other constraints

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<sup>5</sup> e.g. Aluminium Smelter (Mozal), gas exploration (SASOL), Moma heavy minerals and coal in Tete province for a number of actors and more recently gas explorations.

<sup>6</sup> UNDP (2015) 2015 Human Development Report – Rethinking Work for Human Development.

continue to hamper the delivery of basic services (e.g. water supply, sanitation, education and health services).

To counteract the gloom social and economic development indicators the country has been formulating and putting into place a series of reforms in the areas of agriculture, mining, and business environment in general.

At the center of the ongoing social and economic reforms lie efforts to reverse the trend that explains that country's economy has been characterized by a very small number of mega projects on the one hand, and the family and informal sector, on the other in a context in which there are no significant intersections between the two extremes. This is documented as encouraging imbalances in development and particularly with respect to the diversification of production and access to the benefits of the development by a significant proportion of the population. Investments in infrastructure such as roads, water supply and sanitation, energy, telecommunications, etc. are seen as having a potential to play a role in the process of stabilization and gradual elimination of imbalances.

Strengthening small and medium size enterprises (SMEs) is also seen as key to changing the predominant situation.

SMEs (both formal and informal) represent about 98.6% of all enterprises, employing 43% of the workers and accounting for 76% of the total sales. Trade and service sectors form the bulk of business units, with commerce and retail businesses accounting for close to 60%, restaurants and accommodation 20% and manufacturing less than 10%. Most of these SMEs typically grow informally and as a reaction to immediate market deficiencies.

Studies show that despite the SMEs' importance in national economic development and poverty alleviation they lack growth perspectives, due in part to the entrepreneurs' and workers' poor education and training skills, cumbersome regulations, high cost of credit and poorly developed basic socioeconomic infrastructure.<sup>7</sup> Local entrepreneurs tend to diversify into a large number of relatively small and uncompetitive businesses rather than grow promising small businesses into large ones that could reach out to more people and offer more income generation opportunities (job creation, gender mainstreaming, etc.).

The "Strategy for the Development of Small and Medium Size Enterprises in Mozambique" approved by the government in 2007 highlights the central role of SMEs as drivers of employment, competitiveness, diversification and innovation, including mobilization of social resources. The strategy relies on three major pillars:

- Improve the business environment for SMEs
- Strengthen SMEs' technological and management capacities (capacity building)
- Give strategic support (e.g. to exporters and high-tech firms, etc.)

Priority is also given to the reduction of transaction costs for SMEs.

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<sup>7</sup> M. Krause and F. Kaufman, "Industrial Policy in Mozambique", 2011.

### 4.1.1 The Agriculture Sector

ANRLMP focuses on agriculture combining plant and animal production, forests and wildlife as well as dry land farming and irrigation.

In Mozambique Agriculture contributes 25.9% of total GDP and is the source of livelihood for 75% of the population. The sector has been displaying a rapid growth averaging 6.8% over the period 1996 to 2010 which was less than the growth of the GDP of around 7% over the same period. A main contributing factor has been the high vulnerability of agriculture to natural disasters, mainly droughts and floods in the southern and central regions.

In the same manner as the general economy, the structure of the agricultural sector consists of three main actors, loosely defined these are: the business sector, the household commercial sector, and the household self-consumption sector (better known as family sector). The household sector, comprising both the commercial and family sector, represents 94% of the total agriculture. The business sector is small (only 5.3% of the total) but it has been particularly dynamic, growing on average at 47.9% over the period 2001-2003. The business sector includes tobacco, cotton, and sugar and has attracted significant foreign investment.

Efforts have been underway to change this unsatisfactory situation and to use the wealth of resources in the agriculture sector to meet important development goals such as diversification of the economy in general and that of agriculture itself, increased productivity, food security, employment, attract foreign direct investment, feed internal and external markets with a variety of agricultural goods, etc. and ultimately increase the weight of agriculture in the country's GDP in a way that would be in line with its potential.

As highlighted in the Development Strategy for the Rice Sector in Mozambique<sup>8</sup> “the presence of different actors (business, household-commercial, and household self-consumption) highlights three important aspects. First, the predominance of the household sector suggests the need of focusing on this sector for major government interventions: one per cent increase in the growth of the household sector is equivalent to more than 6 per cent increase in the growth of the business sector. Secondly, both the household commercial and household self-consumption sectors are important contributors of overall growth, given their large weight on the structure of production. Thirdly, an overall policy of encouraging private (domestic and foreign) investment has positive aspects on creating dynamism of the overall agriculture, spearheading rapid growth in specific subsectors and creating the conditions for the emergence of a commercial agriculture. Therefore, an agricultural development strategy that is focused on the smallholder sector and promotes linkages between the smallholder sector and the dynamic business sector could accelerate growth and development of commercial agriculture”.

In 2011 the government approved the agricultural strategic plan (2011), i.e. PEDSA with the aim of: (a) producing synergies that will transform the agriculture sector from being predominantly one of subsistence farming into being more competitive; (b) embodying a vision that is shared by the sector's key actors; and (c) dealing with the issues that affect investor confidence.

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<sup>8</sup> MINAG/Agrifood Consulting International (September 2005)



One important subsector in the development of agriculture is irrigation. Mozambique has enormous potential for irrigated farming, with an estimated 3.3 million ha being potentially irrigable. The total irrigated area fell from around 120,000 ha in the mid-1970s, after the country's independence, to close to 40,000 soon after the end of the civil conflict in 1992, and little has been done since then to rehabilitate existing irrigation systems. There are currently around 50,000 ha that are irrigated, of which 60% are used for sugarcane and increasingly some banana/fruit production. Only 8.8% of family sector farmers use some form of irrigation (TIA, 2008). The newly formulated irrigation strategy (2011) gives an orientation on how to establish the irrigation schemes and the property rights of the infrastructure. A growing recognition of the importance of irrigation in the development of the country's agriculture led, among other, to the establishment of a National Institute of Irrigation (INIR) in 2012.9.

Together with the establishment of INIR with a credit from the International Development Agency (IDA – World Bank Group) the Government of Mozambique is currently implementing the Sustainable Irrigation Development Project, better known as PROIRRI. During a period of six years and with a focus on three provinces (Zambézia, Sofala and Manica) as well as on small and medium farmers. PROIRRI will pilot interventions aimed at drawing lessons on the best ways of reviving irrigation in the country. PROIRRI's development objective (PDO) is to increase marketed agricultural production and raise on-farm productivity in new or improved irrigation schemes in Central Mozambique.

Over a six-year period, it is envisaged that the project will develop an innovative and sustainable approach to market-led irrigation in Mozambique, with strengthened public institutions at various administration levels, and with a legal and regulatory framework conducive of private sector participation. Institutional and human capacity development is an important component of the project. Although not to be directly addressed by the project the government is open to consider innovative ways of using public and private partnerships (PPP) to develop large scale irrigation schemes that go beyond sugar cane production.

Under this context, ANRLMP is highly relevant. It is well positioned to demonstrate the viability of the linkages between the various actors (public/private, micro, small and medium size enterprises and communities at large) in achieving the common goal of placing the agriculture sector in its rightful position, i.e. as a truly important and long-lasting economic and social development sector.

ANRLMP will support ongoing efforts to improve basic infrastructure network, pilot and demonstrate viable socioeconomic interventions, assist in capacity building and provide adequate monitoring and evaluation mechanism that will benefit the project areas in particular, and country as a whole. The focus of the project on rural development, sustainable management of natural resources including building resilience to climate change are also positive aspects in such a context as the rural areas concentrate both the majority of the country's population and poverty and are in dire need of adopting better practices in the use of the natural resources at the same time that can effectively face climate change challenges that affect the country and are translated into recurrent natural disasters in the form of floods, droughts and cyclones.

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<sup>9</sup> Decree 09/2012, of May 11.

The areas targeted by the project, as it will be seen, are also highly relevant since they have an outstanding natural resources potential that can be used to produce envisaged results and demonstrations. ANRLMP also advocates linkages with similar and relevant past, ongoing and planned programs and projects on the ground, which will contribute to expand the opportunities to learn and disseminate lessons.

#### **4.1.2 Climate Change**

A significant part of Mozambique territory is situated in areas that are prone to the occurrence of natural disasters, markedly floods, droughts and cyclones. Sea-level rise (SLR) and temperature increases are also being added. Related disasters are often accompanied by damages to public and private assets, which translate into GDP losses. These offset the country's efforts to eliminate poverty and interfere negatively with development.

Vulnerability in general and particularly to flooding and SLR is related to heavy rainfall, hypsometry, which explains that extensive plains are lower in relation to the rivers and sea levels, high flood flows from neighboring countries, in shared river basins, changes in vegetation cover and land use.

The occurrence of different categories of extreme events is reasonably well mapped in Mozambique. The country's river basins prone to major flooding and impacts are Maputo, Umbeluzi, Incomati, Limpopo, Save, Buzi, Pungwe, Zambezi, Licungo<sup>10</sup> and Messalo. Those with the largest number of displaced people, flooded areas, loss of crops are the Limpopo and Zambezi. The basins where there are the greatest damages in road infrastructure are Limpopo, Incomati, Umbeluzi and Pungwe. Hypsometry and geographical location (e.g. coastal vs hinterland) are also important determinants of the geographical location of these extreme events. Accordingly, while floods are a phenomenon of the southern and central regions cyclones are most frequent in coastal and marine areas. The southern and central regions also experience more droughts than the northern, where rains tend to have a more regular pattern. The provinces with the highest incidences of cyclone occurrence are Inhambane in the south, Sofala in the center, and Nampula in the northern region of the country. Nampula is within the project area. Thus, although not necessarily the most exposed, the project area is found in areas with some level of exposure to CC.

Over the years, different sectors (agriculture, fisheries, water, public works, transport and communication (meteorology/INAM), tourism, energy, mining, forestry and fauna) have gathered solid data to allow the country to knowledgeably tackle recurrent natural disasters, including developing adaptation in terms of finding ways of developing economic and social activities under conditions caused by climate change and preventing and mitigating negative impacts on socioeconomic activities.

Through the Pilot Program for Climate Resilience (PPCR), in its Phase I, the World Bank has also been financing the piloting of a series of interventions aimed at building the capacity of Mozambican institutions to deal with the CC phenomenon. Other funding agencies, notably the Nordic Development Fund (NDF) have also been providing multiple forms of assistance.

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<sup>10</sup> Licungo River baths extensive areas in the project area and in 2015 experienced one of its worst floods in the last more than 40 years, which caused extensive damage to infrastructure and urban rural assets.

It follows that if properly organized and coordinated institutions and systems in place are also well positioned to provide early warning through a network of information, prediction models and response.

However, even though since independence successive governments have sought to establish adequate mechanisms for reducing vulnerability through development and adoption of policies, strategies, action plans and setting up adequate institutional arrangements to manage disasters, poor coordination and lack of effective leadership have been offsetting the existing potential and delaying the use of existing institutional base, knowledge and data to establish clear lines of response articulating all levels (central, provincial, district, municipal, local, community, etc.). Prevailing isolated and every so often overlapping initiatives have translated into dispersion and inadequate use of the scarce resources.

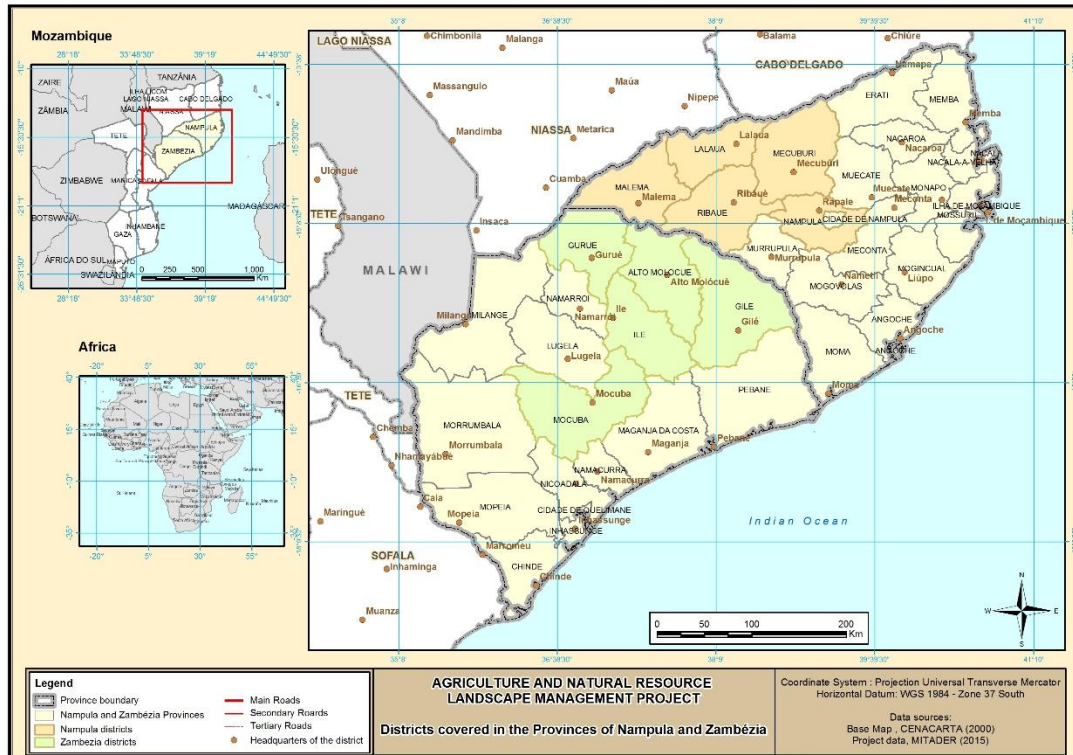
The inclusion of the CC component into the project is highly relevant as it will be implemented in areas (Nampula province and Licungo) with some level of exposure to this phenomenon involving poor communities, which are both, more vulnerable to climate change and particularly to cyclones, inundations and resulting disruptions in the form of losses of lives and other fundamental household and community assets. These communities should not be seen as passive agents of these phenomena. They need to be made aware of the issues and to be adequately equipped to actively and creatively undertake adaptation measures.

Awareness of the CC dimension of development can be expected to assist in the (i) identification of critical areas of intervention which harmoniously should combine mainstreaming environmental management and climate change adaptation with overall socioeconomic development and be consistent with interventions in those areas. Evidence shows that extreme events are often made worse by poor land use planning. Recurrently floods and inundations due to rainfall and/or SLR are made worse by inadequate siting and design of public and private infrastructures that extend to situations in which well mapped and demarcated flood plains and water lines are used for wrongly setting up infrastructures including roads, dikes, water supply and sanitation, irrigation and drainage systems and others. Planning for any occupation of floodplains is one of the best tools available to minimize the damage caused by major floods. In Mozambique, it is found that there are four major types of floodplain occupation: rural settlements linked to the practice of traditional and family farming, irrigation areas for commercial agriculture, urban settlements, and roads/railways crossings and power transmission lines. Direct negative impacts of flooding happen around these types of land occupations, which in turn originate other negative indirect impacts. The existing land use planning legal and regulatory instruments need to be systematically implemented and enforced at the same time that they are complemented by other instruments, such as awareness raising for the importance of being proactive towards extreme events. This seems to be an area with long reaching potential that has been misrepresented in environmental management and CC mitigation and adaptation. The levels responsible for implementing mainstreaming interventions (provinces and mainly districts, municipalities and communities) need to be provided with solid science-based data and knowledge by the sectors and where relevant in combination. In this regard the inclusion of CC in the project is also highly relevant.

# **5 - PROJECT TARGETED AREAS AND THE RECEIVING NATURAL AND SOCIAL ENVIRONMENT**

## **5.1 Project Location**

The Project area was established on the basis of a combination of indicators related to current production, poverty incidence, potential to generate higher returns to investments in the selected value chains, and the landscape dimension that geared Project design. The project area comprises the provinces of Nampula and Zambézia.



**Figure 1: The two provinces and districts defining the project area**

Within these above-mentioned provinces and based on a set of criteria, it was agreed that the Districts to be targeted by the Project are:

- Nampula (districts selected are: Malema, Ribáue, Lalaua, Rapale, and Mecubúri)
- Zambézia (districts selected are: Mocuba, Ile, Gilé, Alto Molócue, and Gurué)

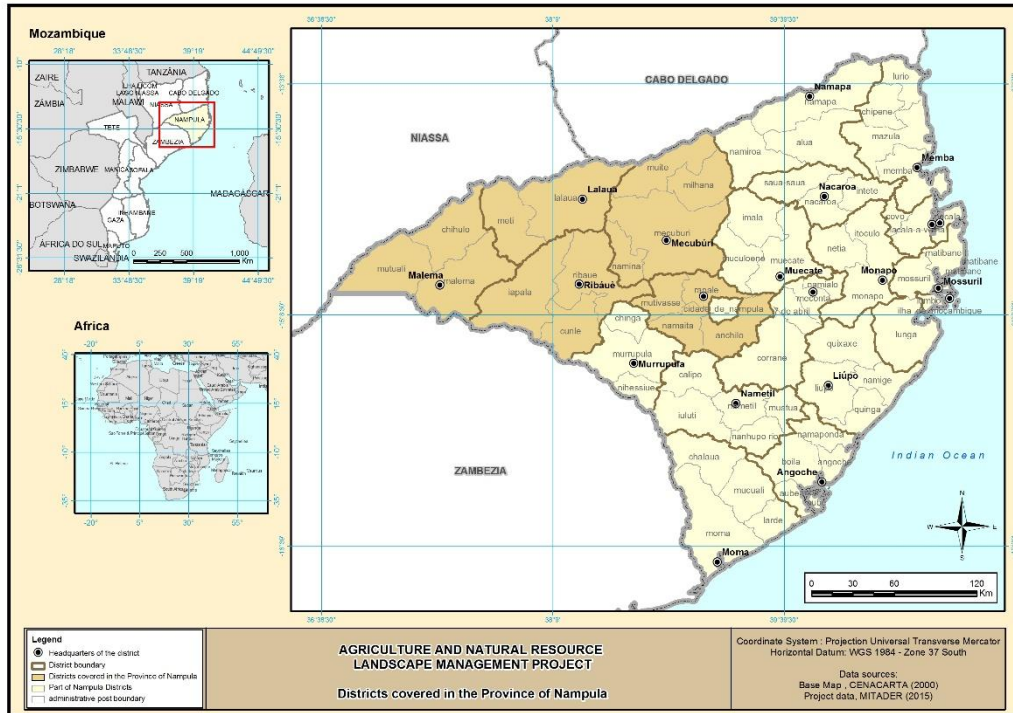


Figure 2: The Project districts in Nampula province

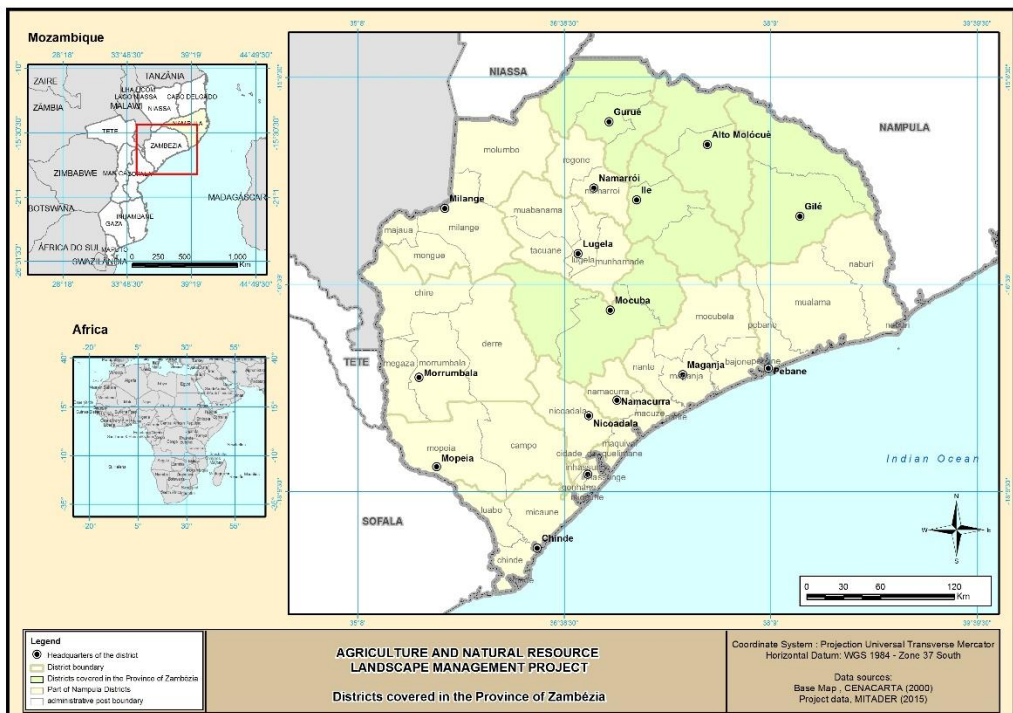


Figure 3: The Project districts in Zambezia province

Despite the political and administrative separation that explains that they are integrated in two distinct provinces the ten districts share a lot of common physical, biological and

social traits. It is only the most spoken languages in two provinces that really makes them distinct. In fact, while all the districts in Zambézia<sup>11</sup> speak predominantly Elomwe all the districts in Nampula have Emakhuwa as the dominant language. The languages are also a reflection of the ethnic groups, which Mozambique statistics do not record directly most of the time. The dominant religion in all of the ten districts<sup>12</sup> is Muslim (MAE<sup>13</sup>, 2014). In terms of altitude, which then determines the vegetation there are mostly three regions that are shared among the ten districts, namely:

**Table 2: Distribution of the districts in the project area by altitude**

Altitude (in m)	Districts
200-700	Ribaué, Rapale, Mecubúri, Lalaue, Mocuba and parts of Alto Molocué
500-1000	Gurué, Gile (although the starting point is also 200 m and parts of Alto Molocué
≥ 1000	Malema (although it also has points as low as 300 m) and Alto Molocué

Source: District Profiles (MAE, 2014)

As can be seen it is only Alto Molocué that shares the three altitudes. The other districts tend to be more confined to only one category.

After two decades of work to rid the country of a legacy of war that killed or maimed thousands of people, mostly civilians, in September 2015 Mozambique has declared itself free of landmines (HALO Trust, 2015). Based on this this ESMF assumes that the project area is landmine free.

In the following subchapters more details are provided about the three main areas, i.e. physical, biological and socioeconomic.

## 5.2 Physical Environment

### 5.2.1 Geology

The geology of the entire area comprising the districts of Malema, Lalaua, Ribaué, Mecubúri and Rapale in Nampula and Ile, Gilé, Alto Molocué, Mocuba and Gurué in Zambézia is fully characterized by the tectonically homogeneous Nampula Sub Province structure defined by CGS (2006), in the South and Ocuá Complex, in the North of Mecubúri, Lalaua and Malema Districts, as illustrated in the simplified geology map below.

The Nampula Sub province constitutes the region bounded to the northwest by the Late-Neoproterozoic, east-northeast–west-southwest trending granolithic Lúrio Belt and

<sup>11</sup> Mocuba has higher mix languages including Portuguese although Elomwe is still the dominant language.

<sup>12</sup> Rapale also has a higher mix of religions when compared with the other districts although also dominated by Muslims.

<sup>13</sup> Ministry of State Administration

the Mozambique east coast to the southeast. In Nampula Sub province five main groups of Mesoproterozoic rocks are known. These are incorporated in the Mocuba Suite (c.1125 Ma), Rapale Gneiss (c.1095 Ma), Mamala Gneiss (c.1090 Ma), Molócuè Group (c.1090 Ma) and Culicui Suite (c.1080 Ma) (CGS, 2006).

The Ocuá Complex is an east-northeast–west-southwest trending, more known as a Lúrio Belt located in the northeastern Mozambique and is a linear tectonic mélange (mix) consisting of strongly flattened granulitic gneisses with a variety of protolithic rock types and ages, and is postulated to represent a major tectonic boundary between several tectonostratigraphic blocks of northern Mozambique. The Ocuá Complex comprises mainly two-pyroxene ± garnet mafic granulite, felsic quartz-feldspar granulite, charnockitic gneiss, mylonitic leucogneiss with ribbon quartz and undifferentiated ultramafic rocks (CGS, 2006). The Lúrio River is controlled by this regional structure from Malema all the way to the coast in the Indian Ocean, North of Memba District in Nampula Province. Several publications, including CGS (2006) report age variation from 547-586 Ma for the formation of this belt.

Lithologic description of the Nampula Sub province rocks is found in CGS (2006) and a limited resume is given below.

The Mocuba Suite consists of banded migmatitic biotite ± amphibole Para gneisses and migmatitic granitic orthogenesis. The major orthogenesis rock units are meta-granodiorites, tonalites, trondhjemites and rarely gabbro, whereas the banded gneisses plot mostly in the dacite field, with a few plotting as metaandesites or rhyolites.

The Rapale Gneiss crops out in the central and eastern parts of the Nampula Sub province in the region surrounding the settlements of Nampula, Monapo and Nacaroa. The Rapale TTG gneisses have geochemical characteristics typical of calc-alkaline volcanic arc granitoids.

The Culicui Suite consists of weakly migmatitic to non-migmatitic granitic and leucogranitic augen and streaky orthogenesis together with minor charnockite, cutting the Mocuba, Rapale, Mamala and Molócuè Group gneisses.

The Molócuè Group is composed of the meta-volcanic rocks intercalated with meta-sedimentary rocks.

The Mocuba Suite was overlain by quartzofeldspathic rocks assigned to the Mamala Gneiss, which is characterized by several belts of interlayered metapelitic, meta-psammitic, calc-silicate and felsic to mafic metavolcanics. The whole rock geochemistry imply the Mamala quartz-feldspathic gneisses are felsic- to intermediate volcanic rocks and classify into two distinct, meta-rhyolite and meta-dacite groups. Figure 4 shows the simplified map of the Nampula and Zambézia Provinces geological formation.

From the economic point of view, the mineral resources with importance and/or potential for such are pegmatites, containing a complex mineralogy, of which the following have been recovered in the past:

- a) rare-metals, especially columbotantalite;
- b) lithium minerals;
- c) rare earth and radioactive elements;
- d) gemstones (aquamarine,morganite, rubelite, verdelite, emerald, etc.);
- e) rare minerals specimens and attractive mineral crystals;

- f) raw materials for glass and ceramic industries, i.e. quartz, feldspar and kaolin, and
- g) industrial minerals, i.e. mica, beryl and others.

Recent exploration activity in the region has focused on and around previously mined pegmatites and also on gold and base metal potential within the Namama Thrust Belt.

Most of artisanal mining in the study area occurs in Zambézia Province, with Gilé, Alto Molócuè, Mocuba and Ile being the most famous mining areas. Recently Morrúa, Marropino, Nampoça and Mita (Mecossa) mines have been recommissioned. Artisanal workers have also been mining in many old abandoned deposits, resulting in an increase in the production of tantalum minerals that are also found in the area.

It is estimated that the region has close to 50,000 (CGS, 2006) artisanal mine workers involved in tantalite, gold and gemstone mining out of 100,000 to 120,000, in the whole country depending on the availability of water for panning. The implications of artisanal mining in the formulation and implementation of the subprojects will need to be taken into consideration.

Other important resources found within the study area, are construction material, including aggregates and dimension stones. Quarries for hard rocks, alluvial sands and residual soils, are the most important construction material used in the area. Because of low industrialization and general economic activity, only Nampula town has the most developed quarries and intensive use of alluvial sand, followed by Mugeba (Mocuba area) and Ribaué, which have important quarries used for regional road construction and other civil engineers purposes.

As indicated above, the study area has a strong potential for gemstones, rare earths and gold (with Gile, Alto Molocué and Mocuba Districts being most known at present). This area possesses the most important and historic production of these resources.

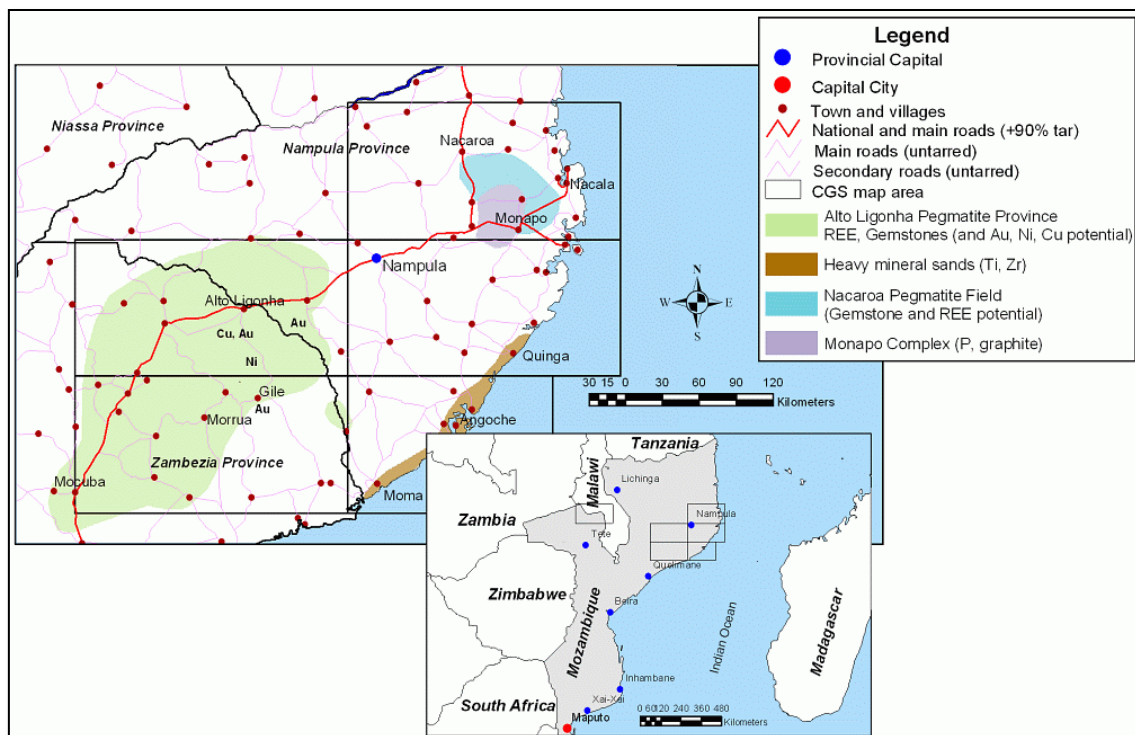
The Agriculture and Natural Resource Management Project Landscape will need to pay attention to the integration of this activity and among other aspects find ways of reducing the potential it has as a possible source of the erosion problems. Artisanal miners, in general, they have poor record of land rehabilitation and more often they also pollute water, particularly gold miners. There are several examples of agricultural land completely destroyed without any signs of future rehabilitation in this region. Abandoned old mines are found everywhere in Gile, Alto Molocué and Mocuba Districts where gemstone and gold have been exploited. These activities and their implications to ANRLMP will need to be better assessed at the early stage of project implementation and mainly during subproject selection and pre-feasibility studies.

Formal mining activity is limited in the region. The most important operations are the exploitation of iron ore in Lalaua District, Marropino and Morua pegmatite mines in Gile and Alto Molocué Districts.

As shown in the figure below (Figure 4) the mineral resource potential in Nampula and Zambézia Provinces, being the Alto Ligonha Pegmatite Province the most important and covering the widest area.







**Figure 5: Mineral potential map of the area according to CGS (2006).**

### 5.2.2 Altitude and Relief

The altitude of the study area can be divided into two categories: (i) one classified as the plateau, in the eastern districts; and the (ii) second as mountainous, dominating the western districts.

The first group comprising the districts of Rapale, Ribaué, Mecubúri and Lalaua, in Nampula Province and Mocuba and Gile and parts of Ile in Zambézia Province. The dominant altitude, in this area, is from 200 to 500 meters, with Insenberg reaching 1000 meters. The second group, comprising the Malema in Nampula and Gurué in Zambézia Provinces for the mountainous areas, with altitude ranging from 300 to 2000 meters.

The altitude difference from the two geomorphologic areas explains the rapid erosion during the rainy season, causing the destruction of roads, bridges and agricultural land found in low areas. This means that the water drained from high lands should be better controlled by a combination of measures, including the constructing of dams and/or other similar infrastructures, e.g. weirs and other water retention structures. Water retained in the dams during flooding periods could be used for land irrigation in dry season, considering that the overwhelming majority of the population living in these areas rely on agriculture for a living.

The rapid erosion is not only caused by the altitude difference, forest devastation by timber companies and bush fires by local people to clear land and pursue other interests, e.g. hunting translate into considerable contribution.

### 5.2.3 Climate

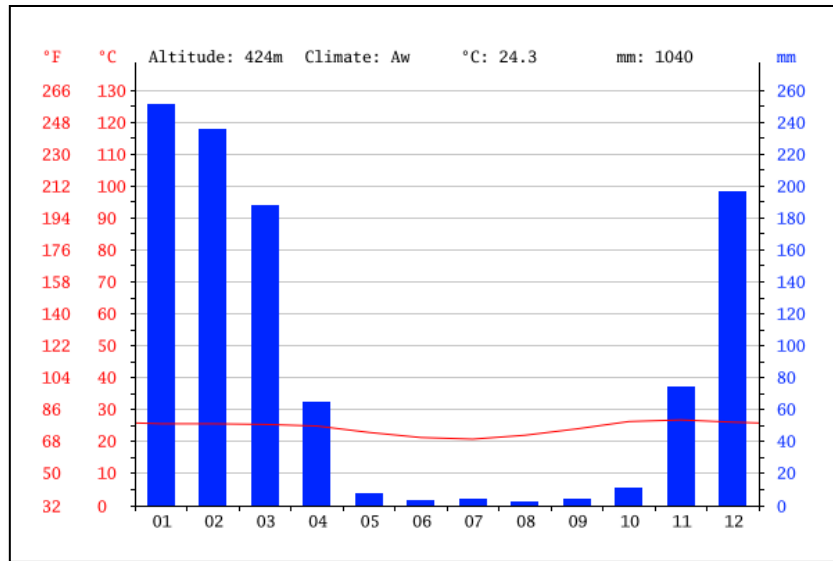
In general, the project area lies in the Tropical Climate, with specific variations from the low lying land in the east and coast to the mountains areas of western territories. The area is situated in the northern region of Mozambique and experiences a humid equatorial climate with a dry winter. Temperatures fluctuate several degrees throughout the year due to the tropical location and considerable proximity to the Equator.

Precipitation comprises two seasons during the year: the dry season and the wet season. The wet season spans from December to April, and brings fairly prodigious and reliable rainfall, with the wettest month of the year typically being February, showing more than 200 mm of average total monthly precipitation. Conversely, the dry season stretches from May to November and brings marginally cooler temperatures, sunny skies, and remarkably low rainfall, with the driest month of the year typically being September, showing less than 2.2 mm of average total monthly precipitation. Humidity is very high during the wet season, averaging 80-90%, but is much lower in the dry season. The warmest and coolest months of the year are January/February and July respectively.

Note should be taken of the fact that the two geomorphologic terrains described above, are characterized by two climates. The eastern region is affected by humid and tropical climate with dry season from June to September and influenced by the monsoon regime of the Indian Ocean and the hot current of the Mozambique Channel. Summers are much wetter than the winters in the area. The average temperature in this area is around 25-34°C. The average annual rainfall is 1,095 mm. The second area, comprising the Malema in Nampula and Gurué in Zambézia, and neighboring areas, the climate is considered to be temperate. Summers have temperatures between 18° C and 30° C. Winters have temperatures in the order of 17° C to 20° C. As for tropical climates, they comprise only two seasons: the rainy season during the warmer season and the dry season during the colder season. The average annual rainfall is 1300 mm, typically with the rain season at some period as above (December to April).

It is during the period of concentration of rain that the potential for erosion increases. For illustration purpose of the local climate conditions, two points have been chosen one being Lalaua and the other Gurué Towns to represent the two distinct areas described above.

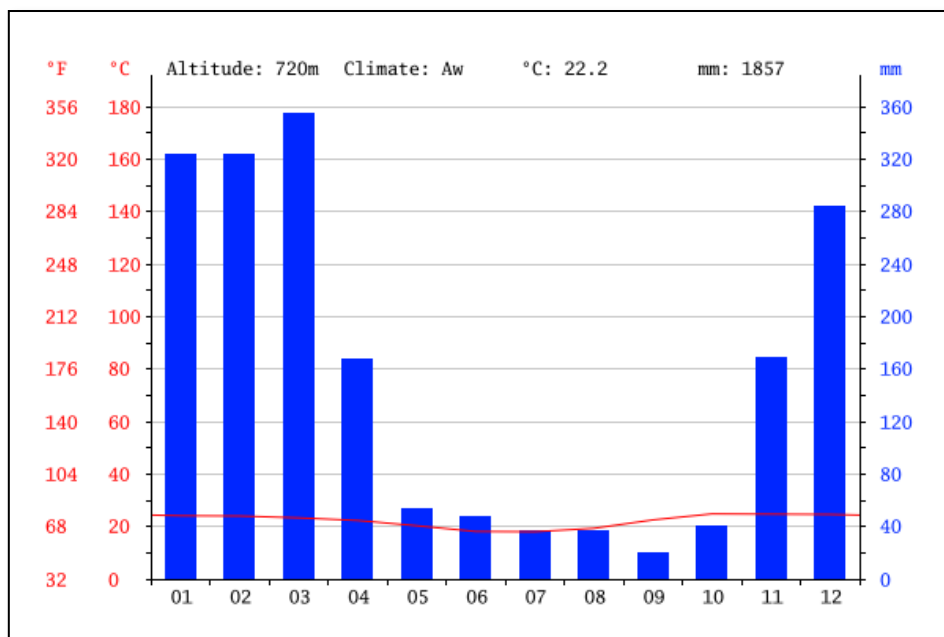
In the former area (i.e. Lalaua and similar areas), between the driest and wettest months, the difference in precipitation is 249 mm. Throughout the year, temperatures vary by 6.0 °C from the lowest to the highest registered. The lowest precipitation is reported in August, with an average of 2 mm and the highest precipitation here falls in January, with an average of 251 mm. Figure 6 below shows the climate parameter variation in Lalaua Town.



**Figure 6: Climate parameter variation in Lalaua Village (climate-data.org 6/12/2015).**

In the second area (Gurué Town), 22 mm of rainfall in September, is the driest month. Most precipitation falls in March, with an average of 355 mm. The hottest month of the year is October with an average temperature of 24.8 °C. In July, the average temperature is 18.0 °C, representing the lowest average temperature of the year.

The difference between the driest month and the wettest month is 335 mm. Average difference of temperatures during the year range 6.8 °C. Figure 7 below show the climate parameter variation in Gurué Village.



**Figure 7: Climate parameter variation in Gurué Village (climate-data.org).**

#### **5.2.4 Soils**

The interior land is predominantly constituted by medium textured red soils and clay grayish brown soils, produced from the weathering of granitic rocks and resulting from residual or limited transported soils. This area is predominated by red clay soils, characterized by depth and high retention capacity for water. Most of the cotton farms are found in these areas. Cassava, maize, varieties of beans are also produced in these soils. Most of the soil has a medium texture to sandy loam and is generally well drained.

The river valleys are dominated by alluvial soils (fluvisols), dark, deep, heavy texture and average to moderately drained, subject to regular flooding (FAO, 1995).

The most frequent erosion areas are characterized by sandy deep weathered granitic zones, located in the transition zones from mountains to plateau.

As mentioned above, this area is formed by the plateau and mountains, with inselbergs as common topographic aspect in the former terrain.

The mountains territories are covered by limited sandy soils and boulders, implying a short period of use for agriculture. This area is only used during the rain and wet season. Most of the water courses are dry during all year, because of the abrupt change in topography from 2000 to 500 meters.

The inselbergs in the plateau, are usually made of hard rock, with no option for agriculture.

The type of agriculture is limited for the so called short period crops, because of natural factors constraints as the climate, soil and relief. The climatic influence is the most important, exercising as much as a result of daily and annual average temperature variations with direct effect on the humidity and as a result, we observe that the agriculture land use is intensive in the short rainy season.

The high relief of this region also has a very large influence on farming and because is located in the tropical zone, reducing the temperature (between 17-20° C part of the year). This softening temperature must be exploited for production of fruits, vegetables and potato.

It is important to mention that the Gurué District have a tradition in tea production.

#### **5.2.5 Hydrology and Water Resources**

As mentioned above in the geology subchapter, the area is mainly comprised of metamorphic and crystalline terrain. The soil profile and deep of weathering control the water resources and reserves. The area has a limited potential of surface and underground water. The later type is predominantly found in the major faults and deep weathered granites and light gneisses. For the purpose of exploration, geophysical studies must be completed in a professional manner. On the other hand, superficial water are found in limited rivers of permanent flow.

From North to South, the area shows very important rivers, with significant potential for hydro electrical power generation and dams for irrigation proposes.

Malema, Lalaua and Mecubúri Districts in Nampula Province, are bordered on the north by Niassa and Cabo Delgado Provinces by Lúrio River, with permanent course and the Mozambican Government has been planning to build 120-megawatt hydroelectric plants distributed by three units to supply electricity to the Provinces of Nampula and Cabo Delgado. The hydroelectric power schemes will be very important not only for power production, but also for flood control in low land areas of the two provinces and for agricultural irrigation.

Lúrio River covers an area 60,800 Km<sup>2</sup> and for industrial agriculture and implementation of hydro electrical power generation, attention should be paid to more than half a million people living along the banks of this river.

Mecubúri River flowing from Ribaué District through Mecubúri District, represents an important permanent river that sustains hundreds of communities in the region. Mecubúri Town is dependent on water from this river.

Meluli River flows down through Nampula Province in a southeasterly direction, flowing into the Indian Ocean to the south of Angoche Island.

Ligonha River separates Nampula and Zambézia Provinces. Metuice and Lalaua Rivers feed Ligonha River, forming the Ligonha basin with an average of 16,300 Km<sup>2</sup> land coverage, flowing into the Indian Ocean.

Molocué River flowing from Gurué for more than 325 km, is one of the most important rivers in Zambézia. Alto Molocué Municipality and Gile Town are dependent on this river. It has been normal during the rainy season for this river to cause widespread damage to the water supply system in Alto Molocué Town as well as potential erosion in newly built bridges in Alto Molocué and Gile Towns.

Licungo River is also flowing from higher mountain area of Gurué and covers an area of 27,700 Km<sup>2</sup> and is more than 336 km long spreading over the Districts of Gurué, Ile, Namaroi, Lugela and Mocuba. Mocuba is a city and municipality in the province of Zambézia, located on the banks of Licungo River. As already mentioned, this river is draining the higher areas of Gurué and in Mocuba City causes erosion and floods, with immediate inaccessibility of the region.







The natural agglomeration of the population follows the main surface water sources or courses, where most villages are found.

One study funded by African Development Bank in 2010 found that there are districts with less than 50% rural water supply coverage in Nampula and Zambézia Provinces. The main reasons are attributed to geological reasons. The most important factors in the project location area are the low depth of the weathered soil and scarcity of plain areas, low fracturation and faulting of the granitic rocks, directly linked with mountain topography and rapid erosion of the weathered soils.

Water supply in local rural areas is based on shallow wells with hand pumps and this is not always viable everywhere, because of the previously mentioned factors.

The characteristic borehole water flow in the study area is no more than 0.0-10 cubic meters per hour. Because of the mentioned natural conditions, most of the drilled wells in the residential villages are equipped with hand pumps.

## 5.3 Biological Environment

The richness of the country in terms of biodiversity is due to the **high diversity of the existing ecosystems**. There are four main categories of natural ecosystems in Mozambique: (i) terrestrial, (ii) marine, (iii) coastal and (iv) lake. The country has five different biomes subdivided into 12 ecoregions, most of which are critically endangered. Floristically up to 4 phyto-geographic regions of endemism are recognized namely: (i) Zambézian, (ii) Swahilian, (iii) Swahilian-Maputaland transitional zone and (iv) Maputaland-Tongoland (Ntumi et al, 2014).

The project area is located between Swahilian-Maputaland transitional zone and Zambézian Centre of Endemism.

**Swahilian-Maputaland transitional zone** extends from the Rovuma River (at the border with Tanzania) to the Limpopo mouth (10° 28' 5.61" S e 40° 28' 8.36" E to 25° 12' 4.68" S e 33° 31' 21.3" E, respectively) comprising about 147, 000 km<sup>2</sup>. The climate is tropical with rainfall standing mostly between 800-1200 mm per year, and the elevation is about 200 m asl (White, 1983). The major part of the coast has a tropical humid to sub-humid climate, with little rain in the dry winter season. It is mostly occupied by coastal forest. According to Timberlake *et al.*, (2011) the coastal forests of Eastern Africa, including Mozambique, have, over the last 20 or so years, been recognized as forming the most important part of a distinct ecoregion – the Eastern Africa Coastal Forests Ecoregion. It has particularly high levels of endemism. “Although small, this ecoregion is often regarded as a globally important conservation priority area” (Burgess & Clarke, 2000).

The **Zambézian Regional Centre of Endemism** extends from 3° S to 26° S and almost from the Atlantic Ocean to the Indian Ocean, occupying all Mozambique's hinterland provinces and part of the coastal. The climate is tropical, continental, with one rainy season from November to April (500 and 1400 mm per year, generally decreasing from north to south). Mean air temperature is related to altitude and varies from 18° to 24° C. The Zambézian center is the second largest phytocorion (Phytogeographical region) in Africa, probably having the richest and more diversified flora. There are at least 8,500 species, 54% of which endemic (e.g. of endemic genera, which are *Diplorhincus*, *Bolusantus* and *Cleistochlamis*) (White, 1983). Some of the vegetation types are dry, swampy, riparian and montane forests, woodlands, thickets and grasslands.

### 5.3.1 Broad Vegetation in Mozambique and Nampula and Zambézia Provinces

The project area is generally described as gentle undulating and remote, predominantly rural countryside with undercover of miombo forest and savannah mosaic vegetation arranged by drainage lines, topographical basins and anthropogenic interventions (for e.g. tea plantation in Gurué). The area is densely populated by subsistence farmers who clear and plant fields within the flood plains of various drainage lines and rivers transecting the area (e.g. most of field crops are found along rivers basin).

Seven main vegetation types are known for the entire Mozambique. The Miombo Woodland is the most extensive vegetation type, and it dominates in the northern and central parts of the country (Bandeira et al, 2007).

Vegetation in the study area consists of a complex, floristically diverse mosaic of vegetation types and plant communities divided into eight (8) vegetation units namely 1, 21, 23, 24, 27, 29, 31 and 39. The only vegetation maps available for this part of Mozambique are those produced by Pedro and Barbosa (1955) and the Flora Zambesiaca vegetation map (Wild & Barbosa 1967), which was partly based on the former. Both maps show that the area has a different vegetation type from other parts of the country, and that most of it is covered by the *Brachystegia spiciformis* (High rainfall) and *Brachystegia spiciformis* – *Julbernardia globiflora*, types 21 and 23.

### 5.3.2 Description of the Main Types of Vegetation

At low and medium altitudes

#### I. MOIST EVERGREEN FOREST

*Maranthes polyandra*, *Khaya*, *Aphloia*, *Macaranga*

Forest patches are found on the slopes and gullies of the mountains at medium altitudes between 1,200 and 1,600 m. on windward slopes. The rainfall is about 1,700 to 2,000 m.p.a. Examples occur in Zarnbezia, especially in Gúrué, Milange, and in smaller patches at Namarroi, Morrurnbala, etc.; in Nampula there are also very small similar patches (e.g. in Malema and Ribáuè). Most of the forests in Zarnbezia have been much disturbed by tea plantations.

#### 21. SEMI-DECIDUOUS HIGH RAINFALL MIOMBO WOODLAND

*Brachystegia spiciformis*

This type of *Brachystegia spiciformis* woodland merges with the mesoplanaltic semi-deciduous forests of *Pteleopsis*, *Erythroph/eum* and *Newtonia*. In well-drained areas catenas develop in which *Brachystegia spiciformis* is dominant and forms an almost impenetrable woodland 12 to 22 m. high. The shrub layer is poorly developed.

At high altitudes, generally above 1000 m., with an undulating topography there often developed patches of *Brachystegia utilis* woodland, with *Brachystegia glaucescens* in the highest part of the catenas. In the higher parts of Zambézia this type of high rainfall woodland is found in the following areas: Ile, Namarroi and adjacent to the mountains of Gúruè, Náuêla, Alto Molocué, Tacuane, Milange, etc. The soils are red, clayey, compact, normally ferralitic, varying with the position in the catena. Rainfall varies between 1,300 and 1,800 mm. The resulting formation is more or less dense with trees from 15 to 22 m, tall and a shrub layer denser than in normal *Brachystegia spiciformis* woodland.

#### 23. DECIDUOUS MIOMBO SAVANNA WOODLAND

*Brachystegia spiciformis*-*Julbernardia globiflora*

This type of *Brachystegia spiciformis*-*Julbernardia globiflora* savanna woodland is very important on the plateau of Manica and Sofala; while in the project area it covers a great part of Zambézia province and stretches over an extensive areas north of Ligonha River.

At higher altitudes in well drained, orange to red, clayey, ferralitic soils a miombo (*Brachystegietum*) forming a moderately dense woodland with adjacent and juxtaposed crowns 8-17 m. tall can be found. The shrub layer is sparse and the grass layer tall with an abundance of perennial *Andropogon sp.*

#### **24. DECIDUOUS MIOMBO SAVANNA WOODLAND**

*Brachystegia spiciformis*, *B. boehmii*, *Julbernardia globiflora*

This type is also confined to the Zambézia province, i.e., in Baixa Zambézia from Derre to Ligonha up to Moma region between 100 and 200 m. and a small part of the Morrumbala area. It appears in transitional soils from ferralitic to the lower lying grey soils of the granite or gneissic complex with a rainfall of 800-1,000 mm.

#### **27. DECIDUOUS WOODLAND MIOMBO-DISCONTINUOUS DRY FOREST-SAVANNA MOSAIC**

*Brachystegia spiciformis*, *B. boehmii*-*Adansonia*, *Sterculia*

This is confined to Nampula province mainly in the coastal zone and it covers the sub-planaltic zone between 50 to 500 m., in soils which are generally red to grey and derived from granite, gneiss or rocks of the primitive system. Rainfall reaches 1,000 mm. p.a., and it is of a monsoon type.

The Deciduous savanna or woodland with *Adansonia*, *Sterculia*, *Dalbergia*, *Commiphora*, etc. also occurs at the foot of "inselbergs" with an abundance of *Oxtenanthera abyssinica* bamboo thicket. Sometimes a rather dwarf *Androstachys johnsonii* also occurs in shallow soils near the "inselbergs". Soils are red. On the rocky outcrops inselbergs near Ribáuè succulent or xerophytic plants are abundant, e.g. *Aloe* spp.

#### **29. DECIDUOUS MIOMBO (NORTH-EASTERN LOWLAND AND ESCARPMENT) SAVANNA WOODLAND**

*Brachystegia boehmii*, *B. allenii*, *Julbernardia globiflora*

This is mostly found in lower slopes from Guruè to Malema where the soils are derived from the granite-gneissic complex, shallow and stony soils that are red or orange, with a rainfall of 800-1,000 mm.

#### **31. DECIDUOUS DRY MIOMBO SAVANNA WOODLAND DISCONTINUOUS DRY SAVANNA (LOWLAND)**

*Brachystegia boehmii*, *B. allenii*, *Julbernardia*-*Adansonia*, *Sterculia*

This is a mosaic formation confined to the north, which covers the lower valleys of the rivers in the northern portion of Mozambique northwards from Lúrio River and the sub-planaltic areas between 150 and 700 m. The soils are red to greyish and derived from the granite-gneissic complex. The rainfall, which is of a monsoon type, stands at about 900 mm. p.a.

*Parinari curatellifolia* savanna is almost evergreen and it is found in the hilly plateau of Ribáuè. It appears between 1,000 and 1,500 m. in ferralitic, red, clayey soils. It is

usually correlated with good rainfalls about of 1,500-1,700 mm, p.a. Accompanying species are the trees *Uapaca* spp., *Pericopsis angolensis*.

### 5.3.3 Fauna

Although faunal studies are very poorly known in northern and central regions of Mozambique and many montane areas are still largely unexplored including some in the project area, Zambézia has been recognized as one of the richest provinces due to their edaphic and climate conditions e.g. Inselbergs that can be found in this province and around Ribaué, Mecubúri and Lalaua, in Nampula.

An example can be found in Mabu and Namuli were 126 and 155 bird species, respectively (including the endemic Namuli Apalis), and 42 mammals (including the endemic Vincent's Squirrel) have been identified. Reptiles and amphibians were surveyed only briefly, but 13 have been recorded, including a new undescribed species of pygmy chameleon and a forest viper. The viper was previously thought to be endemic to Mt Mabu, some 130 km to the south-west. Butterflies were looked at in more detail with 126 taxa being recorded in Namuli Mt and 203 species in Mabu including 39 new country records. (Timberlake et al 2009).

Mt Namuli at 2,419 m is the highest point of a massif and associated granite peak and the second-highest peak in the country after Chimanimani, located in Gurué District. It is surrounded at lower altitudes by extensive tea plantations, now being rehabilitated, and has perhaps the best agro-ecological conditions in the country. Increasingly, people are settling in the area and slowly encroaching up the slopes. Although recognized for many years as being of particular biological interest, Namuli is not formally protected, and it is little-explored and the conservation threats to its biodiversity have not yet been properly documented. The massif supports extensive areas of montane forest and grassland, both habitats are rich in biodiversity and of limited extent in southern Africa at the same time that are under increasing threat.

Most of the forests in Zambézia province are especially important for birds, including the Namuli Apalis species and Dapple-throat (both described as Vulnerable on the IUCN Red Data List), the latter being due to their climate condition represented by an endemic race. They also contain significant numbers of the Cholo Alethe (endangered, endemic to southeastern Malawi and adjacent northern Mozambique) and the race *belcheri* of the Green Barbet. Since the only other locality for this race, on Mt Thyolo, in S Malawi, has been totally dilapidated in recent years, Namuli has become its only refuge. Namuli, Chipirone, and Mabu Mountains all in Zambézia Province and others in Malema and Ribaué are considered to be an Important Bird Area based on the presence of these three species. This area also forms a significant part of the Tanzania–Malawi Mountains Endemic Bird Area. Other birds of conservation concern are the Spotted Ground Thrush (Endangered) and White-winged Apalis (Vulnerable) – the former is only known to breed in a few mid-altitude forests in eastern Africa whilst the latter is otherwise known from mid-altitude forest in central Tanzania, southeastern Malawi (Timberlake, et al 2009).

Both Mount Namuli and Chipirone are recognized as Important Bird Areas (MZ 009 and MZ 10 respectively) by Parker (2001). A brief description of the area is given there along with a list of the forest bird species of interest – *Alethe choloensis*, *Apalis chariessa* (only known site in Mozambique), and the woodland species *Nectarinia shelleyi*. The conservation status of these bird species is fundamentally determined by the extent and condition of the forest habitat.

## Threats and Conservation Issues

Along the South of the Lurio River there are 4 forest reserves Mpalwé (51 km<sup>2</sup>), Ribaué (52 km<sup>2</sup>), Mecubúri (1,954 km<sup>2</sup>) and Baixo Pinda (MICOA 1997). These were established during the 1950s to protect the flora and up until now have been managed by the Ministry of Agriculture and Food Security. Some of these reserves have suffered significant human influence during the war and post war, when management was not possible due to safety reasons. The Mpalwe and Ribaué Forest Reserves vegetation consist of forest fragments dominated by miombo species, particularly *Julbernardia globiflora*, *Uapaca*, *Sterculia*, and pure stands of bamboo (*Oxytenanthera* sp.). There are a series of river streams that have springs on both mountains. The water streams are particularly covered with gallery forest with *Milicia excelsa*, *Xylopia* sp., *Harrungana madagascariensis*, *Trema orientalis*, *Breonadia salicina*, *Syzygium owariense*, among others. On the mountain slopes patches of closed canopy forests mixed with bamboo can be found (Muller et al. 2005).

The Mecubúri Forest reserve vegetation is dominated over a large area by *Brachystegia spiciformis*, sometimes co-dominant with *Julbernardia globiflora* (Muller et al., 2005). In other parts *Brachystegia bussei* was dominant and sometimes *Brachystegia boehmii* or *Brachystegia utilis* were prominent components (Muller et al 2005). Other typical tree species which were fairly frequently encountered were *Azelia quanzensis*, *Burkea africana*, *Combretum molle*, *Combretum zeyheri*, *Cordyla africana*, *Crossopteryx febrifuga*, *Diplorhynchus candylocarpon*, *Erythrina livingstoniana*, *Hyphaena petersiana*, *Lannea stuhlmannii*, *Maprounea africana*, *Millettia stuhlmannii*, *Olax dissitiflora*, *Piliostigma thonningii*, *Pseudolachnostylis maprouneifolia*, *Pteleopsis myrtifolia*, *Pterocarpus angolensis*, *Schrebera trichoclada*, *Sclerocarya birrea*, *Strychnos madagascariensis*, *Strychnos spinosa*, *Swartzia madagascariensis*, *Terminalia sericea*, *Uapaca kirkiana*, *Uapaca nitida* and *Xeroderris stuhlmannii* (Muller et al 2005). The bamboo species *Oxytenanthera abyssinica* occurred sporadically throughout (Muller et al 2005).

Characteristic shrubs or small trees were *Annona senegalensis*, *Cleistochlamys kirkii*, *Dalbergia melanoxylon*, *Deinbollia* sp., *Dielsiothamnus divaricatus*, *Flacourtia indica*, *Grewia* ssp., *Holarrhena pubescens*, *Hugonia orientalis*, *Monodora grandidieri*, *Monodora junodii*, *Ochna* sp. and *Vangueria infausta* (Muller et al., 2005). Towards the areas with a high water table *Gardenia ternifolia* subsp. *jovis-tonantis*, *Parinari curatellifolia*, *Syzygium guineense* subsp. *guineense* and a large leafed *Combretum* species were typical (Muller et al., 2005).

The Gilé National Reserve is mainly made up of miombo forest, dambos, reforested savannah and riverine vegetation along various rivers and rivulets. Of great interest are the granitic Kopjes' habitats, which are either inside or around the area.

Fauna: There are listed 95 mammal species, amongst which elephants, lions, leopards, wild dogs (wolves), spotted hyenas (*crocutacrocuta*), pala-palas, kudus, impalas. There are also listed 114 bird species.

Most of the inselbergs from Zambézia to Nampula can be considered to be an Important Bird Area (IBA) based on the presence of globally significant populations of the endemic Namuli Apalis, Cholo Alethe and Dapplethroat (Parker 2001), and now also the Spotted Ground Thrush and White-winged Apalis. The nearby Mt Chipirone is also an IBA (Parker 2001). Moreover, Namuli Mt found in Guruè District forms part of the Tanzania– Malawi Mountains Endemic Bird Area (EBA) as three of the seven species of this EBA occurring in Mozambique were recorded from here, although these

figures have changed somewhat in light of more recent research. It also forms part of the Afrotropical Highlands biome.

The most important habitats for biodiversity conservation in this project area according to Timberlake et al (2009) is Gurué-Namuli where there are upland grassland on peat and moist evergreen forest (both montane and at medium-altitude). Neither the peat grassland nor the montane forest is under major threat, although fire and selective logging for *Faurea wenzeliana* are having an impact and there appears to be an increasing number of patches within the forest cleared for cultivation of Irish potato. In most of the inselbergs in this region (Zambézia and Nampula) the main threats concern of increasing destruction by cultivation and fire of medium-altitude forest and riparian forest along the main streams below 1,600 m. Other significant threats are feral pigs rooting up rich species of vegetation over seepages, and heavy hunting pressure on mammals; edible species are now scarce and predators mostly absent for example in Mabu Mt.

It was also found that at Mt Inago (Serra Inago) there is a large granite inselberg situated approximately 50 km north east of the Namuli massif. Inago comprises a mosaic of habitat types ranging from miombo woodland, riverine forests, mid-altitude moist forest, and upland grassland at higher altitudes (Bayliss et al., 2010). Natural vegetation is highly disturbed, in this Mt especially the mid-altitude moist forest.

According to (Bayliss et al., 2010) the biodiversity found in these forests is globally and nationally important, for example the new species of pygmy chameleon, *Cymothoe* butterfly, freshwater crab and the possible new species of cycad, along with rare birds such as the Endangered Thyolo Alethe and Near Threatened Gunning's Akalat.

Since the end of the civil war, particularly over the last decade and half, local populations have been moving away from the coastal margins into the wooded and forested interior plateau. Although deforestation resulting from agriculture, logging and fuelwood collection is leading to environmental problems, some authors (e.g., Moyo et al., 1993) do not consider it a major national problem, but rather a localized concern. Regions with high timber potential include the central and Northern provinces Niassa, Sofala, Zambézia and Cabo Delgado. Zambézia is the second region after Niassa (Marzoli et al 2007) where most forest concessions areas are concentrated. In October 2006, according to the then National Directorate for Land and Forest (DNTF) archives, 135 forest concessions had been requested nationwide, totaling 5.5 million ha. Of these, 94 are located in these three provinces, and total 3.7 million ha (Sitoe et al., unpublished).

According to Timberlake et al (2011) agriculture in most part of the country appears to have been somewhat itinerant, with slash & burn practices, little stumping, and extensive fallows. The extent to which vegetation returns to what it was before being cleared if only slash & burn practices are used, is not quite clear. Regarding to the faunal bush meat or game is a source of protein for rural communities. Although hunting of animals for commercial purposes is illegal, the practice is widespread in whole country (Albano, 2004). However, hunting of some species for household consumption such as *Neotragus moschatus*, *Sylvicapra grimmia* and *Redunca arundimon* is granted by the Decree 12/2002 (DNFFB, 2002)

Use and management of natural resources such as forests and wildlife makes a major contribution to rural livelihoods in Mozambique, therefore the NRM should be treated as an integral part of rural agriculture. Forests, woodlands, and savannas provide poles and construction materials, firewood, grazing for livestock, bush meat, wild fruits,

honey, mushrooms, edible insects, and medicinal plants. In addition, some forests are used as burial grounds, for traditional ceremonies and provide environment for ecotourism opportunities

All mountains and their forests in the project area have no formal protection status. Consequently, it is hoped that the visibility to be given to the area by this project will lead to sustainable conservation initiatives. Particular attention should also be given to endemic, rare or threatened species. Main attention should also be given to areas and species above 800 m altitude, as below this height much of the vegetation has already been transformed.



## 5.4 Socio-economic Situation

As shown in Table 1, (below) the entire targeted project area represented roughly 7,835,068 inhabitants (the figure should be above 9.0 million today at an annual growth rate of 2.8%, on average), i.e. close to 39% of the overall country's population, in 2007.

Nampula and Zambézia are the first and second most populated provinces in the country, respectively. In the same period (2007) the ten selected districts represented 10% of the country's population and slightly above 27% of the population of the two provinces together. The five districts in Nampula represented above 20% of the province's population while those from Zambézia 34.6%. the relative concentration of people in these districts and particularly in the case of Zambézia (more than 1/3 of the province's population) can also be interpreted as an indication of their wealth and considerable carrying capacity for human activities and development,

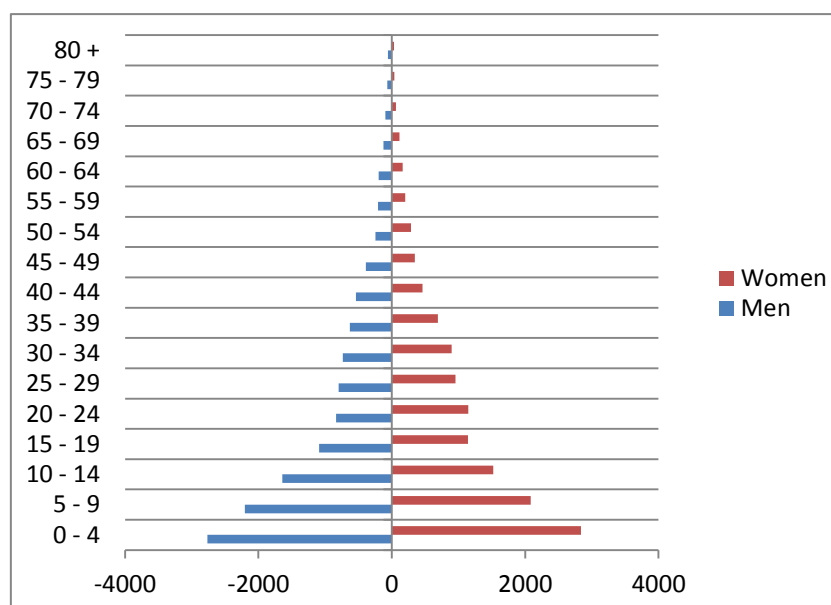
Absolute and relative (population densities) numbers of people played an important role in the process of selecting these districts to define the project area, i.e. the most and more densely populated districts and those with significant economic potential were selected. For what is envisaged it is of relevance for the selected areas to have inherent elements of economic and social dynamism in which the size of the population is usually known to be a strong factor.

Country	Inhabitants	Provinces	Inhabitants	Districts	Inhabitants
	20,252,223				
		<b>Nampula</b>	3,985,613		
				Malema	164,898
				Ribáue	186,250
				Lalaua	73,536
				Rapale	203,733
				Mecubúri	155,624
<b>Subtotal Districts</b>					784,041
		<b>Zambézia</b>	3,849,455		
				Mocuba	300,628
				Ile	289,891
				Gilé	169,285
				AltoMolócue	272,482
				Gurué	297,935
<b>Subtotal Districts</b>					1,330,221
<b>Total</b>	<b>20,252,223</b>		<b>7,835,068</b>		<b>2,114,262</b>

**Table 3: Distribution of population in the project area (source: INE, 2007)**

Using the case of Mecubúri district a population age pyramid was developed. The pyramid shows that the overwhelming majority of the people (slightly more than 60%) are young, i.e. they are less than 19 years old. Close to 51% of them are women. This is the typical population age and sex structure in Mozambique and particularly in the two provinces in the project area. A young population also means that the demand for social services (education, health, and water supply), housing, employment, natural resources, etc. is high and is likely to be on the increase in the years to come.

**Figure 10: Age pyramid in the project area (the case of Mecubúri)**



Source: INE, 2007

Most of these people live in small villages situated along local roads and/or water courses. They share a common past and are governed by formal and/or traditional and locally established authorities. In a few cases dispersed and isolated households can be found. But even in the latter case allegiance of such households to a certain local authority is prevalent.

As described in the previous subchapters that characterize the biophysical environment, despite poor underground water resources the combination formed by the ten districts defines an area that is generally very rich in terms of natural resources due to the relative abundance of fertile soils (i.e. with high water retention capabilities), regular and high precipitation, rivers and streams that translate into favorable conditions for rain fed farming that is generally practiced in Mozambique. Rain fed farming under the particular conditions of the area, is very productive. Malema district is known for being the “breadbasket” of Nampula province, mainly due to its rich arable soils and abundance of food crops. The ten districts share a number of agro-ecological conditions and are important producers of food crops particularly maize, sorghum, cassava, sweet potato, beans, peanuts and others, including a variety of fruits, as well as cash crops such as tobacco, cotton, sesame and cashew nuts. Gurué was an important tea production center in the past. Tea production was sustained by efficient support systems that collapsed after independence and particularly during the years of war.

Malema, Ribaué, Mecubúri and Rapale are located in Nacala Corridor, which is proving to be one of the most dynamic corridors in Mozambique and particularly the northern region. In the last few years this corridor has been benefiting from a wide diversity of interventions aimed at turning its infrastructure fully functional to meet important development initiatives that are taking place in central and northern Mozambique. Of particular importance has been the rehabilitation, alignment and paving of an extensive section of N13 between Nampula and Cuamba, which is now nearing completion. The construction and rehabilitation of the railway that will link the coal mining hub in Moatize, Tete Province, to the Indian Ocean in Nacala is another important development.

Despite the fact that at present Lalaua is not directly part of the Nacala Corridor, to a great extent the five selected districts in Nampula constitute a specific unity characterized by several common natural and sociocultural (i.e. ethnical, linguistic and religious) traits. As a matter of fact, up until 1986 when a new administrative division was then approved, Lalaua was an Administrative Post within Ribaué district. The district capitals of Ribaué and Malema are autonomous municipalities. This also attests to their socioeconomic importance in the province and the region.

Three of the six municipalities in Zambézia province are also found in the project area, namely Alto Molocué town, Gurué city and Mocuba city. This and the fact that through the Zambézia province the project area has two urban centers classified as cities (the highest status for an urban center) can be seen as yet another indication of the socioeconomic potential and dynamism of the selected area.

Despite all the favorable natural conditions for agricultural production and land availability, data from the district profiles (MAE, 2014) also indicate that a significant number of households in the districts in the project area often do not produce enough food to meet their annual consumption. Usually, households have food reserves to cover only between 2.5 to 4 months.

Data also shows that at least 5% of households are generally vulnerable. The most vulnerable families are usually headed by women, children, elderly and/or chronically-ill or disabled persons. In order to counteract the food vulnerability, a considerable proportion of households resort to survival strategies that include participation in "food for work" initiatives promoted by various development assistance agencies e.g. the World Food Program, Save the Children, INGC, as well as in some IDA/Donor-funded operations, especially in the field of infrastructure/civil works development. They also resort to collecting wild fruits, collection and/or sale of firewood, charcoal, reed, cuttings, preparation of traditional beverages, hunting and sometimes formal employment, mainly by men, in the surrounding townships and villages. One main reason for this situation is the nonexistence and relative weakness of rural markets, weak agricultural technologies and yields, along with other reasons that explain the low productivity of natural resources in Mozambique, particularly in the rural areas.

In those districts and in many parts of Mozambique a vicious cycle made of natural conditions, lack of capital and adequate financial services, production technologies and services responsible for development and dissemination of such technologies, poor marketing systems and other factors that define the environment in which local economic activities are carried out, explains the prevalence of the subsistence economy. The economy is based on direct and integrated exploitation of natural resources, with very little transformation. Plant and animal production, forests and fisheries are integrated in a single economic system of multiple relationships. These are combined to guarantee the survival of the individuals, the families and the communities.

Some of the aspects that define the practice of agriculture in the area, which are typical of the so-called "family sector" are:

- Cultivation of very limited areas: 0.5 to 1 ha is the common size of most of the farms in the project area<sup>14</sup>.

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<sup>14</sup> The informal character of agriculture and animal production, which are dominant economic activities in the project-related areas, explains the present land use and land tenure patterns. Ancestral laws establish the distribution and use of land by existing families.

- Use of farming technologies that are rudimentary: Cultivation is primarily undertaken using hoes and virtually no external inputs, such as improved seed, fertilizers and chemicals are used<sup>15</sup>.
- Over the years the family sector farmers have developed livelihood strategies oriented towards minimizing risk through crop diversification, which takes place in a variety ways including:
  - Growing several crops and the dominance of intercropping;
  - Preferring to grow two or more consecutive crops rather than a single one of a longer cycle, even if the potential total yield is higher for the latter, to obtain advantage of moisture availability during the short rainy season; and
  - Growing crops in as many diverse environments (topography/relief/soil) as possible, e.g., in sandy flat areas, in medium textured alluvial deposits of slopes (transition zones), in the fine textured dark colored soils of the river beds (dambos) and in open valleys and alluvial soils.

This results in a combination of plots on different soil types and in different crop preferences, each with different fallow and cropping patterns.

The dominance of agriculture as the main subsistence activity should not obscure other activities that are developed including the emerging commercial sector of agriculture made of small and medium size farmers, which although still in small numbers, are become increasingly important in Mozambique and the project area. Artisanal mining is also another important economic activity as is formal and informal employment in local cities and towns in the public sector and/or local services (banks, telecommunications, water supply and sanitation, etc.). At present most of these are not well known and sound statistics are not available.

In Nampula districts the so called subsistence farmers are also involved in cash crops, mainly cotton and cashew nuts and more recently cassava, after the installation of a brewery by CDM (Mozambique Brewery) that produces beers using cassava as the main raw material. OLAM, SANAM and JFS were described by local authorities as the being the three private companies in the forefront of promoting cash crops and particularly cotton. They provide seeds and other inputs to local farmers and become the first buyers of the harvest following agreed prices. Farmers expressed dissatisfaction with the current prices but at present this arrangement is seen as the best way for them to get cash that is much needed to meet other household needs that require cash

Nampula City is the third largest city after Maputo and Matola, both in the southern region of the country. Due to its role of unifying business activities in the northern part of the country Nampula is also known as the “Capital of the North”. Rapale and Mecubúri are very close to Nampula city. The city is of particular importance in the dynamics of the economies of the five districts in this province including Gurué, Mocuba and Alto Molocué, in Zambézia provincial.

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Lineage plays a crucial role in the process. Each family and groups of families do their best to secure enough land and to have direct access to areas for housing, fauna, forests, pastures, fertile grounds and water.

<sup>15</sup> Due to the monopolistic structure of the market for these products, they are rather very expensive in Mozambique.

### 5.4.1 Other Development Programs/Projects in the Project Area

Based on suggestions coming from the public participation process a wide range of sources should be used as an attempt of identifying and mapping land use rights and effective uses (formal and informal) in the defined project area as a whole and by blocks. This chapter will not deal with such issues. A specific report should be prepared separately.

However, as already indicated the project area is rich in development initiatives that ANRLMP is required to take cognizance of. Some of these are summarized in this subchapter. These can be expected to have two types of consequences for ANRLMP, namely (i) facilitation and creation of synergies in terms of expanding market opportunities, beneficial infrastructures, etc.; and (ii) constraints as there could be competition for resources such as land, water, forests, etc. where those developments will interfere with the ANRLMP intentions. At the pre-feasibility stage these aspects will need to be reexamined and subproject selection and design will need to ensure that synergies are augmented and conflicts avoided/minimized.

The National Director of Water (DNA) is in the process of commissioning a monograph of the Lúrio River Basin. It is expected that the exercise will make a thorough description of the river and its basin, past, current and potential uses in the future and culminate with the preparation of a strategic plan to develop water resources for the Lúrio River Basin. This is of particular importance for the districts of Malema, Ribaué, Mecubúri and Rapale, which have significant parts of their territory strongly influenced by this important river in Mozambique.

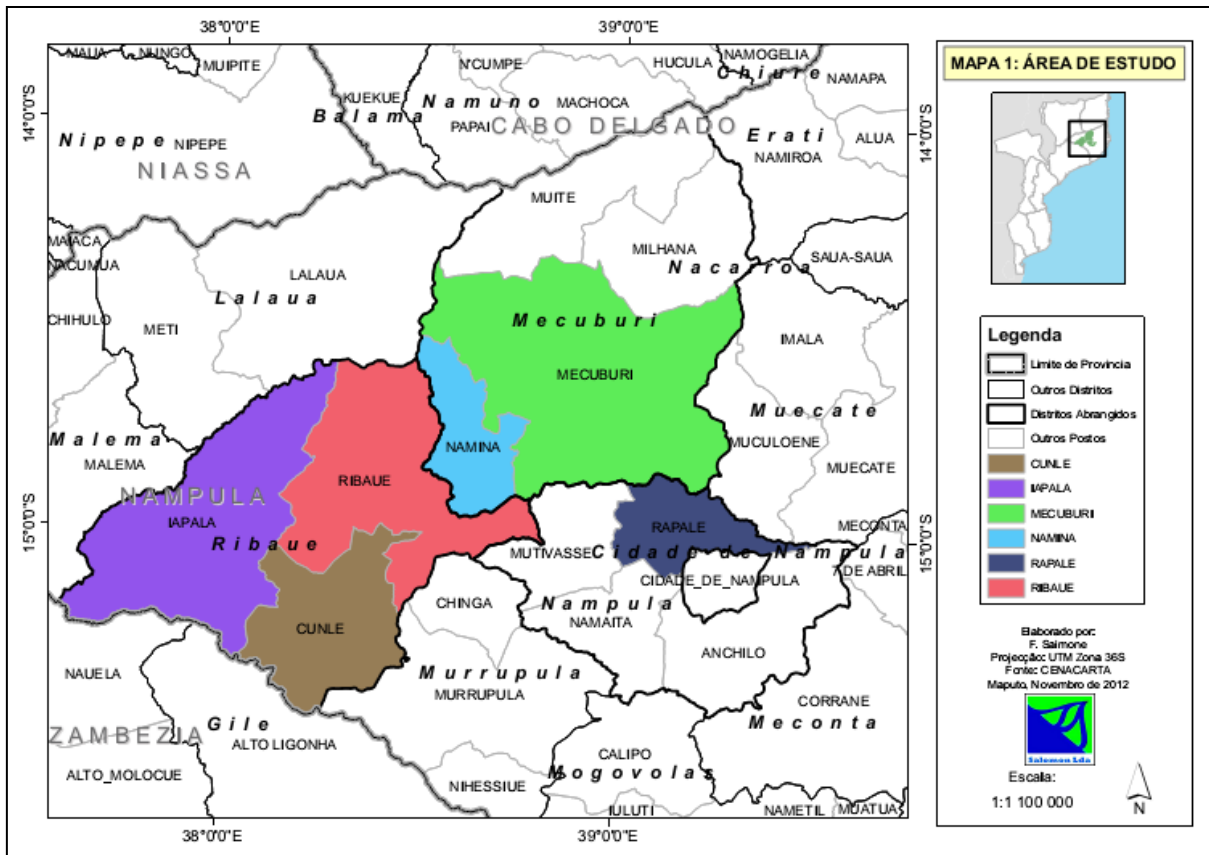
Other important developments in the project area and/or its surroundings include:

A significant number of local farmers have agreements with cotton operators (e.g. OLAM and SANAM) and they grow cotton for them in return of some forms of assistance such as seeds, pesticides and other minor forms of assistance.

In Nampula province and extending to Niassa and Cabo Delgado there are significant forests out grower's schemes, such as the case of Lurio Green Resources. This is active in the districts of Ribaué<sup>16</sup> (south of Lalaua), Mecubúri and Rapale. The figure below clearly shows Lúrio Green Resources area of influence.

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<sup>16</sup> Until 1986 when a new administrative division was approved, Lalaua was part of Ribaué district.



**Figure 11: Areas of operation of Lurio Green Resources**

Of particular importance due to its magnitude is PROSAVANA project. The figure below depicts the boundaries of this project as it was in March 2010. As can be seen from the map there could be overlaps between this project and ANRLMP although the final demarcation of the former project still remains an open subject. PROSAVANA is, among other, known for being an attempt of applying the agricultural development in Brazil's Cerrado to Mozambique. It is a tripartite project (Mozambique, Brazil and Japan) that has already been approved by the government of Mozambique with the aim of boosting agriculture productivity and production in Nampula, Niassa and Cabo Delgado, which now seems to be involved in a sea of uncertainties.

During the public meetings the project team had the opportunity of listening to the level of disappointment by local people with what is understood as having been a project that raised high expectations and concerns and then vanished into a strong level of uncertainty. Insistences were made about the need for ANRLMP to avoid following on PROSAVANA footsteps.



**Figure 12: Preliminary demarcation of PROSAVANA (March 2010)**

In regard to this project and many other that could be in the same areas or close to ANRLMP more details should be collected and presented in the subsequent phases of the project development and where synergies can be created these should be considered seriously. This is also one of the issues strongly raised by stakeholders during the public consultation process.

#### 5.4.2 Land Use Plans

Land use planning issues, and particularly the District Land Use Plans (PDUT<sup>17</sup>), will occupy an important position in project development. By definition (Territorial Planning Law and respective Regulation), PDUT are district and inter district land use plans that establish the structure of the spatial organization of the territory of one or more districts, based on the identification of areas for preferred uses and by setting the standards and rules to be observed in the occupation and use of land and the use of its natural resources. Territorial Planning Law and its Regulation were established in 2007 and 2008, respectively. From the date of establishment, the districts were given two years to complete PDUT. However, for various reasons there have been delays in completing those plans such that close to eight years later there is still a number of districts that have not yet completed their plans. Once formulated and approved PDUT are valid for a period of 10 years, upon which they can be modified to be in line with identified changing conditions.

As can be seen from Annex 1 of this document all the districts in the project area except Gurué (although this might need confirmation on the ground) have their PDUT. The existing plans should be used by ANRLMP management as land use planning instruments, to meet the various purposes. Room should also be created for ANRLMP to provide additional assistance to the provinces and districts to improve these plans. It is a known fact that some of them are technically poor and could benefit from spot improvements.

<sup>17</sup> From Portuguese Planos Distritais de Uso da Terra

## **6 - WORLD BANK SAFEGUARDS POLICIES**

In line with the project characteristics, it is to be expected that agriculture and public works will have some weight within ANRLMP. It is particularly in the agricultural sector that the inability to take advantage of the vast natural and social opportunities offered by the country and particularly the region defined by the project area to diversify its economy, create employment and income opportunities for a large majority is strongly felt. Due to its focus on agricultural and basic infrastructure development ANRLMP will trigger six of the 10+2 World Bank Operational Safeguards Policies, namely, Environmental Assessment (OP/BP 4.01), Pest Management (OP 4.09), Involuntary Resettlement (OP/BP 4.12), Natural Habitats (OP/BP 4.04), Forests OP/BP 4.36, Safety of Dams (OP/BP 4.37) , as well as adhered to the World Bank Group General Environmental, Health and Safety Guidelines (EHS), Tourism and Hospitality Development EHS Guidelines and the applicable Agribusiness/Food Production EHS Guidelines from April 2007. The ESMF has made provision to address potential concerns afferent to OP/BP 4.04 (Natural Habitats), OP/BP 4.36 Forest, OP/BP 4.37 (Safety of Dams) including possible impacts under OP/BP 4.11 (Physical Cultural Resources). A Resettlement Policy Framework (RPF) has been prepared to satisfy the Involuntary Resettlement (OP/BP 4.12) Safeguard Policy requirements and an Integrated Pest Management Plan (IPMP) has been prepared to satisfy OP 4.09 requirements. These two documents have been prepared separately, however they should be used together with this ESMF.

These Safeguard Policies are briefly reviewed and described below.

**Table 4: Safeguard Policies Triggered by the Project**

<b>Safeguard Policies Triggered</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment (OP/BP 4.01)	X	
Natural Habitats (OP/BP 4.04)	X	
Forests (OP/BP 4.36)	X	
Pest Management (OP 4.09)	X	
Physical Cultural Resources (OP/BP 4.11)		X
Indigenous Peoples (OP/BP 4.10)		X
Involuntary Resettlement (OP/BP 4.12)	X	
Safety of Dams (OP/BP 4.37)	X	
Projects on International Waterways (OP/BP 7.50)		X
Projects in Disputed Areas (OP/BP 7.60)		X

The table below makes a summary of each of the World Bank Operational Safeguards Policies. The table is followed by additional explanations about the safeguards that are directly triggered by ANRLM.



**Table 5: The Ten World Bank Operational Safeguards Policies**

Safeguard Policies	Main Objective	Applicability	Application for ANRLMP
<b>Environmental Assessment (OP/BP 4.01)</b>	Used in the World Bank to identify, avoid, and mitigate the potential negative environmental impacts associated with Bank lending operations. This policy is considered to be the umbrella policy for the Bank's environmental 'safeguard policies.	The purpose of Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people are properly consulted.	Applicable, since the ANRLMP will lead to some environmental and social adverse impacts. All subprojects will have to undergo an environmental impact assessment from design through to implementation, monitoring and evaluation in accordance with the GOM and WB principles
<b>Natural Habitats (OP/BP 4.04)</b>	<p>Aimed at ensuring that World Bank-supported infrastructure and other development projects take into account the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats provide to human society. The policy prohibits Bank support for projects which would lead to the significant loss or degradation of any Critical Natural Habitats, whose definition includes natural habitats which are either: (i) legally protected; (ii) officially proposed for protection; or (iii) unprotected but of known high conservation value.</p> <p>In other (non-critical) natural habitats, Bank supported projects can cause significant loss or degradation only when (i) there are no feasible alternatives to achieve the project's substantial overall net benefits; and (ii) acceptable mitigation measures, such as compensatory protected areas, are included within the project.</p>	It strictly limits the circumstances under which any Bank-supported project can damage natural habitats (land and water areas where most of the native plant and animal species are still present).	<p>Applicable, since the project has areas of intersection with important natural habitats, which should not be negatively affected by its development.</p> <p>The ESMF include measures for addressing potential negative impacts on natural habitats</p>
<b>Forests (OP/BP 4.36)</b>	<p>Aimed at reducing deforestation, enhance the environmental contribution of forested areas, promote afforestation, reduce poverty, and encourage economic development.</p> <p>The policy is currently being revised to make it more effective and in</p>	Reduction of deforestation and use of forests to promote economic development	Applicable. Although the use of forests products foreseen under the project is already designed to enhance existing forests

Safeguard Policies	Main Objective	Applicability	Application for ANRLMP
	recognition of the fact that forests play an increasingly important role in poverty alleviation, economic development, and for providing local as well as global environmental services.		resources in the project area concrete efforts will need to be made to demonstrate that this is possible and specially to change the current practices prevalent also in the project area that are typical example of unsustainable use of forest resources.
<b>Pest Management (OP 4.09)</b>	Aimed at assisting rural development and health sector projects to avoid using harmful pesticides and encourage the use of Integrated Pest Management (IPM) techniques in the whole of the sectors concerned.	Where pesticides have to be used in crop protection or in the fight against vector-borne disease, the Bank-funded project should include a Pest Management Plan (PMP), prepared by the borrower, either as a stand-alone document or as part of an Environmental Assessment.	Applicable, since certain elements of the project may encourage the use of pesticides in an area without a strong tradition of using these products. All the necessary precautions will need to be taken in order to avoid creation situation where the use of pesticides can negatively affect local people
<b>Physical Cultural Resources (OP/BP 4.11)</b>	The objective of this policy is to avoid, or mitigate, adverse impacts on cultural resources from development projects that the World Bank finances. The assumption is that cultural resources are important as sources of valuable historical and scientific information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. The loss of such resources is irreversible, but fortunately, it is often avoidable.	The borrower identifies physical cultural resources likely to be affected by the project and assesses the project's potential impacts on these resources as an integral part of the EA process, in accordance with the Bank's EA requirements	Not applicable. The project is not expected to interfere with any known and recognized historical or cultural resources. However, in order to ensure that all precautions are taken to protect any physical cultural resources in the event of these being found in the project area this ESMF includes

Safeguard Policies	Main Objective	Applicability	Application for ANRLMP
			measures for addressing potential negative impacts on cultural heritage
<b>Indigenous Peoples (OP/BP 4.10)</b>	The policy underscores the need for Borrowers and Bank staff to identify indigenous peoples, consult with them, ensure that they participate in, and benefit from Bank-funded operations in a culturally appropriate way - and that adverse impacts on them are avoided, or where not feasible, minimized or mitigated.	Integration of indigenous peoples in project development and benefits	Not applicable as there are no people falling under the category of indigenous people in the project area
<b>Involuntary Resettlement (OP/BP 4.12)</b>	<p>The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts. It is also aimed at promoting the participation of displaced people in resettlement planning and implementation. Its key economic objective is to assist displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement.</p> <p>The policy prescribes compensation and other resettlement measures to achieve its objectives and requires that borrowers prepare adequate resettlement planning instruments prior to Bank appraisal of proposed projects</p>	The policy is triggered in situations involving involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas.	<p>Applicable. Although limited in scope and size some of the project interventions may result in loss of assets by local people and these will need to be restored/compensated in line with the GOM and WB regulations and guidelines.</p> <p>A Resettlement Policy Framework (RPF) has been prepared to address these potential negative impacts on communities.</p>
<b>Safety of Dams (OP/BP 4.37)</b>	Aimed at ensuring that experienced and competent professionals design and supervise construction of bank-funded dams, and that the borrower adopts and implements dam safety measures through the project cycle. The policy also applies to existing dams where they influence the performance of a project. In this case, a dam safety assessment should be carried out and necessary additional dam safety measures implemented.	Ensure that all precautionary measures necessary to strengthen the institutional, legislative, and regulatory frameworks for dam safety programs are in place where there are bank-funded dams.	Applicable. Although limited to small and medium size dams the project is open to the construction of a number dams to boost local agricultural production.
<b>Projects on International Waterways (OP/BP 7.50)</b>	Aimed at assisting riparian states to make appropriate agreements or arrangements for the entire waterway, or parts thereof, where bank-funded projects involve international rivers. It requires that adequate detailed procedures for inter-state notification be followed by riparian	Where the project area stretches over water ways that cover more than one state	Not applicable. The project will not use water from international rivers

Safeguard Policies	Main Objective	Applicability	Application for ANRLMP
	states		
<b>Projects in Disputed Areas (OP/BP 7.60)</b>	Aimed at ensuring that the Bank only finances projects in disputed areas when either there is no objection from the other claimant to the disputed area, or when the special circumstances of the case support Bank financing, notwithstanding the objection. The policy details those special circumstances.	Where there are disputed areas the Bank wants to make sure that it is not making any judgment on the legal or other status of the territories concerned or to prejudice the final determination of the parties' claims.	Not applicable. There are no known disputed areas in the project area

## 6.1 Environmental Assessment (OP/BP 4.01)

The World Bank's environmental assessment operational policy requires that all proposed Bank-funded 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 adverse environmental and social risks and impacts in its area of influence. Similarly, each proposed subproject activity is required to undergo the same social and environmental screening process to qualify for funding. This is done through the systematic usage of both the Environmental and Social Screening Form (ESSF) and the Check-list. Moreover, according to OP/BP 4.01 the Bank classifies proposed subprojects 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:** A proposed project is classified as Category "A" if it is 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/by appraisal stage.

**Category B:** A proposed project is classified as Category "B" if its potential adverse environmental and social impacts on human populations or environmentally and socially important areas, including wetlands; forests, grasslands, and other natural habitats, are less adverse than those of Category "A" projects. These impacts are site-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 an abbreviated RAP that builds upon an RPF might suffice. Resettlement issues will be further elaborated under OP/BP 4.12 below and the RPF for this project, which is presented separately.

**Category C:** A proposed project is classified as Category "C" if it is 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."

Due to the localized, limited and thus manageable environmental and social impacts ANRLMP has been classified as a Category "B" project; and since the sub-projects have not yet been clearly identified the World Bank required the preparation of an ESMF, which is a screening tool to screen sub-projects for potential environment and social impacts. Most of the subprojects will fall under Category B and some under Category C. In fact, the only infrastructure the project will be financing of upgrading and maintenance of (i) rural feeder road; (ii) rural bridges (iii) small scale irrigation schemes; (iv) storage facilities; (v) rural electrification; and other types of priority infrastructure to link production areas to the main roads as well as to other areas of particular interest (railway, transformation/industrial units, important trade centers, etc.), facilitate and improve production and productivity and trade. Based on the outcome of the social and environmental screening, to be done by the Environmental, Social, Health and Safety Specialists, which will work in the two provinces, once defined, sub-projects will need to prepare a simple ESIA/ESMP, a freestanding ESMP, and an abbreviated RAP or no-action needed. The costs for the preparation of these ESIA/ESMPs, freestanding ESMPs or RAPs need to be included into the Project budget. The outcome of the screening and the determination of the subproject Category will need to be confirmed and approved by MITADER to verify compliance with Mozambique's EIA Policy. Though World Bank policies and procedures are those to be followed, the TORs for these ESIA would also need to be approved by both MITADER and the World Bank.

Furthermore, to ensure good compliance with OP/BP 4.04 (Natural Habitats) and OP/BP 4.11 (Physical Cultural Resources), the ESMF has made some provisions to ensure that adequate measures are taken to minimize the negative impacts that may occur. Like for this ESMF, OP/BP 4.01 also requires that prior to sub-project appraisal, both the GOM through the Ministry of Land Environment and Rural Development (MITADER) and the World Bank will approve and disclose the ESIA/ESMP, freestanding ESMP and RAP documents, which need to have an Executive Summary in English and Portuguese in publicly accessible places in the sub-project areas and on MITADER's website, as well as on the Infoshop website of the World Bank in Washington DC. The disclosure will need to be announced in the local newspapers and on the local radio (the transcripts of these disclosure announcements need to be sent to the World Bank for records keeping). The disclosure will provide beneficiaries, affected groups and local NGOs the chance to comment on the sub-project. A notebook and pencils need to be present at the disclosure sites as means for stakeholders' comments. The time for providing comments will be minimum 1 month. Relevant comments need to be included in the final ESIA, ESMP or RAP documents. The GOM, as the owner of the safeguards documents, must officially submit the approved and disclosed safeguards instruments/documents to the Bank and authorize IDA to disclose the documents at bank's Infoshop. By making the ESMF, a Pest Management Plan (PMP) and RPF documents available to the public prior to project appraisal, the proposed project will be in compliance with the World Bank Access to Information Policy, and hence ready for Board approval for funding.

Subprojects also need to be in compliance with the applicable World Bank Environmental, Health and Safety (EHS) Guidelines of April 2007. These are i) General EHS Guidelines; ii) some of the Agribusiness/Food Production EHS Guidelines; iii) Tourism and Hospitality Development EHS Guidelines; and iv) Electric Power Transmission and Distribution EHS Guidelines.

## **6.2 Pest Management (OP 4.09)**

Any World Bank financed project that stimulates the use of pesticides will need to prepare and disclose prior to project appraisal a Pest Management Plan (PMP). Further, the procurement of any pesticide in a Bank-financed project is contingent on an assessment of the nature and degree of associated risks, taking into account the proposed use and the intended users. With respect to the classification of pesticides and their specific formulations, the Bank refers to the World Health Organization's Recommended Classification of Pesticides by Hazard and Guidelines to Classification (Geneva: WHO 1994-95). The following criteria apply to the selection and use of pesticides in Bank-financed projects:

- a) They must have negligible adverse human health effects;
- b) They must be shown to be effective against the target species;
- c) They must have minimal effect on non-target species and the natural environment. The methods, timing, and frequency of pesticide application are aimed at minimizing damage to natural enemies;
- d) Their use must take into account the need to prevent the development of resistance in pests.

At a minimum, pesticide production, use and management should comply with FAO's Guidelines for Packaging, Use and Storage of Pesticides, Guidelines on Good Labeling Practice for Pesticides, and Guidelines for the Disposal of Waste Pesticide Containers on the Farm. The Bank does not finance formulated products that fall into WHO classes IA and IB, or formulations of products in Class II, if (a) the country lacks restrictions on their distribution and use; or (b) they are likely to be used by, or be accessible to, lay personnel, farmers, or others without training, equipment, and facilities to handle, store, and apply these products properly.

The proposed project triggers OP 4.09 the World Bank Safeguard Policy on Pest Management, since it will support agricultural development, it will support post-harvest pest control to minimize post-harvest pest damage through the program's improved technology adoption by farmers. Procurement of pesticides will not be financed until it becomes evident that local capacity exists to adequately manage their environmental and social impacts in compliance with OP 4.09 as described above, particularly with regards to health and safety aspects that are directly linked to human health conditions affecting women, the poor and most vulnerable groups of the community, such as toddlers, elderly and handicapped.

Given the pest management issues to be dealt with under this project a separate Pest Management Plan (PMP) has been prepared and will be disclosed prior to project appraisal. The PMP should be used as part of this ESMF.

## **6.3 Involuntary Resettlement (OP/BP 4.12)**

Under the World Bank Safeguard Policy (OP/BP 4.12 - "Involuntary Resettlement") resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs. Where it is not feasible to avoid resettlement, related activities should be conceived and executed as sustainable development programs, providing sufficient investment resources and means to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in the planning and implementation of resettlement programs.

Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

The World Bank also adopts a broader view on involuntary resettlement by not restricting it to its usual meaning, i.e. "physical displacement". Depending on the cases, a resettlement action may include (i) loss of land or physical structures on the land, including business; (ii) the physical movement, and (iii) the economic rehabilitation of project affected persons (PAPs), economic displacement, in order to improve (or at least restore) the levels of income or livelihood prevailing before the action causing the resettlement has taken place". The policy applies whether or not the person has to move from the area.

A Resettlement Policy Framework (RPF) for the Project has been prepared to guide involuntary resettlement operations issues such as land acquisition by setting forth the basic principles and prerogatives to be followed by the recipient once the physical footprint of the project intervention area is known (i.e. elaboration of site specific Resettlement Action Plans-RAPs). Thus, this document (i.e. the ESMF) will not elaborate on resettlement issues but rather be used together with the standalone RPF. However, the subproject screening procedure described in this ESMF should also screen for resettlement issues and determine if OP/BP 4.12 will need to be further triggered and how much detailed the needed RAP will/must be. The Project overall budget should include in addition to the implementation of this RPF, sufficient funds to finance the preparation and implementation of site specific RAPs prepared for sub-projects.

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

This policy applies to sub-projects, which could have a potential impact on important natural habitats outside and inside protected areas. Significant conversion of natural habitat 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. Subprojects involving the significant conversion of critical natural habitats, i.e. protected areas or critical natural habitat areas outside protected areas where endemic or endangered species mentioned on the IUCN Red List species are living and which could be severely affected or made extinct cannot be financed. It is believed that the series of measures recommended under this ESMF in terms of subprojects being selected and designed in order to avoid, minimize, restore resources in special areas will ensure that adequate measures are taken to minimize the negative impacts that may occur.

#### **6.5 Forests (OP/BP 4.36)**

This policy is aimed at reducing deforestation, enhancing the environmental contribution of forested areas, promote afforestation, reduce poverty, and encourage economic development.

After realizing the importance of forests in the health of ecosystems combating deforestation and promoting sustainable forest conservation and management have been occupying a high position on the international agenda since the Rio Conference, in 1992. However, despite all the efforts and advocacy, including law enforcement it is felt that there is still a long way to go achieve the ultimate objectives of this policy. The



world's forests and forest dependent people continue to experience high rates of forest loss and degradation. The Bank is now in the process of finalizing a revised approach to forestry issues, in recognition of the fact that forests play an increasingly important role in poverty alleviation, economic development, and for providing local as well as global environmental services.

Success in establishing sustainable forest conservation and management practices is something that can only be achieved by a combination of interventions involving all critical stakeholders who need to change their attitudes and behavior but also on a wide range of partnerships. The Bank's forest strategy includes three interdependent pillars, which will guide future Bank involvement with forests, namely: (i) harnessing the potential of forests to reduce poverty; (ii) integrating forests in sustainable economic development; and (iii) protecting vital local and global environmental services and forest values. This policy also goes hand in hand with that of Natural Habitats OP/BP 4.04 (see above).

In Mozambique and in extensive areas of the project area in the last few years there have been multiple episodes of unsustainable use of forests resources including exclusion of local people from benefiting from this rich natural resources. Since its establishment in January 2015 MITADER has been at the forefront of counteracting this tendency. Under its (Agriculture) **and Forest-Based Value Chain Development** ANRLMP will make concerted efforts to demonstrate that negative practices can be reversed and that forests resources can be used in an inclusive and sustainable manner.

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

This policy applies to sub-projects where important physical cultural resources (i.e. archeological sites, special architecture, important cemeteries or where unique immaterial cultural resources) exist or are affected. In case none of these physical cultural resources exist 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 an important arte-fact is found, construction is stopped and the responsible Mozambican authorities are warned and involved in an investigation of the site. Construction 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 taken into account to minimize the negative impacts that may occur.

## **6.7 Safety of Dams (OP/BP 4.37)**

Experience shows that the safe operation of dams has significant social, economic, and environmental relevance. Dam safety is a matter of significant importance because of the presence of a large number of dams, existing, under construction or planned. The Bank's involvement in dam financing requires that experienced and competent professionals design and supervise construction, and that the borrower adopts and implements dam safety measures throughout the project cycle. The policy also applies to existing dams where they influence the performance of a project. In this case, a dam safety assessment should be carried out and necessary additional dam safety measures implemented.

OP 4.37 recommends, where appropriate, that Bank staff discuss with the borrowers any measures necessary to strengthen the institutional, legislative, and regulatory frameworks for dam safety programs in those countries.

However, as foreseen under component 4, under this project dam financing will be limited to small irrigation schemes upgrade and maintenance, rehabilitation of water storage facilities, and other types of priority water control structures that can be expected to cause minimal adverse impacts in the project area. Impacts will be minimal but all precautions will be taken not only to deal with the physical aspects but also the biological ones, such as maintaining environmental flows to preserve the health of the ecosystems, downstream the infrastructures.

## **7 LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT IN MOZAMBIQUE**

Comparable to what happened in most countries in Africa after the Rio Conference on Sustainable Development in 1992; Mozambique has been undertaking an enormous legal and institutional reform movement to improve the country ability to management the environment and turn it into a more sustainable process. The reform has been under implementation in the form of: (a) adherence to and adoption of a series of international and regional environmental protection and conservation conventions and protocols; (b) approval of a significant set of legislation with direct and indirect implications to environmental protection; (c) creation of specific public institutions or strengthening of existing institutions dedicated to both environmental and social management. Relevant aspects to ANRLMP and respective management of environmental and social aspects are summarized below.

### **7.1 Legal Framework**

#### **7.1.1 Adherence to International and Regional Conventions and Protocols**

In terms of adherence to and adoption of a series of international and regional environmental protection and conservation conventions and protocols the following should be mentioned:

##### **General principles:**

Mozambique has been adhering to a series of international legal instruments that relate to the need of being proactive in environment protection and conservation. Under line 2 of article 18 of the country's Constitution, the rules of international law have the same value in domestic law and once ratified by the Parliament and Government they become constitutional normative acts. In light of point 1 of article 18, "*treaties and international agreements duly approved and ratified, are enacted in the Mozambican legal order*".

Important international and regional treaties and conventions ratified so far include:

- The UN Convention on Biodiversity ratified by Resolution n.º 2/94, of 24 of August: this is aimed at "the conservation of biological diversity, the sustainable use of its components and fair and equitable sharing of benefits arising from the use of genetic resources, including by appropriate access to genetic resources and appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, as well as through adequate funding". This international instrument, advocates the conservation of ecosystems and natural habitats and maintenance and recovery of viable populations of species in their natural surroundings. It is an essential foundation for the creation, development and protection of conservation areas in the country, which sometimes can be endangered by carrying out oil and gas operations and other industrial operations without due regard to the provisions of environmental legislation
- Convention on the Protection, Management and Development of Marine and Coastal Environment in East Africa, ratified by Resolution n.º 17/96, of 26 of November: it highlights a series of measures to protect and conserve the

marine and coastal environment of the Party States, particularly in terms of preventing and combating pollution and the protection of the regions' flora and fauna against the growing threats caused by many human activities.

- African Convention on Nature and Natural Resources Conservation ratified by the Parliament's Steering Committee through Resolution n.º 18/81, of 30 December: is aimed at ensuring the conservation, use and development of land, water, forest and wildlife resources of Member States, bearing in mind not only the general principles of nature conservation, but also the best interests of the communities themselves
- Protocol related to Wildlife Conservation and its application in the SADC, ratified by Resolution n.º 14/2002, of 5 of March: it is aimed at establishing common approaches and support to conservation and sustainable use of wildlife resources relating to the effective enforcement of laws in the region and within the domestic laws of each Party State.
- Resolution n.º 21/81, of 30 of December, by the Cabinet that turns Mozambique into an UICN member: among other it is aimed at encouraging and facilitating cooperation amongst governments, international organizations and people interested in nature conservation and its resources.
- Mozambique is one of the 196 countries that signed and ratified the new international agreement in Paris, in December 2015, in order to reduce greenhouse gas emissions to contain global warming to 2°C. COP 21 was a decisive meeting, 3 years after the end of the commitment period of the previous international agreement, the Kyoto Protocol (COP 3). Indications are that this is yet to be turned into a specific resolution in order for the adherence to be enacted as a national legal provision.

Other important international and regional conventions and protocols ratified by the Mozambican State include:

- Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer (Resolution No. 8/93 of 8 December);
- United Nations Framework Convention on Climate Change – UNFCCC (Resolution No. 1/94 of August 24, 1994);
- Kyoto Protocol (Resolution No. 10/2004 of 28 July);
- Convention on International Trade in Endangered Species – CITES (Resolution No. 20/81 of December 30);
- Cartagena Protocol on Biosafety (Resolution No. 11/2001 of 20 December);
- United Nations Convention to Combat Desertification and Drought (Resolution No. 20/96 to November 26);
- Stockholm Convention on Persistent Organic Pollutants and (POPs) (Resolution No. 19/96 of November 26, 1996);
- Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal (Resolution 18/96 to November 26, 1996);
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Resolution 10/2009 of 29 September. The Convention entered into force in Mozambique in July 2010)

## **7.1.2 Approval of Domestic Policy and Legal Instruments**

### **General Legislation**

#### **The Constitution**

Mozambique's 2004 Constitution includes two fundamental environmental pylons, namely: "the right of every citizen to live in a clean environment and the responsibility to protect this right" as well as recognition of environmental protection as a public interest.

The country's fundamental law contains a series of general legal provisions aimed at preventing and controlling pollution and erosion; integration of environmental concerns into sectorial policies; promotion of the integration of environmental values in educational policies and programs; ensuring the rational use of natural resources while maintaining their capacity for renewal, ecological stability and human rights of future generations. It is also concerned with the promotion of land use planning with a view to ensure an adequate location of activities and a sensible socio-economic development.

### **The Environmental Law n.º 20/97, of 1 of October 1997**

This Act is "*aimed at defining the legal bases for a correct use and management of the environment and its components for the realization of a system of sustainable development in the country*".

Article 4 of the Environment Law establishes a range of basic legal principles, which highlight: the principle of rational use and management of environmental components, with a view to further improve the quality of life of citizens and the maintenance of biodiversity and ecosystems; the precautionary principle, whereby the environmental management should prioritize the establishment of systems to prevent acts that could be harmful to the environment, to prevent the occurrence of significant negative environmental impacts or irreversible damage, regardless of the existence of scientific certainty about the occurrence of such impacts, and the principle of global and integrated vision of the environment as a set of interdependent natural ecosystems, which must be managed so as to maintain their functional balance.

This law has formed the basis for defining specific environmental laws and regulations.

### **The Environmental Impacts Assessment (EIA) Regulation, approved by Decree n.º 45/2004, of 29 of September, which is in the process of being replaced by Decree 54/2015 to regulate the same process**

Mozambique has developed comprehensive regulations to cover the EIA process, which are included in the Regulation of the Process for Environmental Impact Assessment<sup>18</sup>. The regulations are in line with the world's environmental and social management best practices, including World Bank recommendations and procedures.

There are three main specific objectives of any EA exercise:

- Screening and scoping of the proposed developments in terms of their potential impacts on the natural and social receiving environment, indicating both its beneficial outcomes and adverse effects. The initial screening is meant to determine the scope of the Environmental and Social Impacts Assessment (ESIA) required prior to approval of interventions. If any investment is likely to have significant adverse environmental impacts that are sensitive, diverse or

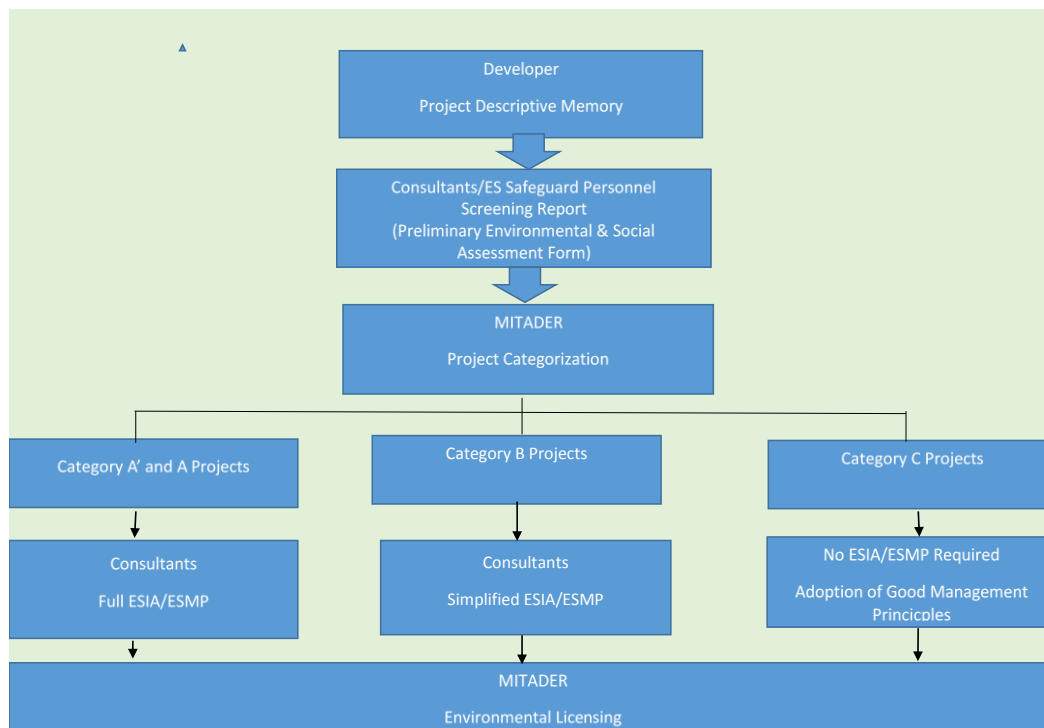
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<sup>18</sup> Decree 45/2004 of September 29, 2004 and Decree 42/2008 of November 04, 2008, which are in the process of being replaced by Decree 54/2015 of December 2015.

unprecedented (Category A), the ESIA will be more stringent than if the investment has impacts which are less adverse, site-specific, mostly reversible and where adequate mitigation measures can be designed (Category B). For investments with multiple sub-projects, this screening is often done in the form of a checklist of potential impacts included in standard Environmental and Social Management Frameworks (ESMFs). The new Decree (54/2015), which is expected to be enacted soon (probably by March/April 2016) has introduced a new category, which is A' followed by simple A. The two Category A projects (i.e. A' and A) include all the interventions that require stringent ESIA process due to their expected severe impacts. The main difference is that A' projects should be reviewed by independent (and more professional) assessors, while simple A projects are expected to be reviewed by the normal review process that has been in use, comprising mainly MITADER technicians and those of other sectors (e.g. agriculture, mining, energy, fisheries, water, etc.) seen as relevant in each specific case;

- The actual Environmental Impacts Assessment (ESIA), which assesses the potential impacts of the investment in detail and evaluates alternatives.
- Proposal of measures to be taken in order to avoid, mitigate and/or eliminate adverse effects both at the planning, design and installation stages, and during operation and eventual decommissioning of the project. This is generally done in the form of an Environmental and Social Management Plan (ESMP), which is normally an intrinsic part of the ESIA.

**Figure 13: The ESIA process in Mozambique**



The Scoping Exercise, ESIA and the Environmental and Social Management Plan (ESMP) are components of particular importance in any EA process. Scoping primarily explores fundamental issues and identifies any potentially significant positive and negative environmental (and social) impacts associated with the proposed development, helping to determine the scope of the Environmental and Social Impacts Assessment. An ESMF and an ESMP include in an annex Environmental and Social

Clauses (ESC), which serves as a guide for the contractor during construction. One of these clauses is the “Chance Find Procedure” mentioned earlier. These ESC should be included in the bidding documents and in Constructions Companies Contracts for systematic compliance during project construction.

The ESIA regulation also foresees that the Draft Scoping/TOR and Draft ESIA/ESMP should be subject to public debate with the objective of:

- Keeping Interested and Affected Parties (PI&As) informed about key issues and findings of each stage of the ESIA;
- Gathering concerns and interests expressed by various project stakeholders;
- Obtaining contributions/opinions from stakeholders in terms of avoiding/minimizing possible negative impacts and maximize positive impacts of the project; and
- Supporting the social dialogue and identifying from the onset, stakeholders’ perceptions and expectations. This can contribute to the action planning and effective communication in order to minimize the impacts of the project. The process also allows for rethinking the project’s technical aspects

Specific public participation aspects are regulated by Diplomas 129/2006 and 130/2006 and other related regulatory instruments.

### **Resettlement Issues**

Certain interventions might require people to be resettled. The Regulation of the Environmental and Social Impacts Assessment Process, which governs the EIA process in Mozambique, says very little about resettlement, except in its Annex I, point 1. Infrastructures, line a), where it states “under environmental licensing, all interventions requiring people to be resettled will be considered as Category A Activities”.

After many years of not having a single instrument to guide resettlement planning and action on August 8, 2012 the Cabinet approved **Decree 31/2012**, the new “*Regulation on the Resettlement Process Resulting from Economic Activities*”. This regulation fills a longstanding void in this regard. However, as it stands, this new regulation contradicts a lot with the applicable World Bank Operational Safeguards Policy (OP/BP 4.12) in various angles/domains as highlighted below

- *Article 15* indicates that a Resettlement Action Plan is part of the Environmental Impact Assessment, as per Decree 45/2004, of September 29 of the latter process;
- *Decree 31/2012* makes no provision of Framework as a starting point in situations where project intervention area’s footprints are not known; nor does it provide (i) basic characteristics to trigger resettlement, (ii) entitlement eligibility criteria, and/or (iii) room for grievance redress mechanism upon which PAP can rely upon for peaceful resolution of their concerns.

Moreover, for the most of this new Decree, it seems worth stressing out that its practical implications are still to be tested and assessed. Preliminary indications are that it does not solve the need to be specific in certain areas of the resettlement process, which continue to be spread over a series of legal documents. Thus, it will continue to be necessary to creatively combine those documents to devise the best measures to be adopted in relation to specific issues. In fact, Mozambique legislation guiding involuntary resettlement is spread over a series of legal documents dealing

with land, general rights, compensation, etc. To counteract potential inconsistencies derived from using laws and regulations that are not always easy to harmonize, most of the resettlement procedures undertaken to date by development initiatives in Mozambique have followed the World Bank OP/BP 4.12 on Involuntary Resettlement, which is systematically endorsed by the Government, as one of the member-countries. The Policy covers the involuntary taking of land, as well as restriction of access to means of livelihood.

Whenever an investment is likely to result in involuntary resettlement, a Resettlement Policy Framework (RPF) the borrower should be prepared, defining the principles, organizational arrangements, criteria for eligibility and compensation, grievance redress mechanisms and monitoring processes to be adopted. Once the Social Screening process (also included in the ESMF environmental and social screening form – ESSF) has determined with certainty that resettlement will be needed, a Resettlement Action Plan (RAP) is further prepared, approved and implemented prior to the physical implementation of the civil works activities. The details are presented in the RPF already mentioned above, which has been prepared as a standalone document as part of the Project.

#### **Regulation to Prevent Pollution and Protect Marine and Coastal Environment, approved by Decree nº 45/2006, of 30 of November**

This instrument has, as its aim: to prevent and limit pollution from illegal discharges from ships, platforms or land-based sources, off the coast of Mozambique and the establishment of legal bases for the protection and conservation of areas in the sea, lake and river, beaches and fragile ecosystems that are public domain. It also categorizes the various activities and determines the levels of their acceptability. It also deals with land-based sources of marine pollution.

#### **The Forests and Wildlife Law (Law nº 10/99, of 7 of June) and specific regulations**

Among other aspects, the law defines the protection and conservation of specific biodiversity components as well as certain flora and fauna species found in certain places

#### **The Land Law (Law nº 19/97, of 1 of October)**

The law and its Regulation 66/98, provide the basis to define access rights, land use rights and procedures for the acquisition and use of land title by the communities and individuals. The same law and the regulation embodies key aspects defined in the constitution in relation to the land such as the maintenance of the land as state property and that land cannot be sold as well as the absence of a "land market" per se in the country. Among other aspects it defines "areas meant to meet public interest" as belonging to public domain. It also protects customary and community rights over land.

#### **The Land Planning Law (Law nº 19/2007 of 18 of July) and its regulation**

It establishes a number of important principles for environmental protection in the context of regional planning. Line 1 of article. 5 of this Act, states "land use planning aims to ensure the organization of national space and sustainable use of natural resources, noting the country's economic legal, administrative, cultural and material conditions favorable to social development and, to promote the quality of life, the protection and conservation of the environment. It establishes hierarchical



responsibilities among central, provincial, district and local governments in land use planning processes.

### **National Water Law in 1991 and the National Water Policy from 1995<sup>19</sup>**

Under the water law and policy, the following principles are adhered to: (i) water supply and sanitation services should be provided in accordance with the demand and economic capacity of the users; (ii) tariffs should allow for the recovery of operational and maintenance costs, and later contribute to investment and sustainability of the systems; and (iii) in as far as possible water supply and sanitation services should be decentralized to autonomous local agencies. Under the water law and policy, water and sanitation are formally dealt with as a unity although sanitation is seen as still being in a situation of relative disadvantage.

Water and sanitation policy is further elaborated in the National Water Policy (PNA), adopted in August 2007. It covers the 2015-2025 timeframe, providing specific targets for the period. The policy's goals fall into two main areas: a) Water: providing the basic needs of humans, based on the supply of safe and reliable water in urban, peri-urban and rural areas; b) Sanitation: improved sanitation as an essential tool for preventing water-related diseases (malaria, cholera, diarrhoea), improved quality of life and environmental conservation. It focuses on different areas and aims at ensuring access to sanitation services (ranging from improved latrines to connection to an urban sewerage system and improvement of storm water and drainage systems).

In regards to the environment, the Water Policy also addresses the following water and water use issues: (a) Economics: in relation to economic development (irrigation, hydroelectric power, industry, tourism, fisheries, reforestation, livestock, navigation, among others). (b) Conservation: ecological flows for rivers and estuaries, water quality standards for effluent discharge into water bodies, intakes and catchments, and measures to prevent and mitigate the impact of pollution. (b) Disaster risk reduction: reduction of vulnerability to floods and drought by better coordination and planning, use of structural and non-structural measures and consultation with and training of people, communities and institutions in affected areas

A process of separation of functions and roles and responsibilities of the various role players has been underway. In water, water resources and bulky water production roles have been separated from water supply asset holding and from water services management. A regulatory entity has also been established with the mandate of keeping a balance between government and private sector management at the same time that consumers are given a voice in infrastructure planning and management. The government retains the role of policy formulation and general promotion. However, in practical terms the country is still going through a transition process with government interfering across the entire sector doing cumulatively policy formulation, regulation, implementation and management of services. Nonetheless, there has been enormous progress made in both implementation and institutional adaptation.

### **The Law on Local State Administration n° 8/2003 and Decree n° 15/2000 on Local Authorities**

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<sup>19</sup> Updated in 2007

These legal instruments expand the level of control and responsibility to local authorities for local development and decentralization.

### **Mine (14/2002) and Oil (3/2001) Laws**

The Law n. ° 14/2002 of 26 June regulates the terms of exercising the rights and duties relating to the use and exploitation of mineral resources with respect for the environment, considering their rational use and benefit to the national economy. The same law stipulates that "the right to use and exploit mineral resources shall be exercised in accordance with the best and safest mining practices, in compliance with the environmental quality standards established by law and with a view to developing a long-term sustainability". Specific areas in which sustainability should be materialized include: a) reconnaissance b) exploration and research; c) mining; d) treatment and processing, e) marketing or other uses of the mineral product, and f) other related purposes. In its turn Law 3/2001 of February 21 is governed by the same principles as stipulated above and regulates oil production in the country.

### **Pesticides Regulation (Ministerial Diploma nº 153/2002, of 11 of September)**

This is a joint regulation between the ministries of agriculture, health and environment aimed at regulating the importation, distribution, production, disposal and use of agrarian pesticides for the protection of animal and public health purposes. It requires all operators active in the importation, distribution, production of pesticides to be registered. It also classifies the various pesticides in three major categories, where those of Class III and II are the least lethal and those of Class I are the most lethal. It also regulates the labeling and packaging of pesticides, as ways of facilitating identification and protecting the environment and particularly public health.

### **Occupational Health and Safety**

Occupational health and safety combine provisions from different legal instruments namely: the Constitution, the Labor Law and a series of provisions from subordinate legislation, much of it inherited from the colonial period. ILO conventions, especially Convention no 17, related with compensation for workplace accidents as well as ILO Convention no 18, regarding compensation for occupational illnesses, also apply.

The Constitution (Article 85) states that all workers have a right to a fair wage, rest and vacation and to a safe and hygienic work environment. The Labor Law (Articles 216 through 236) indicates that workers have the right to work under hygienic and safe conditions and that employers have the obligation to create such conditions and to inform workers regarding the risks associated with specific tasks that they are supposed to perform. This could be in the form of safety equipment and work clothing to prevent accidents and negative effects on workers' health. Under the Labor Law employers and workers are expected to work together to ensure health and safety at the work place. Companies with high risk of accidents or occupational hazards are required to establish workplace safety committees to ensure compliance with health and safety norms investigate the causes of accidents and organize preventive measures. Such committees must include representatives of both the employer and the workers.

The Labor Law also stipulates that industry-specific regulations on health and workers' safety may be established by ministerial diploma, by the Minister of Labor, the Minister of Health or the Minister in charge of the specific sector. It is worth mentioning that in 2008 (December) the Ministry of Health approved its specific guidelines in this regard

(MISAU/DNAM (December 2008) – “Guidelines on Safety and Health in the Workplace”, Maputo, Mozambique).

Large size companies (i.e. with more than 100 employees) and companies carrying out strenuous, unhealthy or highly dangerous activities must have health units on site. Medical professionals are supposed to regularly examine workers to determine, among others, if they are well enough to do the work called for in their contracts. HIV/AIDS tests fall outside such a provision. For certain sectors and in line with their specific provisions regular health checks are mandatory. Such is the case of workers dealing with food and beverages.

## 7.2 Institutional Framework

After many years (i.e. from 1994 to 2014) of managing environmental issues through a ministry in charge of environmental coordination (MICOA), the GOM has recently (January 2015) established the Ministry of Land, Environment and Rural Development (MITADER). It is expected that MITADER will boost the environmental sector capacity to undertake important environmental management responsibilities such as (i) land use planning including the integration of this aspect into decentralized planning and particularly rural development, (ii) reduction of the people living in environmentally risky and sensitive areas; (iii) environmental education and promotion; and (iv) regulation and enforcement of natural resources management activities, particularly around land, forests and rural resources in general.

The management of a vast number of natural resources will certainly extend to important sectors such as:

(i) Those depending directly on natural resources as their main source of raw materials (inputs) comprise:

1. Agriculture (land and forests)
2. Fisheries (fishery resources)
3. Mines (mineral resources)
4. Public works and housing (water and land)

(ii) Those whose outputs depend largely on the supply of environmental services comprise:

1. Energy (water, mineral resources, biotic elements for bio fuels, etc.)
2. Tourism (landscape and wildlife)
3. Health (water and infrastructures)

Work undertaken by former MICOA with these sectors in fulfilment of its coordination role is expected to continue and be improved in a situation where MITADER has more direct management mandate over a wider number of important natural resources and social issues and particularly to manage rural development. It should be noted that rural development is again a cross-cutting subject. Its materialization relies on the coordination of multiple interventions that have the potential of changing the circumstances in rural areas such as plant and animal production including forests and irrigation (agriculture); roads, energy, telecommunications, etc. In a sense the coordinating role can be expected to continue under the current structure and will extend to ANRLMP, which is basically a rural development project. The various interventions under this project will fall under specific sectors and subsectors as enumerated above. MITADER will again focus on environmental licensing for such

interventions with the initiatives coming directly from the sectors and subsectors even if during the identification process MITADER will have a particular role including leadership role to play. The environmental and social licensing of projects falls under the Environmental Impact Assessment Authority (AAIA), which is in the process of being established at the central level with representation at the provincial level. Despite being a new entity AAIA can build on the vast experience that has been developed in Mozambique in the last close to 20 years in conducting ESIA processes. The same applies to the recruitment of manpower within MICOA/MITADER and outside for the various functions. Simple forms of adaptation and some capacity building can be expected to go a long way in terms of establishing the basic conditions.

To manage resettlement, which has been an important issue lately in Mozambique, the new Ministry has established a specific national directorate that deals with both land use planning and resettlement. Bringing together the two aspects, i.e. land use planning and resettlement, can be seen a step forward towards better structured interventions in dealing with the latter.

Despite the enormous progress that has been made in both implementation and institutional adaptation the country continues to face significant challenges to make its environmental and social management instruments and practices more responsive to the ultimate interests of adopting a sound management of its natural and social base. The processes downstream the issuing of environmental licenses are rather weak and/or almost non-existent. This is an area that requires serious strengthening including putting in place the various systems and procedures to make developers, public and private more compliant with sound environmental and social management requirements.

Under this project MITADER will work as both implementing entity and supervising agency. This is going to be a challenging role, which the project needs to deal with adequately and document and develop lessons learned as the process progresses. Actually, such a role will tend to be normal as MITADER deepens its role as the champion institution for rural development in the country. In this regard ANRLMP will be a privileged opportunity to test a series of interventions.

It is also worth mentioning that although there has been increased harmonization between the GOM Regulations and the WB Safeguards Policies, differences in certain areas and aspects remain. **Under the Project whenever there is a conflict between national legislation and World Bank safeguards policies, the latter prevails.**

The table makes a brief comparison between the Mozambican legislation and that of the WB in conducting environmental and social impact assessments at the same time that identifies existing conflicts.

**Table 6: Gap assessment and comparison of legislation between Mozambique and WB requirements**

Issue	Mozambique Legislation	WB safeguard requirements	Gaps/Conflicts
Project categorization	EIA required by Environment Law N° 20/97 of October 7, 2007, and Decree N° 45/2004 and the upcoming Decree N° 54/2015. The Regulation for the EIA process classifies the projects into 3 categories: A full EIA and now (Decree N° 54/2015 another A' category subject to review by professional assessors) is required for Category A. A Simplified EIA is required for category B and no EIA is required for Category C.	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 Management Plan (EMP). 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	Despite some minor differences there are no conflicts between the two sets of legislation
Environmental authority must provide an environmental permit for projects prior to appraisal.	The issuing of an environmental license shall precede any other required license.	OP 4.01 requires the approval and disclosure of EIAs by the relevant government authority.	In both processes the disclosure takes place before approval and therefore any raised concern is dealt with before project approval.
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.	Mozambique has not prepared specific standards for management of wastes, and noise emissions for different industries. Therefore, World Bank standards (IFC OHS guidelines and IFC Environmental, Health and Safety guidelines) can be applied. National environmental standards (Decree No. 18/2004 of 2 June 2004 developed for other industries (air emissions, power industry, and plastic exist and can be applied).

## **8 ENVIRONMENTAL AND SOCIAL CONCERNS OF TARGETED AREAS**

In addition to literature review and initial contacts with central level institutions in Maputo city consultations and direct observations with people and of circumstances in the project area were made to ascertain the type and level of impact that the project might have on the receiving natural and social environment. The subchapter below presents a summary of the issues that came out from the public meetings

### **8.1 Public Consultation**

During the preparation of the ESMF public consultation was carried out. The following meetings were planned and took place:

- Nampula - Open meeting on the 22nd of February 2016
- Ribaué - Open meeting on the 23rd of February 2016
- Ribaué - Focus groups discussions with groups of men, women, youth and local leaders on the 23rd February 2016
- Malema - Open meeting on the 24th of February 2016
- Quelimane - Open meeting on the 25th of February 2016

The meetings were aimed at informing stakeholders about the project structure and contents, including the project geographical boundaries, expected impacts and planned ways of systematically dealing with these impacts and to get their views on issues to be reexamined. The feedback received from stakeholders has been integrated in many sections of the three documents including the ESMF and are also summarized in Annex 7. It also includes the names of the people that have been consulted. As stated earlier, the final ESMF will be disclosed in-country and in the World Bank Infoshop prior to appraisal.

Using the Draft ESMP, RPF and PMP the project structure and contents and the impacts that it is likely to be associated with as well as ways of dealing with its different aspects was presented to them and feedback was sought out. The most relevant aspects are presented below:

**Coordination and synergies with other projects:** stakeholders were vocal about the need to establish coordination and synergies between ANRLMP and other development initiatives in the project area. Chapter 5 of this document makes a preliminary identification of such initiatives/projects/programs, which needs to be updated and used as a management tool throughout all phases of project development. Nacala Corridor in particular (where Malema, Ribaué, Mecubúri and Rapale are located) was referred to by participants as an area that seems to be already saturated by projects thus in need of careful selection and planning of ANRLMP subprojects in order to avoid exacerbation of any conflicts.

**Resettlement processes:** Project interventions should be planned, designed and implemented in such a way as to avoid massive resettlement and particularly resettling the same people and/or communities that have been subject to any forms of resettlement by previous interventions, and/or resettling more people of the same community. In the event of that happening.

**General assistance to revitalize agriculture:** a combination of measures should be put in place to truly revitalize the conditions under which agricultural production takes

places in the project area. The measures include the various aspects foreseen under ANRLMP such as strengthening value chains, improving local infrastructure, linking various types of operators, etc. and ensuring that the project goes ahead in practical terms and is not simply translated into words and intentions as stakeholders seem to have seen in the past with similar initiatives. PROSAVANA was referred to several times as an example of what should be avoided under ANRLMP. Expectation is high and ANRLMP should meet its promises. Participants reiterated what they see as being a big challenge to revitalize value chains that are inclusive and will translate into community involvement.

**Involvement of local authorities and organizations:** in the planning and implementation of activities it was strongly suggested that there should be a greater involvement of the SDAE, SDPI and Civil Society at district level.

## **9 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES**

The project will have four main components with the following preliminary allocation of funds:

1. **Component 1:** Agriculture and Forest-Based Value Chain Development (US\$57M IDA).
2. **Component 2:** Securing Land Tenure Rights and Increasing Natural Resources Resilience (US\$18M IDA)
3. **Component 3:** Project Coordination and Management (US\$6M IDA)
4. **Component 4:** Contingency Emergency Response (US\$ 0M)

Activities under these four components and mainly those from Component 1 **Agriculture and Forest-Based Value Chain Development** (US\$57M IDA) and Component 2 **Securing Land Tenure Rights and Increasing Natural Resources Resilience** (US\$18M IDA) but also those from other components will affect the different environmental and social components in different ways.

The location and details related with those interventions were not yet know at the time of preparation of this ESMF. The exercise to select and prepare the pre-feasibility studies of specific subprojects will be conducted for a certain period of time (up to six months) after project start up.

A few elements that characterize each of these interventions and the way in which they will be conceptualized and implemented including the extent to which these are related to environmental and social implications can be seen in chapters 3 and 6 of the RPF, which should be used together with this document.

The environmental components to be directly affected include:

- land resources on which the proposed small-scale infrastructure, such as rural feeder upgrade and maintenance; (ii) rural bridges (iii) small and medium scale irrigation schemes; (iv) storage facilities; and (v) and (vi) other types of priority infrastructure, etc. will be built; (vii) land demarcation and titling;
- air quality, which has the potential to be negatively affected by dust generated from the various construction/rehabilitation and project operations;
- soils which may be polluted with pesticides;
- water resources including freshwater which may be affected by the discharge of fertilizers, nutrients, different chemicals to be used for pest management, water abstraction, diversions, and debris from civil works, oil spills, etc.;
- vegetation which may have to be cleared to pave the way for new farming areas and roads and other physical interventions; and
- communities, which will generally benefit from the project, but at times could be negatively affected, e.g. the risk of loss of land and/or loss of assets.
- The High Conservation Value Areas that will benefit from protection and rehabilitation.

The preliminary identification of Project potential environmental and social impacts was done considering the environmental and social components that are likely to be



affected by the Project activities. This was done through literature review of projects implemented in the same areas and limited consultation with key stakeholders, particularly at the central level, scholars and key informants and professional judgment.

## 9.1 Potential adverse environmental and social impacts

The environmental and social impacts will result from the project activities under components 1 to 4. These impacts relate particularly to the final design, construction and operation of (i) rural feeder road upgrade and maintenance; (ii) rural bridges (iii) small and medium scale irrigation schemes; (iv) storage facilities; and (v) other types of priority infrastructure, (vi) land demarcation and titling. Further impacts may be caused by the increased use of fertilizers and agro-chemicals, including herbicides and pesticides, as well as installation and operation of agro-processing and storage facilities. Land demarcations and all the measures to be taken to improve the management of forests and other natural resources will also have impact on both the natural and social environment.

Adequate selection criteria for all project actors will need to be applied to avoid the risk that communities lose the access to their land. **Large-scale investors, which need to acquire large land areas, will not be supported.** Moreover, investors who want to introduce genetically modified organisms (GMOs), grow tobacco and drugs will not be supported.

For all environmental and social impacts the applicable World Bank Group Environmental, Health and Safety (EHS) Guidelines of April 2007 will need to be applied. Especially the General EHS Guidelines and the Agribusiness and Food Production EHS Guidelines will need to be applied, especially for the units that will be storing and/or processing large amounts of local products. The applicable Agribusiness and Food Production EHS Guidelines will be applied to the Agro-processing facilities from investors who are associated with Project financed activities.

Although the expected environmental and social impacts will be limited in extension, the following negative environmental and social impacts can be expected:

### Soil

During construction activities around feeder roads, small bridges, small scale irrigation schemes, and respective construction camps, etc. soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities. Improper grading of land may also cause drainage and erosion problems. The resulting soil particles may be transported into surface drainage networks and rivers, thus, affecting the quality of natural water systems and ultimately the biological systems using the waters. Water may accumulate in excavated pits potentially leading to the breeding of insects and other infectious organisms, which could increase the prevalence of malaria and bilharzia. Accidental spill of oil or lubricant may infiltrate into the soil and enter surface or groundwater. Increased use of fertilizers and agro-chemicals (pesticides) will also affect soil quality.

### Air Emissions

Construction and rehabilitation activities of (i) feeder road upgrade and maintenance; (ii) rural bridges (iii) small and medium scale irrigation schemes; (iv) storage facilities; (v) rural electrification; and (vi) other types of priority infrastructure, etc. are usually associated with the release of dust generated from land clearing, excavation and

movement of earth materials, cut and fill operations, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind. The use of construction equipment and power generators is expected to release exhaust related pollutants such as carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), particulate matter (PM) and hydrocarbons (HCs). Agro-processing facilities can cause air pollution. The air emission standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied. In construction sites, the cleaning and rehabilitation of fuel oil tanks in oil storage facilities may generate volatile organic compound (VOC) emissions. For small operations as the ones expected under Project air emissions during rehabilitation/construction and operation phases tend to be confined to the immediate vicinity of the rehabilitation/construction and operation sites and will have insignificant impacts on air quality. Adequate preventive, design and management measures will suffice to prevent such emissions from being harmful to people and surrounding biophysical setting.

### **Noise**

During construction/rehabilitation and operation activities around feeder roads, small bridges, small scale irrigation schemes, and respective construction camps, etc., noise may be caused by the operation of pile drivers and demolition machines, earth moving and excavation equipment, generators, concrete mixers, cranes as well as fuel oil tank erection and pipe laying works. The increased noise level may impact on construction workers and nearby residential areas. However, most of the impact will be limited to the works' implementation phase and will end when the works are complete. Noise levels may not exceed 55 dB during day time and 45 dB during the night in residential areas and 70 dB in industrial areas during all times during the day and night.

### **Solid and Liquid Wastes**

Solid and liquid wastes will be produced during construction and operation of feeder roads, small bridges, small scale irrigation schemes, and respective construction camps, etc. Solid and liquid waste needs to be managed. Non-dangerous wastes can be disposed of in urban landfills. Hazardous wastes, such as used oils need to be disposed in an environmentally sound manner. They are normally disposed off through a contractual arrangement with the oil suppliers, who will take the waste oils away for recycling.

In construction camps the rehabilitation of fuel storage facilities may involve the removal of contaminated soils around fuel dispensers, piping, and tanks. Depending on the type and concentration of contaminants present, such soils may need to be managed as hazardous wastes. In addition, bulky, inert and contaminated solid waste items are likely to be generated during the rehabilitation of fuel storage facilities such as damaged tanks. If improperly managed such wastes may constitute an environmental problem. These facilities will need to be removed and disposed of in an environmentally sound manner by the contractors.

### **Water Quality and Quantity**

During construction and operation of feeder roads, small bridges, small scale irrigation schemes, and respective construction camps, etc. surface water pollution may result from uncontrolled discharges into freshwater or brackish water rivers. Accidental spills of oil, polluted runoff from polluted areas and sediment transport. The latter impact is particularly significant when rehabilitation and/or construction activities occur within or

in close proximity to surface water such as in the case of the rehabilitation and/or construction of heavy fuel oil supply facilities. Polluted water flowing into surface water bodies could impact the aquatic organisms and affect the quality of life of downstream water users when river waters are involved. Many people are still using river water as a source for drinking water. Groundwater contamination may occur from percolation of oil and lubricants into soil. Nevertheless, waters disturbed by rehabilitation and construction activities are likely to recover when sediment or other pollution is controlled and natural processes are permitted to replenish. Agro-processing facilities can cause water pollution. The effluent standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.

As regards water quantity the issue of environmental flows is revisited. There are many formulas suggested by experts for the purposes of calculating the environmental flows. Most of these methods rely on information contained in the water flow series (history) related with a given section of a watercourse, in order to establish a minimum flow rate. The methods, which tend to use the average daily flow in a natural system (not monthly average flows as most methods based on hydrological records) comprise in the methodological approach a set of hydrological concepts covering different and important aspects of ecological management of rivers that in general establish a “flow regime of ecological maintenance” in order to create rational management proposals for the conservation ecosystems in regulated rivers. Without going into much detail in this ESMF on this subject it is suggested that the matter be taken up in the later stages of the hydrological and environmental studies in order to arrive at an equation that will be suitable to the different interventions to be carried out. In close collaboration with the ARAs (Centro Norte and Norte) MASA/INIR (the Developer for small and medium scale irrigation) should be responsible for ensuring that this aspect is considered adequately in each and every subproject. The same applies to the transport and circulation of sediments. It will be fundamental to establish and respect the requirements for sediment transport and circulation that are essential for maintaining the health of surrounding ecosystems. These, however, will need to consider that in most cases the water management systems to be built and/or rehabilitated will be small in size. Experts also agree that for small systems complex methods of calculation of environmental flows have little or no effect.

## **Flora and Fauna**

During construction and operation of feeder roads, small bridges, small scale irrigation schemes, and respective construction camps, etc., especially irrigation infrastructures and all those activities taking place in or close to water bodies stream pollution by sediments from rehabilitation and construction activities often consists of suspended and settleable solid particles that may coat, bury, suffocate or abrade living organisms such as eggs, larvae, fish, etc. Many aquatic invertebrates and fish may undergo changes in population density and community composition if high concentrations of suspended solids occur. Aquatic vegetation may be adversely affected by a reduction in photosynthesis due to high turbidity. Dredging may also increase turbidity and sediment load and reintroduce into suspension bottom sludge trapping toxic precipitates. The toxic sludge may be ingested or concentrated in freshwater or marine plant and animal species and biologically magnified in the food chains. Detonations from blasting for in-stream foundation excavations may produce underwater shock waves potentially injuring or killing fish in their sphere of influence.

Accidental oil spills in aquatic ecosystems can cause significant mortality in aquatic organisms. These spills need to be prevented at all means by locating fueling and machine maintenance stations at least 100 meter from rivers.

The installation of construction camps and the alignment and rehabilitation of feeder roads in and around forest areas requires the clearing of tall trees within the rights-of-way/corridors. Therefore, construction activities may result in loss of forests and plant cover, disturbance and loss of fauna habitats, weakening and degradation of soils, disturbance of the natural landscape and morphology. Thus, the adequate selection of the location of a facility or the right of way can significantly reduce impacts on biodiversity. The losses of trees need to be compensated in the same area.

The project area comprises four forests reserves Mpalwé, Ribaué, Mecubúri and Baixo Pinda and Gilé National Reserve. Development activities near these areas and other areas of particular forests wealth and diversity need to be planned and executed carefully. Depending on the sensitivity of the areas in which developments will take place the following measures, but not only, should be adopted:

- (i) cutting existing natural vegetation should be avoided to the maximum and be limited to the minimum necessary;
- (ii) any activity of vegetation removal must be authorized in advance by the competent environmental agency, especially to ensure destroying vegetation of any special value where it can be present;
- (iii) large trees and fruit trees and those that serve as shade or have landscape value should be preserved whenever possible, provided that they do not offer security risks, due to their state of degradation or that of the soil;
- (iv) shrubs must be preserved to minimize soil erosion;
- (v) in the areas for deposits of various materials during construction and even during operation, shrubs should be maintained;
- (vi) where possible, seed collection should be performed in order to preserve the species object of any form of disturbance intervention. This has the potential to secure necessary inputs for environmental compensation by way of replanting, which already has poor in the project area;
- (vii) deforestation through the use of standard tractors or blades should be strictly prohibited. The use of fire should not be admitted in any phase of the work;
- (viii) the use of herbicides, defoliantes or any types of chemicals should be prohibited regardless of their degree of toxicity, for logging purposes or any purpose in the reserve areas, and access roads.

### **Protection of areas of special importance (conservation/protected areas and wetlands)**

As seen in the description of the receiving natural environment along the South of the Lúrio River there are 4 forests reserves Mpalwé (51 km<sup>2</sup>), Ribaué (52 km<sup>2</sup>), Mecubúri (1,954 km<sup>2</sup>) and Baixo Pinda (MICOA 1997) as well as the Gilé reserve in Zambézia province. The forests reserves were established during the 1950s to protect the flora and have been under the management of the Ministry of Agriculture and Food Security. It is also noted that the reserves have suffered significant human influence during the war and post war and are in need of special attention. It is to be expected that under this project the reserves will enjoy their rightful status with a view to play their role. WB and GOM requirements for managing those areas in a sustainable manner will have to be adhered to in all Project interventions. A list of protected species, including those in

the IUCN red-list should be compiled and presented as a standalone list to be used against the various project interventions.

### **Health and Safety**

Safety issues may arise during the rehabilitation and construction phases if community's access to works' sites is not controlled. People may be injured by construction machinery or may fall in open trenches (roads, water supply and other works).

The rehabilitation/construction and operation of fuel supply facilities are associated with the risk of release of flammable material due to accidental damages to the fuel tanks from works-induced activities, such as landslides or collapse of tall structures such as cranes, and broken pipelines from works-induced vibration.

Health and safety measures at the construction sites, as described in the World Bank Environmental, Health and Safety Guidelines need to be applied and enforced by the contractors. These include the wearing of protective clothing, masks, construction site boots, helmets, gloves and others.

### **Pesticide Use and Management**

As highlighted in the PMP that has been prepared together with this ESMP, the possible and expected expansion of the introduction of advanced agriculture and agribusiness development associated with the ANRMP has a strong potential for an increase in pest populations and subsequently a raise in pesticide usage to control them, as well as an increase in the use of chemical fertilizers across the agricultural cycle. Any increase in pest populations may be detrimental to agricultural productivity or human/animal health, which in turn will increase the dependency on pesticides. Any subsequent increase in the use of chemicals has the potential to cause harm to users, to the public and to the environment

The general use and management of pesticides including transport, storage and re-use by women, illiterate and people without strong and guided tradition of managing these products including extension workers and other agricultural officers that are not adequately skilled to assist local farmers in the use of the same products can be associated with a multitude of risks to the users themselves and the social and natural environment.

The management measures foreseen in the IPMP need to be thoroughly applied to prevent any hazards from happening in the course of project implementation.

As a way of meeting the requirements of the national and World Bank ESIA/ESMP and RAP laws, regulations policies and guidelines all phases of the Project including those that will come after ESMP, RFP and PMP approval should continue to make concerted efforts to derive benefits from public consultation and involvement.

### **Land Acquisition**

**Land use planning:** In compliance with the Land Use Planning Law (Law n.º 19/2007 of 18 of July) and its respective regulation the districts have finalized the preparation of their district and inter-district land use plans, while towns and cities and respective autonomous governments including municipalities work on urban plans within the areas under their jurisdiction. In line with the law, the plans are aimed at:

- (i) guaranteeing the right to land occupation for people and local communities;
- (ii) re-qualifying urban areas, which due to a combination of factors, including the war that ended in 1992, have been growing in an unplanned way in many places;
- (iii) identifying and enhancing capabilities;
- (iv) preserving the ecological balance of soil quality and fertility;
- (v) ensuring compatibility and coordinate environmental and social policies and strategies and socio-economic development;
- (vi) optimizing management of natural resources; and
- (vii) managing land conflicts.

These land use plans are important instruments in deciding the siting of interventions including those expected to fall under the Project. The Project should endeavor to support the smooth completion of the land use plans as part of the process of deciding the best location of the various interventions as highly relevant guideline. Land Use Planning falls under MITADER and “Land Delimitation and Titling” foreseen under ANRLMP will largely rely on local land use plans. The Land Use Planning Department at all levels will have to be involved in the updating of the local land use plans as a way of best implementing all ANRLMP interventions that have land acquisition implications. Annex 1 of this document presents the status quo of PDUTs in the project area, it shows that with the exception of Gurué the other 9 districts in the project area have their own land use plans.

It should also be noted that even where district (PDUT) and urban (PPU and PP) exist in some cases the quality of such instruments is not adequate. Assistance might be needed to bring them up to the required standard. This will be of particular importance for ANRLMP given its strong emphasis on land demarcation and increased land tenure systems approach.

### **Socio-Economic**

The rehabilitation and construction phase will generate a number of short-term job opportunities for the local people, as well as new opportunities to improve livelihoods for local communities and reduce poverty.

If adequate measures are not put in place, there will also be some potential negative socio-economic impacts, especially related to loss of land through the wrong selection of investors (land-grabbing) and loss of land and property as a consequence of involuntary resettlement. There is also a potential risk to the disturbance of physical cultural resources, and the potential negative impact of the influx of external workers, including foreign workers.

Feeder road upgrade and maintenance; rural bridges; small and medium scale irrigation schemes; storage facilities; rural electrification; and other types of priority infrastructure may cause damage to cultivated crops (depending on how and when the land is taken from farmers to be passed on to the Project/subprojects and other related initiatives), housing components (e.g. fences, walls, etc.) informal businesses (kiosks/vending stalls and barracas), including on components of other public and private utilities (e.g. telecommunication and electricity poles along the roads). This could be potentially associated with social problems such as the loss of houses and structures on the land, and facilities, and the potential negative impacts on livelihoods of the communities who lived on the land or used it for cultivation and other daily activities.

At the social level, there could be increased tensions between farmers with regard to land issues or between pastoralists and farmers related to wandering livestock. In some of the districts and/or specific areas mainly around towns and cities this is already a serious problem, which, if not adequately managed, could get worse as Project progresses.

Activities that may also result in negative impacts are:

- the use of Genetically Modified Organisms (GMOs), which would make farmers for 100% dependent on multi-nationals and could have other negative impacts on poverty levels and health;
- the introduction and adoption of innovative practices (cultural itineraries, post-harvest practices), e.g. through the increased use of fertilizers and pesticides;
- support to semi-industrial processes and packaging, e.g. increased use of antibiotics to control diseases.

Overall, the project activities could have negative impacts on certain aspects of local livelihoods, housing, social and economic infrastructure and natural resources, not only because of the facilities and infrastructure that will be provided, but especially because of the influx of local, regional and even international investors and workers.

The environmental and social risk factors and challenges of the project will be: (i) unauthorized occupation (and non-consensual) of land belonging to local people; (ii) increased population, certainly due to an increasing number of influx because of the numerous mining concessions and/or economic boom in the region, which will result in increased needs of land; (iii) work conflicts and disputes for work between local people and people from other parts of the country and/or outside the country; (iv) the likely widespread of STIs including HIV/AIDS.

In addition to agriculture and housing land as described above, the influx of additional agricultural investors and of an external work force also has the potential to result in the need of increased infrastructure for water supply, sanitation, schools and health centers.

### **Physical Cultural Resources**

There is also the potential for the Project to interfere negatively with sites of cultural, religious or historic importance (e.g. family and community cemeteries and other sacred places). Upon discovery of graves, cemeteries, cultural sites of any kind, including ancient heritage, relics or anything that might be or believed to be of archeological or historical importance during any stage of project development, such findings should be immediately reported to the Project Management in order to ascertain the measures to be taken to protect such historical or archaeological resources. All forms of inappropriate removal/disposal should be avoided.

## **9.2 Other potential adverse socio-economic impacts**

### **Resettlement**

Although limited in size, it is ascertained that resettlement could take place in the project intervention areas. This could be directly associated with two categories of interventions, namely (i) construction of project infrastructures; and (ii) land demarcation. The potentially affected structures are permanent houses, shops, temporary sale points, food vending areas, farmed areas (crops), trees belonging to

local people/entities, etc., which are very close to the existing roads or within the sites to be proposed sites for different interventions, e.g. (i) feeder road upgrade and maintenance; (ii) rural bridges (iii) small and medium scale irrigation schemes; (iv) storage facilities; (v) rural electrification; and (vi) other types of priority infrastructure, etc. in regard to these interventions and mainly due to their linear nature and the limited level of encroachment, in most cases, if not all, an abbreviated resettlement action plan (RAP) will suffice as in each case only a limited number of people and assets are likely to be affected. Land demarcation may require people and their assets to be affected as this is a process that is likely to be associated with improved land use planning that would be contrary to the current land occupation, which is less structured most of the time, particularly in rural areas.

### **Mobility and Accessibility**

The construction of certain infrastructures, particularly medium scale irrigation schemes, has the potential of being associated with disturbances by bringing about changes in normal mobility and access to vital areas and resources by local people. Adequate siting and sizing of these infrastructures including community involvement in such processes is important in order to devise the best ways of avoiding/minimizing interferences and/or finding ways of compensating for the problems that might arise.

### **Increase in HIV/AIDSs and STDs Cases and Communicable Diseases**

The spread of HIV/AIDS and other communicable diseases is likely to increase, especially during infrastructure development and construction, when workers from outside the region are brought into it to live for long periods without their respective spouses. During operation interaction with truck drivers and other external workers with local women could be an open door for HIV/AIDS and/or ISTs propagation, especially among poor households, women and a younger generation often used as sex-workers to be self-sustained or sustain their families. Contractors should develop and implement an HIV/AIDS-IST prevention plan, which should include the training as an awareness raising campaign of their workers and the surrounding communities, provision of sufficient and free condoms of good quality to their work force, provide treatment for workers who are infected, etc. It is also recommended to hire/involve a local specialized NGO to implement the HIV/AIDS Awareness campaign within both work force and surrounding communities.

### **Work/job conflicts between local people and external work force (national, regional and international)**

If not adequately managed there could be real conflicts and/or misunderstandings surrounding the criteria for hiring of an external work force. Without clear criteria and communication local people might look at the hiring of external work force as unjust and detrimental to their immediate interest. This has the potential to cause conflicts and disruptions, including violence. The ESMP will always specify that whenever local people/organizations are capable of carrying out project activities they should be given preference. External people organizations will be hired only after evidence that locally there are no capabilities.

In principle the work/job opportunities must benefit the direct affected people with adequate involvement of local authorities to better manage the influx of external workforce. The local training programs must also be selective in target its audience amongst the local affected people as priority.



### 9.3 Potential positive impacts

Improvement of local infrastructure and particularly rural feeder roads, meant to connect agricultural producers to markets will lead to the adding of value to local agricultural products. The districts have specific roads that they regard as high priority and which they see as fundamental to facilitate liaison with larger markets and make it possible for local farmers to use both the road and other means of transport (e.g. railways) to transport their goods to the markets and processing centers.

The improvement of local infrastructure can also be expected to lay the foundations for the extension of telecommunication and internet networks (mobile), electricity and other amenities, which will contribute to making local economy more modern and competitive, as well as improve people's livelihoods, habits (i.e. way of thinking and conducting their daily lives) and way of socializing (increase inter-village/inter-community exchanges, etc.).

Implementation of the Project will, among others, stimulate private investment in the agricultural sector but also in other sectors, such as tourism. Serious constraints may be lifted by the establishment of basic infrastructure while providing considerable support to the private sector institutions and national as well as foreign initiatives throughout value chains.

In environmental terms, the project will result in better management of natural resources surrounding planned interventions and above all it has the potential of improving land administration including land tenure systems. Establishment and protection of High Conservation Value Areas (HCVA), particularly, riparian forests, biodiversity hotspots, and upper water catchments, will be an important result from project implementation.

In social terms, the positive impacts of project activities could be brought by external investors introducing new production systems, technologies and practices. It is expected that these investments will contribute to improved technology and farming systems (e.g. horticulture and general fruit and cereal cultivation), reduction of post-harvest losses, improving revenue and marketing conditions, a better utilization of production processing; broadening the range of products, strengthening the skills of the various actors in the rice and horticultural sectors (producers, traders, transporters, traders, etc.).

At the community level, in addition to the availability, accessibility and affordability of transport, electricity and telecommunication services, the expected impacts will be: improved food security, reducing the risk of hunger, improving nutrition and increased protein intake, and the creation of new and development of agricultural employment (reduction of unemployment and the exodus of young people), the creation of local employment opportunities, improved living conditions. Furthermore, the project will open rural feeder roads that will facilitate production and economic fluidity within and among provinces and districts that could extend to areas beyond the defined project area.

The project will provide opportunities for development of agricultural production in general in the project area: (i) private actors will develop subsectors considered profitable- including high value-added products for export, (ii) models of win-win partnership between rural communities and private investors can be expected to emerge.

The project has the potential to strengthen the existing policing and protection structures to ensure the safety of goods and people.

In summary, the following positive impacts can be expected, and therefore further expanded:

- Positive impacts of rural roads by facilitating rural/rural-urban trade (availability, accessibility and affordability);
- Better water management through small scale irrigation systems with positive implications on the increase of crops and time throughout the year to engage in plant and animal production;
- Positive impacts of processing, storage and packaging facilities. These will protect crops against insects and rodents, maintaining product quality, increasing life standards and consequently contribute to food security for rural populations and the general population;
- Land tenure regularization at scale can be expected to have significant positive impacts on natural resources management and other investments in land;
- the Project will also strengthen Provincial and District governments' capacities to promote landscape management and value chains development, which can also be expected to generate positive "sustainability spin-off" effects at the local level;
- Project activities are expected to have significant positive impacts on natural habitats, as it will promote integrated sustainable natural resource management in its comprehensive "Programa Estrela";
- Project positive externalities include: carbon sequestration from the restored areas as well as from the improved land use practices (e.g., agroforestry, reduced tillage, vegetative cover), and reduced carbon emissions from forest cover loss. Restoration of critical natural areas is expected to increase water flow stability and reduce erosion to downstream water users. Restoration can also help create biological corridors, which serve as habitats for globally important biodiversity, and over time can increase tourism potential.

#### **9.4 Measures to mitigate negative impacts**

A preliminary list of measures to be adopted to mitigate potential and significant negative impacts of the project is presented in the table below. Due to the localized and temporary nature of rehabilitation and construction works, fast recovery of the minor impacts will take place after construction is finished.

**Table 7: Measures to mitigate negative impacts**

Potential negative impacts	Mitigation measures
<p><b>Soil and groundwater:</b> During construction and rehabilitation: accidental discharge of on-site wastewater, hydrocarbons and chemicals can adversely affect groundwater and soil in the area;</p> <p>Top soil management</p> <p>During operation: Pollution of water and soil from pesticides and fertilizers and erosion from agricultural areas.</p> <p>Soil erosion problems associated with construction</p>	<p>During construction: Mitigation measures include proper storage of hydrocarbons and dangerous chemicals on site and the installation of natural, concrete or synthetic liners beneath oil and chemical storage tanks and the placement of these structures within a bunded impermeable concrete structure of 110% the volume of the largest tank. Other important measures include proper surface drainage during both the construction and operation phases, minimization of on-site water and chemical usage (oil, lubricants and fuel), as well as limiting the exposure of the soil to accidental releases of pollutants. Chemicals used on-site should preferably be non-toxic and readily biodegradable. Fueling areas should have a concrete slab so that petrol and oil cannot escape into the environment. Drainage systems in maintenance areas should be equipped with an oil/water separator;</p> <p>During construction put the top-soil apart and place it back on top after construction has finished.</p> <p>During operation:</p> <ul style="list-style-type: none"> <li>▪ Implementation of the provisions of the Pest Management Plan</li> <li>▪ Only use approved pesticides</li> <li>▪ Adequate disposal of obsolete pesticides</li> <li>▪ Compliance with prescribed doses of pesticides</li> <li>▪ Control of the periods of pesticide application</li> <li>▪ Promoting the use of organic manure</li> <li>▪ Training of stakeholders on the use of agro-chemical inputs</li> <li>▪ Observance of recommendations for the use of fertilizers and pesticides bio control</li> <li>▪ Rational use of fertilizers and pesticides</li> <li>▪ Awareness and training of farmers</li> <li>▪ Apply contour line farming in order to avoid erosion.</li> </ul> <p>Focus on existing quarries and construction areas: Rehabilitation of affected areas, e.g. quarries and other construction areas. Put in place vegetative filters to filter sediments out of run-off. Rehabilitation works should start as soon as possible after the construction work is finished.</p>
<p><b>Air emissions:</b> release of dust from land clearing, excavation and movement of earth</p>	<p>Control techniques for minimizing PM emissions involve watering of surfaces, chemical stabilization, or reduction of surface wind speed with windbreaks or source enclosures. Covering the road surface with a new material of lower silt content, such</p>

Potential negative impacts	Mitigation measures
<p>materials, cut and fill operations, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind.</p> <p>Agro-processing facilities from project associated investors</p>	<p>as covering a dirt road with gravel or slag has also proved to be efficient. Regular maintenance practices, such as grading of gravel roads, also help to retain larger aggregate sizes on the traveled portion of the road and thus help reduce emissions.</p> <p>Low cost measures also include:</p> <ul style="list-style-type: none"> <li>▪ Proper site enclosure through appropriate hoarding and screening;</li> <li>▪ On-site mixing and unloading operations;</li> <li>▪ Proper handling of cement material;</li> <li>▪ Maintaining minimal traffic speed on-site and on access roads to the site;</li> <li>▪ Covering all vehicles hauling materials likely to give off excessive dust emissions;</li> <li>▪ Ensuring adequate maintenance and repair of construction machinery and vehicles;</li> <li>▪ Avoiding burning of material resulting from site clearance;</li> <li>▪ Covering any excavated dusty materials or stockpile of dusty materials entirely by impervious sheeting;</li> <li>▪ Proper water spraying when necessary;</li> <li>▪ The provision of water troughs at entry and exit points to prevent the carryover of dust emissions, beyond the construction site</li> </ul> <p>Measures to reduce truck traffic emissions include proper truck maintenance and the adoption of a traffic management plan while avoiding congested routes. Regarding on-site construction equipment, proper maintenance procedures and the quality of diesel fuel used are important to reduce emissions. Equipment should also be turned off when not in use, to reduce power needs and emissions of pollutants.</p> <p>Agro-processing facilities can cause air pollution. The air emission standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.</p>
<p><b>Noise:</b> noise levels emitted during the construction/rehabilitation and operation may exceed acceptable noise level standards</p>	<p>Mitigation measures to be adopted mainly during construction and operation to minimize noise levels include but are not limited to:</p> <ul style="list-style-type: none"> <li>▪ Enclosing the site with barriers/fencing</li> <li>▪ Effectively utilizing material stockpiles and other structures, where feasible, to reduce noise from on-site construction activities</li> <li>▪ Choosing inherently quiet equipment</li> <li>▪ Operating only well-maintained mechanical equipment on-site</li> </ul>

Potential negative impacts	Mitigation measures
<p>Agro-processing facilities from project associated investors</p>	<ul style="list-style-type: none"> <li>▪ Keeping equipment speed as low as possible</li> <li>▪ Shutting down or throttling down to a minimum equipment that may be intermittent in use, between work periods</li> <li>▪ Utilizing and properly maintaining silencers or mufflers that reduce vibration on construction equipment during construction works</li> <li>▪ Restricting access to the site for truck traffic outside of normal construction hours</li> <li>▪ Proper site logistics and planning</li> <li>▪ Limiting site working hours if possible</li> <li>▪ Scheduling noisy activities during the morning hours</li> <li>▪ Informing the locals when noisy activities are planned</li> <li>▪ Enforcing noise monitoring</li> </ul> <p>Agro-processing facilities can cause noise pollution. The noise emission standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.</p>
<p><b>Solid and liquid wastes:</b></p> <p>during construction/rehabilitation and operation, there will be generation of construction and operation debris as a result of various construction and operation activities</p> <p>Hydrocarbons (waste oils)</p>	<p>The generated solid materials can be used for reclamation purposes whenever applicable. However, care should be taken to ensure the absence of contaminated fill material and the adequacy of the physical and chemical properties of such material to limit potential adverse impacts on water and soil and ensure project safety. Construction and demolition wastes can also be minimized through careful planning during the design stage, by reducing or eliminating over-ordering of construction materials to decrease waste generation and reduce project costs. The contractor should carry out sorting of construction and demolition wastes into various categories and adopt re-use/recycle on site whenever deemed feasible.</p> <p>Chemical wastes generated during the construction phase include containers that were used for storage of chemical wastes on site, the chemical residue as well as contaminated material. Rehabilitation of fuel storage facilities may involve the removal of contaminated soils around fuel dispensers, piping, and tanks, as well as bulky, inert and contaminated solid waste items such as damaged tanks. Storage of hazardous waste should take place in a separate area that has an impermeable floor, adequate ventilation and a roof to prevent rainfall from entering. In addition all chemical wastes should be clearly labeled in Portuguese and, stored in corrosion resistant containers and arranged so that incompatible materials are adequately separated. General refuse generated on-site during the construction phase should be stored in enclosed labeled bins or compaction units separate from construction and chemical wastes. General refuse is generated largely by food service activities on site, therefore, where feasible, reusable rather than disposable dishware should be promoted. Aluminum cans, glass, plastics, wood and metals may be recovered from the waste stream by individual collectors if they are segregated and made easily accessible, so separate, labeled bins for their storage should be provided.</p> <p>Hydrocarbons should be stored on an impermeable concrete floor with concrete bunding. It should be negotiated with the new oil supplier to take back the waste oils for recycling by a MITADER authorized recycler.</p>

Potential negative impacts	Mitigation measures
<p>Agro-processing facilities from project associated investors</p>	<p>When rehabilitating areas where, at present, oil storage are located and sites are hydrocarbon contaminated, it will be necessary to clean up the site completely before starting any rehabilitation activities. A rapid environmental audit will need to be conducted to identify the action plan for site clean-up.</p> <p>Agro-processing facilities can cause solid waste pollution. The solid waste management practices in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.</p>
<p><b>Water quality and quantity:</b> the primary sources of potential impacts to water quality will be from pollutants from site runoff, accidental spills, which may enter surface waters (rivers, lakes and streams) directly or through the storm drainage system</p> <p>Agro-processing facilities from project associated investors</p> <p>Dams, weirs and other water regulation infrastructures to be rehabilitated/constructed can interfere</p>	<p>Surface run-off from the construction site should be directed into storm drains through adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. If oil is present, oil/water separators should be installed, which should be regularly cleaned. Channels, earth bunds or sand bag barriers should be provided onsite to properly direct storm water to silt removal facilities before discharge into the surrounding waters. Silt removal facilities should be maintained with deposited silt and grit being regularly removed after each rainstorm to ensure that these facilities are functioning properly at all times. Moreover, the rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities and not directly to the aquatic environment. Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric during rainstorm events to prevent the washing away of construction materials, while earthworks should be well compacted as soon as the final surfaces are formed to prevent erosion especially during the wet season. Water used in vehicle and plant servicing areas, vehicle wash bays and lubrication bays should be collected and connected to foul sewers via an oil/grease trap. Oil leakage or spillage should be contained and cleaned up immediately. Spent oil and lubricants should be collected and stored for recycling or proper disposal and should be stored on impermeable and bunded surfaces. All fuel tanks and chemical storage areas should be provided with locks. Fuel tanks should be placed in concrete bunded areas of 110% of the volume of the largest fuel tank.</p> <p>The contractor should also prepare guidelines and procedures for immediate cleanup actions following any spillages of oil, fuel or chemicals.</p> <p>Sewage from toilets, kitchens and similar facilities should be contained in sanitary cesspools before being transported by trucks to a nearby wastewater treatment plant. As for the wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, it should undergo large object removal by bar traps at drain inlets.</p> <p>Agro-processing facilities can cause water pollution. The water effluent standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.</p> <p>All measures should be taken to allow the normal flow of the river flows to be involved in the project so as not to affect the vitality of ecosystems that depend on these flows downstream including sediment transport and circulation. The most</p>

Potential negative impacts	Mitigation measures
<p>negatively with the water and sediment flow required for the health of the ecosystem downstream the developments.</p> <p>Water retention and all the management measures to be adopted can also interfere negatively with other social activities downstream the developments</p>	<p>appropriate formulation of environmental minimum flow calculation to the system should be adopted taking into account the reduced magnitude of most of the water management schemes to be rehabilitated/built.</p> <p>The design and operation of water management infrastructures (small dams/weirs) need to be done in such a way as to not interfere negatively with the host of water uses by local people downstream. The uses include drinking, washing, including ablutions, livestock, navigation, etc.</p>
<p><b>Flora and fauna:</b> stream pollution by sediments from rehabilitation and construction activities by suspended and settleable solid particles that may coat, bury, suffocate or abrade living organisms. Many aquatic invertebrates and fish may undergo changes in population density and community composition if high concentrations of suspended solids occur. Aquatic vegetation may be adversely affected by a reduction in photosynthesis due to high turbidity.</p> <p>Accidental hydrocarbon spill will have a detrimental impact on aquatic life.</p>	<p>To minimize stream pollution by sediments, it is recommended to reduce or prevent soil erosion from the construction site by:</p> <ul style="list-style-type: none"> <li>▪ Scheduling construction/rehabilitation to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical</li> <li>▪ Contouring and minimizing length and steepness of slopes</li> <li>▪ Protecting to stabilize exposed areas</li> <li>▪ Install sediment traps, e.g. reed screens</li> <li>▪ Re-vegetating areas promptly</li> <li>▪ Designing channels and ditches for post-construction flows</li> </ul> <p>Additional measures include:</p> <ul style="list-style-type: none"> <li>▪ Carefully select right-of ways/corridors of impact to avoid important natural areas such as wild lands and sensitive habitats</li> <li>▪ Utilize appropriate clearing techniques (hand clearing vs. mechanized clearing)</li> <li>▪ Maintain native ground cover beneath lines</li> <li>▪ Replant disturbed sites soon after construction/rehabilitation</li> <li>▪ Manage right-of-ways/corridors of impact to maximize wildlife benefits</li> </ul> <p>General implementation and enforcement of good agricultural practices and crop management, e.g. contour line farming, in order to reduce erosion.</p> <p>Prevent accidental hydrocarbon spills by storing hydrocarbons into concrete banded areas and equip areas where hydrocarbons are used with oil/grease/water separators.</p>

Potential negative impacts	Mitigation measures
<p>Deforestation, soil degradation through erosion, habitat destruction may occur during clearing</p>	<p>Compensate lost trees in the same area. Install erosion prevention and control measures as mentioned above. Avoid sensitive habitat by fencing the area, so that the habitat cannot be entered by trucks and workers.</p> <p>Near sensitive areas such as reserves and areas of special vegetation special measures need to be taken. These should be but not limited to (i) cutting existing natural vegetation should be avoided to the maximum and be limited to the minimum necessary; (ii) any activity of vegetation removal must be authorized in advance by the competent environmental agency, especially to ensure destroying vegetation of any special value where it can be present; (iii) large trees and fruit trees and those that serve as shade or have landscape value should be preserved whenever possible, provided that they do not offer security risks, due to their state of degradation or that of the soil; (iv) shrubs must be preserved to minimize soil erosion; (v) in the areas for deposits of various materials during construction and even during operation, shrubs should be maintained; (vi) where possible, seed collection should be performed in order to preserve the species object of any form of disturbance intervention. This has the potential to secure necessary inputs for environmental compensation by way of replanting, which already has poor in the project area; (vii) deforestation through the use of standard tractors or blades should be strictly prohibited. The use of fire should not be admitted in any phase of the work; and (viii) the use of herbicides, defoliant or any types of chemicals should be prohibited regardless of their degree of toxicity, for logging purposes or any purpose in the reserve areas, and access roads.</p>
<p><b>Health and safety:</b> occurrence of accidents (direct and indirect) to workers on-site, pedestrians, and machine operators or passengers during construction/rehabilitation and operation</p>	<p>Occupational health and safety measures should include:</p> <ul style="list-style-type: none"> <li>▪ Restriction of access to the construction site by proper fencing with site boundaries adjoining roads, streets or other areas accessible to the public should undergoing high enough fencing along the entire length except for a site entrance or exit</li> <li>▪ Establishment of buffering areas around the site</li> <li>▪ Provision of guards on entrances and exits to the site</li> <li>▪ Installation of warning signs at the entrance of the site to prohibit public access</li> <li>▪ Provision of training about the fundamentals of occupational health and safety procedures</li> <li>▪ Provision of appropriate personal protective equipment (PPE) (impermeable latex gloves, working overalls, safety boots, safety helmets, hearing protecting devices for workers exposed to high noise levels, and lifesaving vests for construction sites near water bodies)</li> <li>▪ Ensuring that workers can swim (at work sites near water) and that lifesaving rings are available at the worksite, near water</li> <li>▪ Ensuring that the protective material is being used wherever it is required</li> <li>▪ Ensuring that especially sensitive or dangerous areas (like areas exposed to high noise levels, areas for especially hazardous work etc.) are clearly designated</li> <li>▪ Ensuring that all maintenance work necessary for keeping machines and other equipment in a good state will be</li> </ul>



Potential negative impacts	Mitigation measures
<p>Development of agriculture might increase the prevalence of water-borne diseases (intestinal and urinary bilharzia and malaria)</p>	<p>regularly carried out.</p> <ul style="list-style-type: none"> <li>▪ Ensuring that the workers (and especially those doing hazardous work or otherwise exposed to risks) are qualified, well trained and instructed in handling their equipment, including health protection equipment</li> <li>▪ In case blasting is required the Contractor should work according to an approved Blasting Plan, which needs to be approved by the Supervising Engineer and the Client</li> <li>▪ Provision of adequate loading and off-loading space</li> <li>▪ Development of an emergency response plan</li> <li>▪ Provision of on-site medical facility/first aid</li> <li>▪ Provision of appropriate lighting during night-time works</li> <li>▪ Implementation of speed limits for trucks entering and exiting the site</li> </ul> <p>Regarding hazardous substances, the following measures should be implemented:</p> <ul style="list-style-type: none"> <li>▪ Ensuring that hazardous substances are being kept in suitable, safe, adequately marked and locked storing places</li> <li>▪ Ensuring that containers of such substances are clearly marked, and that material safety data sheets are available</li> <li>▪ Ensuring that all workers dealing with such substances are adequately informed about the risks, trained in handling those materials, and trained in first aid measures to be taken in the case of an accident.</li> <li>▪ Designating an area where contaminated materials and hazardous waste can be stored for proper disposal according to environmental guidelines in force in the country and as specified in the applicable World Bank Group Environmental, Health and Safety Guidelines of April 2007.</li> </ul> <p>Regarding waterborne and water-related diseases substances, the following measures should be implemented by the contractor:</p> <ul style="list-style-type: none"> <li>▪ The adoption of good housekeeping practices for ensuring hygiene on site</li> <li>▪ The elimination of pools of stagnant water, which could serve as breeding places for mosquitoes The provision of bed nets for workers living on site. Ideally, these nets should be treated with an insecticide</li> </ul> <p>The appropriate elimination of waste of all types, including wastewater</p> <ul style="list-style-type: none"> <li>▪ Monitor the prevalence of intestinal and urinary bilharzia and malaria. If the prevalence increases implement the following:</li> <li>▪ Distribute long-lasting insecticidal impregnated mosquito bed nets (LLINs) to affected communities, to control malaria</li> <li>▪ Mass treatment of high risk groups with praziquantel need to be carried out to control intestinal and urinary bilharzia</li> </ul>

Potential negative impacts	Mitigation measures
<p>Infrastructures to manage water (e.g. dams/weirs) may translate into reduction of the flow in rivers and streams, conflicts for water usage, etc.</p>	<ul style="list-style-type: none"> <li>▪ Minimize contact with infected water by requiring people to wear boots and gloves</li> <li>▪ Support to access to drinking water and autonomous sanitation facilities</li> <li>▪ Reduce fecal and urinary pollution of surface waters by prohibiting defecation and urine in water and putting in place sanitation systems (latrines, etc.)</li> <li>▪ Educate affected communities with regard to these water-borne diseases</li> <li>▪ Follow WHO guidelines</li> <li>▪ design and operation of water management infrastructures (small dams/weirs) need to be done in such a way as to not interfere negatively with the host of water uses by local people downstream. The uses include drinking, washing, including ablutions, livestock, navigation, etc.</li> <li>▪ make use of existing water management structures and where these do not exist and/or are weak assist local authorities and farmers to establish and strengthen these (e.g. water user associations) to develop and enforce water sharing systems and procedures that reduce conflicts and promote harmony</li> </ul>
<p><b>Socioeconomic impact including resettlement, reduction of arable and pastoral land, prevention of HIV/AIDS and influx of external workers:</b> potential loss of land or land use, interruptions to means of livelihood, disturbances to cultural resources, and influx of foreign workers.</p> <p>Public security issues regarding influx of external workers, mobilization and demobilization of staff, lack of job opportunities for local people</p>	<ul style="list-style-type: none"> <li>▪ Select project sites and rights-of-way (ROW) in a consultative and participatory manner so to avoid important social, agricultural, and cultural resources and avoid areas of human activity</li> <li>▪ Utilize alternative designs to reduce land and ROW width requirements and minimize land use impacts</li> <li>▪ Ensure a high rate of local employment to minimize influx of foreign contract workers: preferred preference to local people in order to avoid social conflicts</li> <li>▪ Manage resettlement in compliance with the World Bank Safeguard Policy on Involuntary Resettlement OP/BP 4.12</li> <li>▪ Prevention of STDs, HIV/Aids: Create awareness and educate workers and nearby communities. Provide free, sufficient, good quality condoms for personnel. Provide treatment for infected personnel</li> <li>▪ Supply and enforce wearing protective equipment (helmets, boots, dress, gloves, masks, goggles, etc.) by workers</li> <li>▪ Strictly follow government instructions on the hiring of foreign workers and clarify criteria for hiring them</li> <li>▪ Favor local labor where the required skills are available, including offering training opportunities to increase local people's chances of getting work/jobs.</li> <li>▪ Environmental management of construction waste (installation of litter bins, regular collection and disposal in authorized sites)</li> <li>▪ Awareness on respect for local customs</li> <li>▪ Dissemination of the use of farmyard manure</li> <li>▪ Rational use of mineral fertilizers (avoiding excess nitrogen fertilizer)</li> <li>▪ Leave land fallow to restore soil fertility</li> <li>▪ Cover bare soil with a vegetation cover to reduce soil erosion</li> <li>▪ Educate and training of farmers</li> </ul>

To ensure adequate implementation of the Safeguards requirements and applicable national regulations there will be two Safeguard Specialists at central level one responsible for natural environment and the other for social issues. At the central level there will also be a Communication Officer to give support to the Safeguard Specialists when related to social issues. This Specialist will be responsible for the crucial communication aspects of the project such as keeping all stakeholders and PAP aware of the main issues around the project at each and every phase. At the provincial level there will be one Project Implementation Unit (PIU) in each province, comprised by three Specialists (Value Chain, Land and Forest) who will respond to the Landscape Project Provincial Coordinators. The Safeguard Specialists for Natural Environment as well as the Communication Officer have already been hired and have been working at the central level. They participated actively in the formulation of the Safeguard Instruments including this ESMF. Before the project start up these will be joined by the Specialist for Social Issues. Contractors for simple subprojects will be mainly responsible for the implementation of the SECs (Social and Environmental Clauses), which will be included in the bidding documents and will be part of their contractual obligations.

For more complex projects the Contractors will be required to prepare and implement their own Contractor Environmental and Social Management Plan (CESMP). For this purpose they will need to employ qualified staff. These requirements will need to be included in the bidding documents and in their contracts.

The Supervising Engineers will by contractual arrangements be made responsible for the adequate implementation of the SECs and CESMPs. The Supervising Engineer will need to employ qualified staff for this purpose.

## **10 GUIDELINES FOR SUB-PROJECT SCREENING, PREPARATION, APPRAISAL, APPROVAL AND MONITORING**

There will be the need to ensure that potential environmental and social impacts are adequately addressed through the institutional arrangements and procedures used by the Project interventions for managing the identification, preparation, approval, environmental licensing, implementation, monitoring, evaluation and auditing of sub-projects.

The Project has been classified as Category B according to WB Safeguards Policies. Most of the sub-projects fall within this category, while some will be Category C, according to Mozambique environmental regulation. As per both Mozambican and WB regulations Category B projects require less stringent ESIA/ESMP processes due to the fact that the environmental and social impacts are easier to deal with; few if any of them have irreversible effects; and in most cases appropriate mitigation measures can be readily designed. As is the case with any intervention environmental and social best practices recommend that negative impacts be avoided and/or minimized and that adequate and implementable mitigation and management measures be put in place early enough where avoidance is not feasible.

The key to environmental and social management is the environmental and social screening process, which may or may not result in the preparation of a full ESIA/ESMP document, a freestanding ESMP or no action need to be taken. The screening process should follow the Safeguard Policy OP 4.01/BP on Environmental Assessment of the World Bank and the Mozambican Regulations for Environmental and Social Impact Assessment process. The screening process will be carried out at specific sub-project sites in the field once they have been identified. The environmental and social screening process is necessary to identify if the subprojects will cause environmental and social impacts and to decide on the level of environmental and social assessment required. The environmental and social screening is part of the preparation and approval process of subprojects financed by the Project.

The objectives of the ESMF screening process include:

- a) determine which construction/rehabilitation and operation activities are likely to have potential negative environmental and social impacts;
- b) determine the level of environmental and social work required, including whether an ESIA/ESMP or a freestanding ESMP is required or no action need to be taken;
- c) determine appropriate mitigation measures for addressing adverse impacts;
- d) incorporate mitigation measures into the development plans for the subproject;
- e) indicate the need for a Resettlement Action Plan (RAP), which would be prepared in line with the Resettlement Policy Framework (RPF), prepared for the Project;
- f) facilitate the review and approval of the construction/rehabilitation and operation proposals; and
- g) provide guidance for monitoring environmental and social parameters during the implementation and operation of project activities;
- h) ensure the final environmental and social evaluation of the project.

The extent of environmental and social work that might be required, prior to the commencement of construction/rehabilitation works, and during operation will depend on the outcome of the screening process.

Below, critical aspects to be adopted to avoid/minimize negative impacts as well as mitigate and manage them correctly are suggested. These are presented first in a summary table and then described in the following subchapters.

**Table 8: Roles and responsibility in implementing ESMF and preparing ESIA/ESMP**

<b>Roles</b>	<b>Intuitional responsibilities</b>	<b>Assistance/Collaboration</b>
Screening of Project Activities and Sites	Developers: MASA, MOPHRH/ANE, MITADER, MIC  Hired Service Providers	ARA, PIU-ESSS
Assigning the Appropriate Environmental and Social Categories	MITADER at provincial level	PIU-ESSS
Carrying out Environmental and Social Work	Hired Service Providers	PIU-ESSS
Environmental and Social Checklist	Hired Service Providers	PIU-ESSS
Environmental and Social Impacts Assessment (ESIA)	Hired Service Providers	PIU-ESSS  Developers: MASA, MOPHRH/ANE, MITADER, MIC
Subproject Review and Approval	MITADER at provincial level	PIU-ESSS
Participatory Public Consultation and Disclosure	Developers: MASA, MOPHRH/ANE, MITADER, MIC  Hired Service Providers	District/Local authorities
Grievance Mechanism	Hired Service Providers	District/Local authorities
Monitoring Reports and review	Developers: MASA, MOPHRH/ANE, MITADER, MIC  Hired Service Providers	District/Local authorities
Environmental and Social Audit	MITADER/WB	PIU-ESSS

## 10.1 Screening of Project Activities and Sites

Depending on the size, nature and perceived environmental consequences of a project Mozambican Regulation for ESIA (Decree 45/2004 and its successor Decree 54/2015) provides for three project categories, namely A, B and C, with Decree 54/2015 that will be enacted soon providing for two Category A projects, namely A' more stringent and subject to review by professional assessors and normal A to be reviewed as it used to be. Where it is clear that project activities fall under Category B, a simplified ESIA and

RAP needs to be carried out. The screening process will be used to determine the appropriate types of environmental follow-up measures, depending on the nature, scope, and significance of the expected environmental and social impacts from each of the Project subproject activities. Figure 12 of this ESMF (Chapter 7) illustrates how this process is structured.

Both the Environmental and Social Screening Form (ESSF in Annex 2.) and the Annex 3 of Decree 45/2004<sup>20</sup> will be completed by Project Environmental, Social, Health and Safety staff. The screening forms, when correctly completed, will facilitate the:

- identification of potential environmental and social impacts and the identification of health and safety risks;
- determination of their significance;
- assignment of the appropriate environmental category; and
- determination of the need to conduct an ESIA/ESMP, a freestanding ESMP and/or to prepare Resettlement Action Plans (RAPs) where required or determine that no action need to be taken.

The responsible MITADER structure at Provincial or District level will need to confirm the abovementioned screening process to comply with Mozambican environmental legislation, the screening process will be conducted in the following manner:

Preparation activities for the screening process will include a desk appraisal of the intervention (e.g. construction/rehabilitation and operation plans) for sub-project related infrastructure.

Subsequent to the desk appraisal of the interventions, the initial screening of the proposed sub-project activities will be verified in the field, with the Environmental and Social Screening Form (ESSF) prepared by the Project Safeguard staff. The District Environmental Officers, stationed at the SDPI and/or municipalities, will do the verification. Subsequently, they will oversee the preparation and implementation of the required measures.

## **10.2 Assigning the Appropriate Environmental and Social Categories**

The ESSF, when completed, will provide information on the assignment of the appropriate environmental and social category to a particular subproject. The Provincial Departments of Environmental Impact Assessment in collaboration with the Environmental and Social Specialists from the Project Coordination/Provinces will be responsible for categorizing a subproject as either A, B or C. It is not expected that any of the subprojects will be Category A through the application of OP/BP 4.01.

Category A (A' and A) is more complex and sub-project activities would have significant and long-term adverse environmental and social impacts and therefore would require an ESIA/ESMP and/or RAP, in accordance with Mozambican legal requirements. Category B projects are those with one or a few potentially significant adverse impacts, which would require an Environmental and Social Management Plan (ESMP) to address specific impacts during project construction or operation, but not a full ESIA.

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<sup>20</sup> The same form taken from the upcoming Decree 54/2015 is basically the same.

Category C projects would not involve any significant adverse environmental impacts; they would therefore not require an ESIA or a specific ESMP, but they would require adherence to good environmental practices, including any applicable Environmental and Social Clauses to be included in the Contractor's Contracts. The recommended and simple way to adhere to good environmental and social practices is through a simplified ESMP.

The assignment of the appropriate environmental category for the subprojects will be based on the provisions of the Mozambican ESIA Guidelines (Decree 45/2004).

According to the Mozambican Regulation projects requiring Resettlement Action Plans (RAPs) fall automatically under Category A and these would be reviewed and approved by MITADER's National Directorate of Environmental Impact Assessment in Maputo and should be consistent with the Resettlement Policy Framework. The ESIA, ESMP or RAP should be disclosed in country at the project sites and on the MITADER website and the World Bank Infoshop prior to commencement of any project construction activities. In addition, Project Affected People (PAP) should have been compensated before any construction activity can start. Since the WB policies will apply under this project, in the specific case of resettlement MITADER's role will be mainly confined to confirming the fact that the sub-projects are not associated with massive resettlement as to fall under Category A.

### **10.3 Carrying out Environmental and Social Work**

After reviewing the information provided in the Environmental and Social Screening Form (ESSF) and the Preliminary Environmental Information Sheets and having determined the appropriate environmental and social category, the Provincial Directorate of Environment in close collaboration with the Project Coordinating Unit will determine whether (a) the application of simple mitigation measures outlined in the Environmental and Social Checklist (Annex 4) and Environmental and Social Clauses for Contractors (Annex 5) will suffice (Category C); whether (b) an Environmental and Social Management Plan (but no ESIA) needs to be prepared to address specific environmental impacts (Category B); or whether (c) a full ESIA/ESMP will need to be carried out (Category A). For subprojects categorized as A or B, the ESIA or ESMP should be prepared by an environmental and social consultant certified by MITADER.

### **10.4 Environmental and Social Checklist:**

The Environmental and Social Checklist in Annex 4 will be completed by the two qualified Environmental and Social Specialists of the Project Coordination Unit. Most of the subprojects will be categorized as Category B, which may not require a full ESIA, and will benefit from the application of mitigation measures outlined in the checklist. In situations where the screening process identifies the need for land acquisition, a RAP shall be prepared and disclosed consistent with OP/BP 4.12 guidelines.

If there is already an existing design for a subproject, the Provincial Directorate of Environment in collaboration with relevant sectors/ministries/districts directorates/services and the SECU will assess the potential environmental and social impacts on the chosen site and on the community and will recommend modification of the design or the location in order to mitigate or reduce these potential impacts.

## **10.5 Environmental and Social Impacts Assessment (ESIA)**

Certain subprojects will be found to require an ESIA. In such a case, the ESIA would identify and assess the potential environmental and social impacts of the proposed activities, evaluate alternatives, as well as design and implement appropriate mitigation, management and monitoring measures. These measures would be captured in the Environmental and Social Management Plan (ESMP) which will be prepared as part of the ESIA Document.

Where required, preparation of the ESIA that includes an ESMP, and the preparation of the RAP will be carried out by the Borrower in consultation with the relevant stakeholders, including potentially affected persons. Environmental and Social Specialists of the Project Implementation Units, in close consultation with the Provincial Directorate of Environment and/or DNAIA and on behalf of the District Governments or Municipalities, will arrange for the (i) preparation of ESIA/ESMP or RAP terms of reference; (ii) recruitment of a consultant to carry out the ESIA/ESMP or RAP; (iii) public consultations and participation; and (iv) review and approval of the ESIA/ESMP or RAP following the national ESIA and RAP approval process. ESIA, ESMPs and RAPs also need to be sent to the World Bank for approval and disclosure.

## **10.6 Subproject Review and Approval**

The Environmental and Social Specialists at the Provincial level will fill in the environmental and social screening forms and identify the mitigation measures presented in the environmental and social checklists or additional ones not mentioned in the checklists in order to classify the sub-project. The final decision on the environmental category of the subproject is the responsibility of the environmental authority at the provincial level. Where an ESIA/ESMP or a freestanding ESMP has been carried out, the Environmental and Social Specialist in collaboration with the Provincial Project Coordinators, as well as the Directorate of Environment/DNAIA will review the reports to ensure that all environmental and social impacts have been identified and that effective mitigation measures have been proposed, including institutional arrangements for the implementation of the ESMP and a budget. Once the ESIA or ESMP is approved; an environmental license will be issued by the environmental authority, after payment of environmental license fees.

Based on the results of the above review process, and discussions with the relevant stakeholders and potentially affected persons, the Environmental and Social Specialists, in case of sub-projects that do not require an ESIA/ESMP or a freestanding ESMP will make recommendations to the Municipal or District Government to go ahead with the project implementation.

It is a known fact that at present it is mainly at the provincial and central levels that solid capacity exists for conducting the ESIA/ESMP processes. At the district and municipal levels such capacity is either non-existent or weak. To ensure that all stages of the process including the verification of screening forms is completed correctly for the various sub-project locations and activities, training will be provided to members of the SDPI and Municipalities. Technical advice and training on environmental and social impacts assessment and implementation of mitigation measures will be provided by a contracted safeguards specialist or by the Provincial Community Management Officials, with assistance of World Bank safeguard specialists.



## 10.7 Participatory Public Consultation and Disclosure

Local people and communities as well as their representatives need to be continuously involved in the decision-making related to the diversity of Project interventions. The numerous pieces of Mozambican legislation on land issues place public consultation and participation at the top of the agenda. The Project will ensure that the provisions in those regulatory documents are strictly followed. Local people/communities and their representatives are properly placed to take care of the needs of local stakeholders and to promote the local resource management capacity.

The public participation process (PPP) is an intrinsic component of the ESIA/ESMP process with the following main objectives:

- Keep Project Interested and Affected Parties (PI&APs) informed about key issues and findings of each stage of the ESIA;
- Gather concerns and interests expressed by various project stakeholders;
- Obtain contributions/opinions of stakeholders in terms of avoiding/minimizing possible negative impacts and maximize positive impacts of the project.
- Finally, support the social dialogue and identify from the onset, stakeholders' perceptions and expectations, which can contribute to the action planning and effective communication in order to minimize the impacts of the project. The process also allows for rethinking the project's technical aspects.

PPP will support a Social Engagement Plan and for it to be effective there are norms and procedures to be observed throughout. Annex 7 presents the preliminary document that has already been under use to guide the PPP and Engagement of Stakeholders. During the subsequent phases of the project this initial document should be further developed by the Project's Safeguard Specialists in order to respond to issues as they come to light.

The ESIA/ESMP process emphasizes the clear need for frequent interaction and communication between the general public, parties affected by the proposed Project, local NGOs, external interested and concerned organizations, as well as Project scientists and engineers. Local people and other stakeholders should be organized into a Social Committee to easily articulate the various aspects in an organized and continuous fashion.

Each aspect of the technical investigations generally includes a data collection and verification phase, followed by analysis and evaluation, then synthesis and conclusions. The findings of each phase are communicated as appropriate to external parties.

In terms of the ESIA Regulations in force in Mozambique (Decree 45/2004 and the upcoming Decree 54/2015 and Diplomas 129/2006 and 130/2006 and other related regulatory instruments) mandatory public consultation meetings mark the end of each main phase, e.g. scoping and definition of terms of reference as well as a public consultation on the draft final ESIA document. Under Mozambican legislation, these should be announced at least 15 days prior to the meeting day. In addition to being invited by public notices, a certain number of participants to these meetings should be directly invited by letters of invitation drafted by the Consultant, issued, and distributed by the project developers. In this case the PCU would be at the forefront in ensuring that relevant stakeholders are invited and participate in the meetings.

During the meetings, the ESIA team in collaboration with the developers' (agriculture, public works, energy., etc.) representatives and the engineering team, maintain PI&APs informed of the main issues and findings of each phase and collect concerns and interests expressed by the various project stakeholders. Public meetings are non-technical in nature and are expected to contribute to get stakeholders' inputs in terms of avoiding/minimizing possible negative impacts and optimizing the positive impacts of the subproject.

It is fundamental that by all means the Project does not contribute in any way to create land conflicts and/or exacerbate any such conflicts. Projects, such as this, have as objective to create jobs, construct infrastructure and introduce modern technologies, but if not planned and conducted properly they can also contribute to increase the number of landless people, make local food insecurity worse, cause environmental damages, stimulate rural-urban migration, etc., which are project outcomes to be avoided.

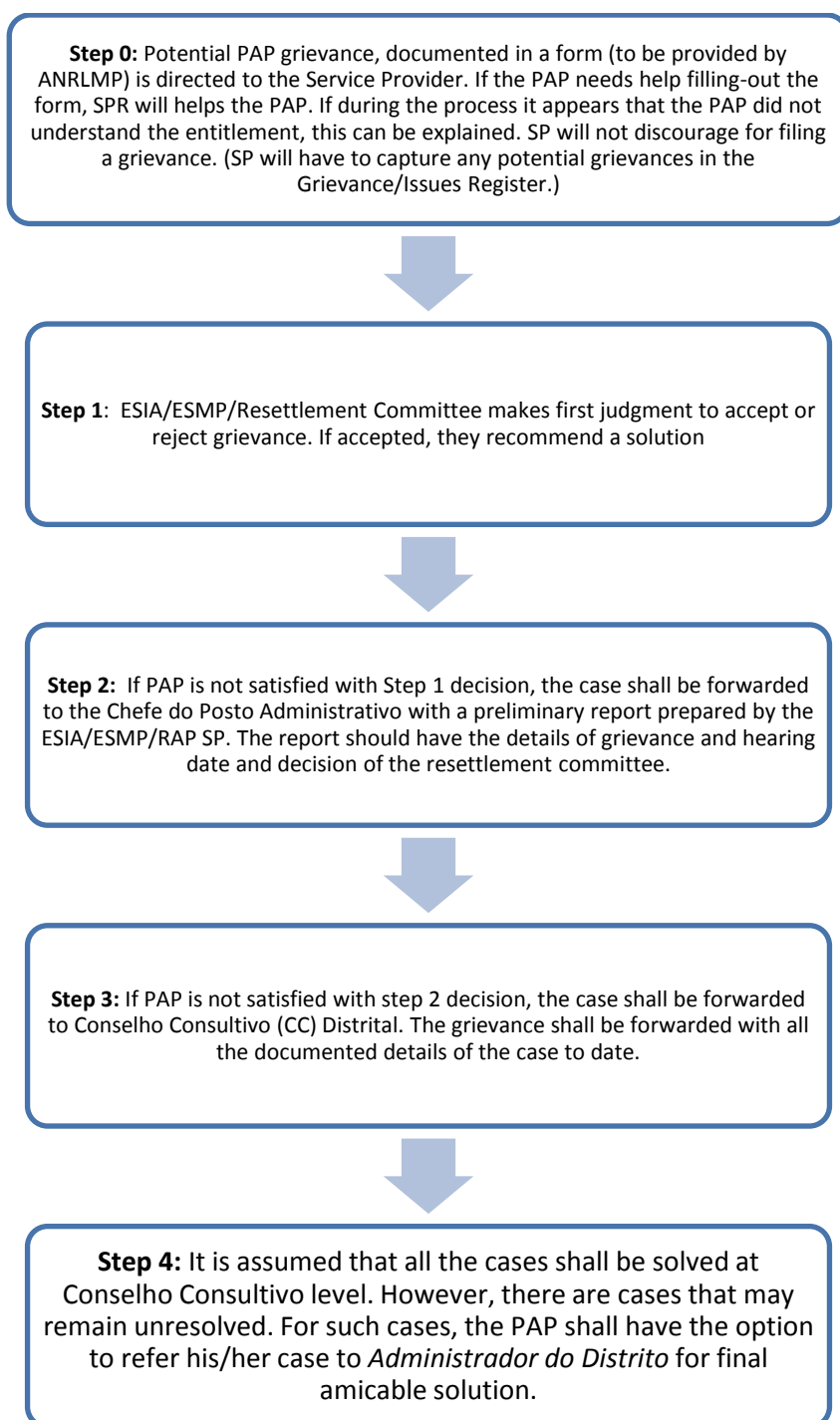
In compliance with both the GoM regulation and World Bank guidelines, before a sub-project is approved, the applicable documents (ESIA, ESMP and/or RAP) must be made available for public review at a place easily accessible to beneficiary communities (e.g. at a local government office, at the DNA-DLA/DPTADER/SDPI/SDAE), and in a form, manner and language that can easily understood, including the non-technical summaries of the main documents. They must also be forwarded to the World Bank for approval and disclosure at the Public Information Center in Maputo and at the World Bank Infoshop in Washington DC. Especially as part of ESIA/ESMPs and RAPs public consultation and participation processes, Mozambican guidelines also have similar pre-requisites, which should be strictly followed under the Project.

## **10.8 Grievance Mechanism**

Grievance Redress is fully addressed in the Resettlement Policy Framework for ANRLMP. As a way of ensuring that PAPs can present their grievances and that project managers can adopt timely corrective measures to deal with the issues, the grievance mechanism will be available to all Project Affected Persons , not just to those affected by resettlement, and available throughout life of project.

The process can be summarized by the following flowchart:

**Figure 14: Snapshot of the grievance procedure and stages**



The design, implementation, monitoring and evaluation of all aspects of ANRLMP should be legitimate; accessible; predictable; equitable; transparent; rights compatible; enable continuous learning; and be based on engagement and dialogue. This encompasses the design and implementation of a local communication strategy stressing awareness-raising activities about the sub-project(s) and resettlement procedures and entitlements.

A grievance redress mechanism should be implemented from the beginning of any ANRLMP. At first there will be a need to create this capacity, to actively capture and

anticipate grievances. This should continue during the operational phase, which is anticipated to be more passive.

A stakeholder action plan (SAP) and stakeholder engagement plan (SEP) should be prepared early in the project and reviewed and approved by the PIU. A Draft is offered in Annex 7 of this document. This document should be adjusted throughout the process of project implementation as more issues become known. The SAP and SEP must consider inclusion of women's groups and representatives of other vulnerable populations (elders, youth and disabled). It is important that consultation be initiated early in the project which provides stakeholders and members of the public adequate time to comment, voice concerns, or share ideas that may enhance the project. A grievance mechanism should be developed during project inception, and shared with stakeholders and community members so they can share concerns without fear of reprisals.

The main objective of stakeholder engagement and public participation is to ensure that the concerns and issues raised by the Interested and Affected Parties (PI&As), organizations or individuals are taken into account during the ESIA, allowing for the PI&As to discuss the proposed ANRLMP and the results of the environmental and social studies. The Public Participation Process grants an open channel of communication between the public, the consultants, ANRLMP PIU and MITADER, which will be of extreme importance in managing potential conflicts.

## **10.9 Annual Monitoring Reports and review**

Monitoring of the compliance of project implementation with the mitigation measures defined in its ESIA/ESMP, PMP and/or RAP will be carried out jointly with communities, the Environmental and Social Specialist, and the Provincial Community Management Specialists, MITADER's local representatives, extension workers and the Service Provider (i.e. CSO) responsible for implementing the Project.

District (SDPI) and municipal authorities should supervise the monitoring activities and are required to report annually on sub-project activities during the preceding year. The information to be included in these annual reports to capture experience with implementation of the ESMF procedures will be included in an annex to be prepared as part of the annual report, which will be used as a guide.

Compliance monitoring comprises on-site inspection of activities to verify that measures identified in the ESMP, PMP and/or RAP are being implemented. This type of monitoring is similar to 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 with regard to environmental, social, health and safety practices during construction, as prescribed in the Social and Environmental Clauses (SEC) included in the bidding documents and Contracts or as described in the Contractor ESMP.

MITADER, through DPTADER and DNA-DLA (or an external consultant) will have the responsibility of conducting the environmental, social, health and safety inspection. An annual inspection report must be submitted (together with the monitoring report) to MITADER and the World Bank for review and approval.

Independent local consultants, local NGOs or other service providers that are not otherwise involved with the Project, thus independent, may carry out annual reviews. Annual review should evaluate the annual monitoring report from district authorities and the annual inspection report from DPTADER/DNA-DLA.

It is worth pointing out that annual reviews are not normal for ESIAs/ESMPs with the current practices. The Project Coordination Unit at central (PPCU) and provincial levels need to make dedicated efforts to ensure that this work is done properly.

## **10.9 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. The audit team will report to MITADER and the World Bank, who will deal with the implementation of any corrective measures that are required. The audits are necessary to ensure that (i) the ESMF process 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, PMP 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).

The main tasks of the audit will be to:

- Consider the project description;
- Indicate the objective, scope and criteria of the audit;
- Verify the level of compliance by the developer with the conditions of the ESMP, PMP, RAP, Environmental and Social Clauses and Contractor ESMPs;
- Evaluate the developer's knowledge and awareness of and responsibility for the application of relevant legislation;
- Review existing project documentation related to all infrastructure facilities and designs;
- 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 buildings, premises and yards in which manufacturing, testing and transportation takes place within and without the project area, as well as areas where goods 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.

## **10.10 Other Important Issues**

### **10.10.1 Integration and harmonization with the district land use plans**

In addition to defining the district as the main territorial planning unit the GOM, through the Land Planning Law (Law n.º 19/2007 of 18 of July) and its regulation, requires all

districts to have land use plans. As stated above district land use plans are meant to provide adequate zoning for interventions based on suitability of the different land areas and respective pre-conditions. These plans are a way of exercising holistic and integrated approach to land resources management, including strategic planning. The siting of subprojects will benefit immensely from being harmonized with the district land use plans. An adequate zoning at the district and/or municipal level should be able to provide sound guidance regarding the best siting for each specific subproject.

However, due to a multitude of reasons most of the districts are still in the process of finalizing these plans. It is possible that by the time the Project will be implemented these plans will not yet be available in their final form. In some other cases existing plans will not of the best quality and the Project should endeavor to assist in revising the plans to bring them up to standard.

# **11 GUIDELINES FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN AND MONITORING REQUIREMENTS**

## **11.1 Environmental and Social Management Plan (ESMP)**

A site specific ESMP should be conducted as part of the ESIA process, as per the Regulamento do Processo de Avaliação do Impacto Ambiental (RPAIA)'s point (g) of Article 12, and should include the “monitoring of impacts, prevention plans, as well as accident contingencies”.

In an ESMP, various mitigation measures are organized into a well-formulated plan to guide the planning, design, construction and operation of the planned interventions. Under the ESIA/ESMP process and particularly under this ESMF, what is described below should be viewed as dynamic, which may require updating or revision during the implementation of the activities.

An effective ESMP for specific sub-projects will be a practical document, which will precisely set out both the goals and actions required in mitigation.

The ESMP covers a set of measures that need to be taken to ensure that impacts are dealt with in the following hierarchical order<sup>21</sup>:

- **Avoidance:** avoiding activities that could result in adverse impacts. Avoiding resources or areas considered as sensitive
- **Prevention:** preventing the occurrence of negative environmental and social impacts and/or preventing such an occurrence from having negative environmental and social impacts
- **Preservation:** preventing any future actions that might adversely affect an environmental and social resource. Typically achieved by extending legal protection to selected resources beyond the immediate needs of the project
- **Minimization:** limiting or reducing the degree, extent, magnitude or duration of adverse impacts. This can be achieved by scaling down, relocating, redesigning elements of the project
- **Rehabilitation:** repairing or enhancing affected resources, such as natural habitats or water sources, particularly when previous development has resulted in significant resource degradation
- **Restoration:** restoring affected resources to an earlier (and possibly more stable and productive) state, typically ‘background/pristine’ condition
- **Compensation:** creation, enhancement or protection of the same type of resource at another suitable and acceptable location, compensating for lost resources

As stated above, the management measures set forth in the ESMPs for more complex sub-projects and the Environmental and Social Clauses (SECs) for simple sub-projects will be included in the bidding documents and in the various contractual clauses for the design, construction and appropriate operation of the interventions to be adopted. All

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<sup>21</sup> Ref: The World Bank. Environment Department. January 1999. Environmental Management Plans. Environmental Sourcebook Update. Number 25

construction contracts should comply with the Environmental and Social Clauses and if relevant with the ESMP and Contractor ESMP prepared for the specific sub-project. Their implementation is the responsibility of the contractors. The Supervising Engineers will be required to monitor the adequate implementation of these clauses, ESMPs and CESMPs. For complex sub-projects the contractors will be required to prepare and implement his/her own Contractor ESMP and should employ an experienced environmental, health and safety specialist for this purpose. The Supervising Engineers will be required by contractual arrangement to supervise the adequate implementation of these Contractor ESMPs, other ESMPs or SECs and should employ an experienced environmental, health and safety officer for this purpose.

A series of steps to be followed to ensure that agriculture under the Project follows the best practices should be creatively followed where the Project will be supporting agricultural sub-projects. Annex 6 provides a checklist of issues to be considered as part of Good Agricultural Practices - Hygiene and Safety (Environmentally and Socially Friendly Agricultural Farming Systems), which should be followed and adapted to specific interventions.

The additional management actions may include the preparation of Integrated Pesticides Management Plans (PMPs) and/or Resettlement Action Plans (RAPs).

## **11.2 Pest Management Plan**

Agricultural subprojects can raise a host of pest management issues, such as:

- New land-use development or changed cultivation practices in an area;
- Expansion of agricultural activities into new areas;
- Diversification into new agricultural crops, particularly if these tend to receive high usage of pesticides - e.g. cotton, sugar cane, vegetables and rice, as well as increased doses of chemical fertilizers;
- Intensification of existing low-technology agriculture systems

Both the WB and the GOM support strategies that promote integrated pest management (IPM) approaches, such as biological control, cultural practices, and the development and use of crop varieties that are resistant or tolerant to the pest. The purchase of pesticides may be permitted when their use is justified under an IPM approach and if sufficient capacity exists for pest and pesticide management.

In addition to agricultural insect pests and plant diseases, pests also include weeds, birds, rodents, and human or livestock disease vectors.

Mozambican regulation on pesticides and World Bank Safeguard Policy on Pest Management OP 4.09 conform to the specifications of the World Health Organization (WHO) and Food and Agriculture Organizations of the United Nations (FAO). There are no specific policies about pest management and crop protection in the context of IPM approaches in Mozambique. Research into plant health and to a certain extent IPM approaches are carried out by IIAM (National Agrarian Research Institute) and the Faculty of Agronomy and Forestry (FAEF) of the Eduardo Mondlane University (UEM). Under these agencies, IPM research will continue and the knowledge will be passed on to extension services as it becomes available.

Given the complexities of the pest management issues under a project like this a separate Pest Management Plan has been prepared and disclosed, which should be used as part of this ESMF.



### 11.3 Involuntary Resettlement (Resettlement Action Plan)

Both, the Mozambican legislation **Decree 31/2012** (“Regulation on the Resettlement Process Resulting from Economic Activities”) and other relevant national laws and regulations (see Chapter 7) as well as the World Bank Safeguards Policy on Involuntary Resettlement (OP/BP 4.12) will apply to any sub-project with implications on land expropriation. In cases where the Mozambican regulation differs from OP/BP 4.12, therefore OP/BP 4.12 prevails.

As extensively explained in Chapters 6 and 7 the policies in force require that the following approach be adopted in dealing with resettlement issues:

*“Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs. Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.*

*Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher”.*

In terms of definition the WB adopts a broad view and the phenomenon “is not restricted to its usual meaning - that is “physical displacement,” it also includes economic displacement, namely adversely affecting people’s livelihoods even when they do not have to relocate. Depending on the cases, a resettlement action may include (i) loss of land or physical structures on the land, including business, (ii) the physical movement, and (iii) the economic rehabilitation of project affected persons (PAPs) in order to improve (or at least restore) the levels of income or livelihood prevailing before the action causing the resettlement has taken place”. This is also endorsed by the Mozambican authorities.

Given the complexity of issues to be dealt with under involuntary resettlement a Resettlement Policy Framework (RPF) has been prepared and must be used together with this ESMF.

## **12 TRAINING AND CAPACITY BUILDING REQUIREMENTS**

Successful implementation of the Project will depend among other aspects on the effective implementation of the environmental and social management measures outlined in the ESIAs/ESMPs, PMP and RAPs. Training and capacity building will be necessary for the key stakeholders to ensure that they have the appropriate knowledge and skills to implement the environmental and social management plans.

### **12.1 Institutional Capacity Assessment and Analysis**

Descriptions made in Chapter 7 clearly show that there has been considerable progress in institutional, legal and regulatory processes related with environmental and social management in Mozambique. However, coordination and law enforcement remain a serious challenge.

The host ministry (MITADER) is also entrusted with the responsibility of “promoting sustainable development through the practical leadership and execution of the country’s environmental policy”. However, it is a Ministry that is relatively new compared to other traditional ministries (e.g. agriculture, public works, education, health, etc.). This could be further compounded by the recent changes in its mandate and management structure.

The various institutions, development strategies, laws and regulations are still in need of harmonization to ensure that they achieve common goals within the sector. Human and material investments are required to translate the various provisions into concrete actions. This is further compounded by the fact that most of the country’s inhabitants are active in the informal sector, which makes it very difficult to regulate them.

Based on needs identification a specific institutional and human capacity-building program for environmental and social management will have to be developed as part of the Project. Beneficiary institutions might be MITADER at its various levels, mainly the provincial and district levels, relevant ministries at provincial and district levels, e.g. agriculture, public works, energy, mineral resources, health, education, economy and finance, etc., including local authorities (e.g. municipalities and others such as CSOs). A detailed capacity-building program will be developed during implementation, with a focus on strengthening the District, Municipal and Provincial structures responsible for environmental and social management.

The District Services of Planning and Infrastructure (SDPI), which have a unit that deals with environmental matters at the district level, should be given special attention to build their capacity to manage the ESIA/ESMP and RAP processes. So far, these processes are managed mainly at the provincial and central level. Only limited number of districts have made significant strides in getting actively and competently involved in ESIA/ESMP and RAP processes. In as far as possible lessons learned from successful experiences in the districts should be replicated in ten districts and five municipalities that form the project area as part of the Project planning and implementation.

To deal with the various and complex issues related with communication, coordination, capacity building and institutional strengthening there will be one qualified Safeguard Specialist at central level and two Provincial Community Management Officials (one in

each province) and a Communication Officers in the two provinces stationed at DPTADER.

## 12.2 Proposed Training and Awareness Programs

The general objective of the training and awareness programs for implementation of the ESIA/ESMPs, PMP and RAPs is to:

- sensitize the various stakeholders on the linkages between environment and social impacts and Project subprojects, particularly rural feeder roads, agriculture development, agro-industry, water supply, energy, education, health, etc.;
- demonstrate the role of the various key players in the implementation and monitoring of the safeguards instruments (ESMF-ESIA/ESMP, RPF/RAP, PMP, etc.);
- sensitize representatives and leaders of community groups and associations (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 are able to provide leadership and guidance as well as supervise the implementation of their components in the ESIA/ESMP, RPF/RAP, PMP, etc.;
- ensure that participants are able to analyze the potential environmental and social impacts, and competently prescribe mitigation options as well as supervise the implementation of management plans;
- strengthen local NGOs and teams of extension workers to provide technical support to the farmers.

The stakeholders have different training needs for awareness raising, sensitization, and comprehensive training, namely:

- awareness-raising for participants who need to appreciate the significance or relevance of environmental and social issues, that go even beyond just safeguards (i.e. gender mainstreaming, social accountability and/or grievance redress mechanism, etc.);
- sensitization for participants who need to be familiar with the ESIA/ESMP, PMP and RAP and to monitor its implementation; and
- Comprehensive training for participants who will need to understand the potential adverse environmental and social impacts and who will at times supervise implementation of mitigation measures and report to relevant authorities.

Practical ways of reaching all target groups will need to be devised for training and capacity needs assessments as well as for delivery of the training. The “*Learning by Doing*”<sup>22</sup> approach in relative detriment of studies and other forms of advice and assistance will be given priority consideration. The training of trainers is also seen as a relevant approach as it will assist in the creation of basic conditions for sustainability and replication of the interventions. The outcomes of such a process will live beyond the life span of PROJECT.

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<sup>22</sup> In which relevant personnel at the various levels are exposed to examples of good practices and/or where they learn by seeing and/or doing how things are approached and done.

### **12.3. Technical Assistance (TA)**

In due course the need for short, medium and long term Technical Assistance will be assessed. The results will be used to devise the best approach to deploy TA to the project.

Particularly important in TA will be to ensure that the various external inputs from different providers of goods and services to the project are aligned and harmonized with the Project's ultimate goals. Capacity building and transference of knowledge and skills for MASA, MPOHRH, MIREME, MITADER and the overall environmental and social sector will be at the center of the activities to be carried out. The provincial and district levels will be crucial as it is at this level that capacity is usually low,

## **13 ESMF MONITORING REQUIREMENTS**

Monitoring will be fundamental to ensure that the objectives set forth in the ESMF and the ESIA/ESMPs, PMP and RAPs are being achieved satisfactorily and where there are nonconformities to, timely, introduce changes. This will be a continuous process and will include compliance and outcome monitoring. The aim is to verify key concerns on compliance with the ESMF, implementation progress and extent of effective consultation and participation of local communities.

Project Management Team, especially the environmental and social management officials stationed at the provincial level, will have the overall responsibility for coordinating and monitoring the implementation of the ESMF. They will have to conduct sensitization programs to inform stakeholders about the framework, how it works and what will be expected of them. They will undertake continuous compliance monitoring and evaluation to ensure that:

- All project activities are implemented according to the environmental and social management requirements of this ESMF, PMP and RPF and, where applicable, specific Environmental and Social Management Plans (ESMPs);
- Problems arising during implementation are being addressed early enough to avoid any spill-over that could subsequently hinder the outcomes of the project (i.e. issues of Grievance Redress Mechanism); and
- Environmental and social mitigation or enhancement measures, designed as per this ESMF or additional environmental and social mitigation measures identified during project implementation and/or ESIA/ESMP preparation, are reflected within specific ESMPs, CESMPs and monitoring plans.

The Project Management Team (PMT) will consult and coordinate with the appropriate government agencies on social and environmental monitoring. Quarterly progress reports will be prepared and circulated to all relevant entities covering aspects such as:

- Implementation schedule;
- Extent of community involvement;
- Allocation of funds;
- Problems arising as well as solutions devised, during implementation; and
- Efficiency of contractors in fulfilling their environmental, social, health and safety management contractual obligations;
- Efficiency of Supervising Engineers in fulfilling their environmental, social, health and safety monitoring contractual obligations.

For major project activities, the Project will procure an external independent consultant/firm to (i) conduct the monitoring and evaluation of the sub-project activities, and (ii) verify the effectiveness of measures for mitigation of negative impacts and enhancement of positive impacts. The Independent consultant/Firm will develop a detailed monitoring and evaluation plan (including questionnaires and inventory forms) from terms of reference, based on the ESMPs and CESMPs submitted to and approved by the GOM and the WB/IDA.

## **14 PROPOSED ESTIMATED IMPLEMENTATION BUDGET.**

In the absence of details the footprint and quantification of the different interventions that will have resettlement implications at this stage of the process the initial budget lines and estimate of lump sum amount necessary to cover this particular component of the Project is calculated on the basis of percentage of the amounts allocated for each major areas of intervention, namely Improving rural infrastructure (US\$ 28.0 m) and Supporting land tenure regularization (US\$ 7.0 m), totaling US\$ 35.0 m. The percentage is estimated at 4%, which was found to be in line with the percentage used for PROIRRI (close to 3.71%), which is a Category C Project. Thus, the total amount to cover ESIA and ESMF costs stands at US\$ 1,400,000.00. In due course the distribution of this amount will be made but one area that is going to mobilize most of the fund is the payment of all forms of compensation and livelihood restoration, followed by provision of various types of services, including the formulation, implementation and monitoring and evaluation of ESIA/ESMP.

Below are the items to be considered for implementing the ESMF as well as for preparing and implementing the ESIA/ESMPs, including monitoring, evaluation, auditing and capacity building.

**Table 9: Estimated budget for ESMF implementation**

Item	Total Amount in US\$1,000.00
<b>ESMF Implementation</b>	
Project start-up and preparation for implementation	
Contracting of ESMF service providers and mobilization	
Sub-project identification, preparation and monitoring assistance	
General technical assistance	
Specific technical assistance	
Monitoring	
Inspection	
Annual review	
Triennial audit	
<b>Training and Capacity Building</b>	
At central level	
At provincial level	
At district level	
Extension workers and other technical personnel at the grassroots level	
Producers' associations and SMEs	
NGO, CBO, Community Associations	
<b>Preparation and implementation of ESIA and ESMPs,</b>	
Preparation and implementation of ESIA, ESMPs	
<b>Total</b>	<b>\$1,400.00</b>

The total cost of preparing and implementing ESMF, and the ESIAs/ESMPs under this document stands at **US\$ 620,000.00 (six hundred thousand, twenty American Dollars)**.

## References

- Carlos Nuno Castel-Branco (2008) "The Mega Projects in Mozambique: What Contribution to National Economy?" Civil Society Forum on Extractive Industries, Natural History Museum (Maputo), 27 and 28 November 2008
- CEDSIF, (date). Terms of Reference for support to the development of SGM CM, Maio 2011. "Plano de Acção para a Redução da Pobreza (PARP) 2011-2014 – Aprovado na 15ª Sessão Ordinária do Conselho de Ministros de 3 de Maio de 2011", Maputo, Moçambique.
- CNCS, 2009. "HIV/SIDA em Moçambique", Maputo, Moçambique
- Fourth High Level Forum on Aid Effectiveness (HLF-4, 29 November-1 December 2011), Busan, Korea
- GOM, 2005. Strategic Plan for the Environment Sector 2005 – 2015
- GOM, 2012. Simplified Matrix for Environment, 2012
- INE (2009). "Recenseamento Geral da População e Habitação – Resultados Definitivos", Maputo, Moçambique.
- Memorandum of Understanding RDE – SCC, 2011-07-05
- MICOA, 2007. Environmental Strategy for Sustainable Development, EADS, December 2007
- MICOA, 2011. "Relatório do Estado do Ambiente em Moçambique", Maputo, Moçambique.
- MICOA, 2011. Budget summaries for PES 2011, by programme, ESPS II executing agency.
- MICOA/INE , 2010. "Compêndio de Estatísticas do Ambiente", Maputo, Moçambique
- Mozambique Country Report, The Economist Intelligence Unit, May 2011
- MPD, 2010. "Report on the Millennium Development Goals", Maputo, Mozambique
- UNDP, 2015. "2015 Human Development Report – Rethinking Work for Human Development", 1 UN Plaza, New York, NY 10017, USA.
- United Nations Redd Programme (UN-REDD), 2012. "Readiness Preparation Proposal for Mozambique", Maputo, Mozambique
- WB (2015) "Aide Memoire, Preparation Mission, Republic of Mozambique: Proposed Agriculture and Natural Resources Landscape Management Project". Maputo



# **Annexes**

**Annex 1: Current status of preparation of PDUT (district land use plans) in the two provinces**

PROVÍNCIA	ORDEM	TOTAL DE PLANOS	DISTRITOS COM PLANOS ELABORADOS	ANO DE ELABORAÇÃO	DISTRITOS SEM PLANOS
NAMPULA	25	1	Mossuril	2009	Moma
	26	2	Ilha de Moçambique	2008	Mongicual
	27	3	Nacala - Porto	2009	Eráti
	28	4	Angoche	2008	Memba
	29	5	Nacala -a- Velha	2010	Nacarôa
	30	6	Mongovolas	2011	
	31	7	Murrupula	2011	
	32	8	Monapo	2010	
	33	9	Nampula Rapale	2011	Total of districts without Plans = 5
	34	10	Muecate	2011	
	35	11	Mecubúri	2011	
	36	12	Malema	2012	
	37	13	Ribaúe	2012	
	38	14	Meconta	2012	
	39	15	Lalaua	2012	
<b>Total de distritos com Planos = 15</b>					

PROVÍNCIA	ORDEM	TOTAL DE PLANOS	DISTRITOS COM PLANOS ELABORADOS	ANO DE ELABORAÇÃO	DISTRITOS SEM PLANOS
ZAMBÉZIA	40	1	Mocuba	2009	Namarroi
	41	2	Pebane	2009	Gurué
	42	3	Alto Molócué	2009	Lugela
	43	4	Namacurra	2009	
	44	5	Mangaja da Costa	2009	
	45	6	Chinde	2009	
	46	7	Morrumbala	2011	
	47	8	Mopeia	2011	Total of districts without Plans = 3
	48	9	Gilé	2011	
	49	10	Nicoadala	2012	
	50	11	Ile	2012	
	51	12	Milange	2012	

PROVÍNCIA	ORDEM	TOTAL DE PLANOS	DISTRITOS COM PLANOS ELABORADOS	ANO DE ELABORAÇÃO	DISTRITOS SEM PLANOS
	52	13	Inhassunge	2012	
<b>Total de Distritos Com Planos = 13</b>					

## Annex 2: Environmental and Social Screening Form for subprojects

Nr of order :.....	Date of filling
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This ESSF form is designed to assist in the environmental and social screening of Project sub-projects to be executed in the field on-site.

Subproject Location :.....

Project Leaders:.....

### Part A: Brief description of the subproject

.....

### Part B: Identification of environmental and social impacts

Environmental and social concerns	Yes	No	Remarks
<b>Sector resources</b>			
Will the subproject require large volumes of construction materials from the local natural resources (sand, gravel, laterite, water, wood construction, etc.)?			
Does it require vast clearing or acquisition of land areas, will it use GMOs or grow tobacco and drugs?			
<b>Biodiversity</b>			
Will the subproject cause impacts on endemic, rare, vulnerable species (i.e. IUCN Red List species) and/or important economic, ecological, physical cultural resources and components			
Are there any areas of environmental or ecological sensitivity that could be adversely affected by the subproject? E.g., forests, wetlands (lakes, rivers, seasonal floodplains), etc.			
<b>Protected areas</b>			
Does the subproject area (or its components) have impact on protected areas (national parks, national reserves, protected forests, a World Heritage Site, etc.)			
If the subproject is outside protected areas, but at a short distance from protected areas, could it adversely affect the ecology within the protected area? (e.g. interference with the flight of birds, migration of mammals)			
<b>Geology and Soils</b>			
From the geological or soil point of view are there unstable areas (erosion, landslide, collapse)?			
Are there any areas at risk of soil salinization?			
<b>Landscape/aesthetics</b>			
Will the subproject have any adverse effect on the aesthetic value			

<b>Environmental and social concerns</b>	Yes	No	Remarks
of the landscape?			
<b>Historical, archaeological or cultural sites</b>			
Has the subproject the potential to change one or several historic, archaeological, cultural sites, or require excavations?			
<b>Loss of assets and other</b>			
Does the subproject trigger the temporary or permanent loss of natural or critical natural habitat, crops, agricultural land, grazing, fruit trees, houses and domestic infrastructure?			
<b>Pollution</b>			
Is the subproject likely to cause a high levels of noise?			
Has the subproject the potential to generate significant amounts of solid and liquid wastes? (i.e. waste oils, high BOD effluents, heavy metals, other toxic chemicals, pesticides, fertilizer pollution, etc.)			
If "yes" has the subproject client prepared a plan for waste collection and disposal or management?			
Is there Environmental and Social Management Capacity and Equipment?			
Is there any risk that subproject could affect the quality of surface water, groundwater, drinking water sources			
Has the subproject any potential of affecting the atmosphere and causing air pollution (dust, PM10, various gases such NOx, SO2, etc.)			
<b>Lifestyle</b>			
Does the subproject have any potential of causing alterations in the lifestyle of local people?			
Could the subproject lead to the accentuation of social inequalities?			
Does the subproject have the potential to lead to incompatible uses of resources or to social conflicts between different users or is there a risk that local communities could lose the access to their land or lose the use rights of their land?			
<b>Health and Safety</b>			
Does the subproject have the potential to lead to risks of accident for workers and communities?			
Does the subproject have the potential to cause risks to the health of workers and the communities? (i.e. HIV/Aids)			
Does the subproject have the potential to lead to an increase in the population of disease vectors? Malaria, Intestinal and Urinary Bilharzia and others			
<b>Local Incomes</b>			
Does the subproject create temporary or permanent jobs?			
Does the subproject promote the increase of agricultural production and/or create other income generating activities?			
<b>Gender Concerns</b>			
Does the subproject promote the integration of women and other vulnerable groups and provide them access to resources such as irrigated agriculture, markets, etc.?			
Does the subproject take into account the concerns of women and does it encourage their involvement in decision-making?			

## Public Consultation and Participation

Have public consultation and participation been sought?

Yes\_\_\_\_ No\_\_\_\_

If "Yes", briefly describe the measures taken to this effect.

**Part C: Mitigation**

For all "Yes" given answers briefly describe the measures taken to that effect.

**Part D: Project classification and environmental and social work**

• No environmental and social work needed .....

• Freestanding ESMP or SECs) .....

• ESIA with an Environmental and Social Management Plan (ESMP)

• Contractor ESMP

Project classified as category:

A

B

C

**Annex 3: Preliminary Environmental Information Sheet**

**FICHA DE INFORMAÇÃO AMBIENTAL PRELIMINAR**

**1. Nome da actividade:**

**2. Tipo de actividade:**

a) Turística  Industrial  Agro-pecuária  Outro

Especifique

b) Novo  Reabilitação  Expansão

**3. Identificação do(s) proponente(s):**

**4. Endereço/contacto:**

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**5. Localização da actividade:**

**5.1 Localização administrativa:**

**5.2 Meio de inserção:**

Urbano  Rural

**6. Enquadramento no zoneamento:**

Espaço habitacional  Industrial  Serviço  Verde

**7. Descrição da actividade:**

**7.1 Infra-estruturas da actividade, suas dimensões e capacidade instalada (juntar sempre que possível as peças desenhadas e escritas da actividade):**

**7.2 Actividades associadas:**

**7.3 Breve descrição da tecnologia de construção e de operação:**

**7.4 Actividades principais e complementares:**

**7.5 Tipo, origem e quantidade da mão-de-obra:**



**7.6 Tipo, origem e quantidades de matéria-prima:**

**7.7 Produtos químicos citados cientificamente a serem usados: (caso a lista seja longa deverá produzir-se em anexo)**

**7.8 Tipo, origem e quantidade de consumo de água e energia:**

**7.9 Origem e quantidade de combustíveis e lubrificantes a serem usados:**

**7.10 Outros recursos necessários:**

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**8. Posse de terra (situação legal sobre a aquisição do espaço físico):**

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**9. Alternativas de localização da actividade:**

(Motivo da escolha do local de implantação da actividade e indicando pelo menos dois locais alternativos)

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**10. Breve informação sobre a situação ambiental de referência local e regional:**

**10.1 Características físicas do local de implantação da actividade:**

Planície  Planalto  Vale  Montanha

**10.2 Ecossistemas predominantes:**

Rio  Lago  Mar  Terrestre

**10.3 Zona de localização:**

Zona Costeira  Zona do interior  Ilha

**10.4 Tipo de vegetação predominante:**

Floresta  Savana  Outros  (especifique)\_\_\_

A vegetação é dominada por gramíneas, pinheiros casuarinos, coqueiros e arbustos e árvores indígenas.

**10.5 Uso do solo de acordo com o plano de estrutura ou outra política vigente:**

Machamba  Habitacional  Industrial

Protecção  
Especifique) \_\_\_\_\_

Outros (

**10.6 Infra-estruturas principais existentes ao redor da área da actividade:**

**11. Informação complementar através de mapas**

- Outra informação pertinente que julgar relevante.

**Local, data (dia/mês/ano)**

#### Annex 4: Checklist for environmental and social impacts

Project Activities	Issues to be addressed	Yes	No	If yes,
<p>Agricultural development, rehabilitation of rural feeder roads, construction of water mains and construction and operation of storage, packaging and agro-processing facilities</p>	<ul style="list-style-type: none"> <li>Will there any loss of vegetation during the construction and operation of the agricultural subprojects?</li> </ul>			<p>If yes, in one of these issues, draw appropriate mitigation measures described in Chapter 9</p>
	<ul style="list-style-type: none"> <li>Are there adequate services and plans for liquid and solid waste disposal during construction and operation?</li> </ul>			
	<ul style="list-style-type: none"> <li>Will the waste and trash generated during the construction and operational phases of the subprojects be cleaned up and disposed off?</li> </ul>			
	<ul style="list-style-type: none"> <li>Will there be fire equipment and safety equipment on-site in case of an emergency or accident during construction and operation?</li> </ul>			
	<ul style="list-style-type: none"> <li>Is there any risk of pollution of groundwater, surface water or soil by the subproject activities?</li> </ul>			
	<ul style="list-style-type: none"> <li>Is there any risk of air pollution by subproject activities, e.g., agro-industry processes?</li> </ul>			
	<ul style="list-style-type: none"> <li>Are there any environmentally sensitive areas in the vicinity of the area of operations that may be negatively impacted?</li> </ul>			
	<ul style="list-style-type: none"> <li>Are there impacts on the health of local residents and the implementing and operating staff?</li> </ul>			
	<ul style="list-style-type: none"> <li>Are there any impacts of waterborne diseases on local communities, e.g., malaria and bilharzia?</li> </ul>			
	<ul style="list-style-type: none"> <li>Are there visual impacts caused by construction and infrastructure?</li> </ul>			
<ul style="list-style-type: none"> <li>Are there any odors that may come from the disposal of waste from agricultural</li> </ul>				

	activities?			
	<ul style="list-style-type: none"> <li>• Are there human settlements or sites of cultural, religious or historical importance near the subproject site?</li> </ul>			
	<ul style="list-style-type: none"> <li>• Will there be any conflicts/disturbances between local people and external people working for the project?</li> </ul>			
	<ul style="list-style-type: none"> <li>• Will the project interfere with any physical/cultural resources?</li> </ul>			

## **Annex 5: Environmental and Social Clauses**

The environmental and social clauses presented below will be integrated into Contracts for the Design, Construction, Operation and Maintenance of PROJECT subprojects.

### **a. Prior arrangements for carrying out works**

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

The Contractor and its subcontractors must: know, respect and enforce laws and regulations in force in the country 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**

Any work carried out must be preceded by obtaining information with regard to permits (e.g., environmental permit) and administrative permissions. Before starting work, the Contractor shall obtain all permits necessary for carrying out the work under the contract: authorizations are issued by local communities, forest services (in the case of deforestation, pruning, etc.), mining services (in case of quarries and borrow sites), hydraulic services (in case of use of public water points), the Labor Inspection, network managers, etc. Before starting any works, the Contractor shall consult with the residents with whom he can make arrangements to facilitate the progress of the subproject implementation.

#### **Meeting before starting works**

Before starting work, the Contractor and the Project Manager, under the supervision of the Client, shall hold meetings with government officials, representatives of the population in the project area and relevant technical services to inform them about the consistency 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 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).

#### **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 by private companies when they are released as a result of an expropriation process.

## **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, the water supply and sanitation management plan, the list of agreements made with the owners and current users of private sites, etc.

### **b. 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 STDs and HIV/AIDS.

#### **Use of local labor**

The Contractor shall engage (besides his technical staff) as much labor as possible from the area where the works are being performed. Failing to find qualified personnel on site, it is permitted to bring a workforce from outside the work area.

#### **Child labor**

Harmful Child Labor, which consists of the 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 physical, mental, spiritual, moral or social development should not be allowed.

### **Respect for working hours**

The Contractor shall ensure that work schedules comply with the laws and regulations in force. Any waiver is subject to the approval of the project manager. Wherever possible (except in exceptional cases provided by the prime contractor), the Contractor shall avoid performing work during the rest 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, goggles, 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 approved by the Project Manager. The Contractor shall ensure that temporary deviations allow for passage without danger.

### **c. Decommissioning of construction sites**

#### **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 quarries, etc.); (v) 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.

### **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 Project Manager, 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**

The Project Manager 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 Project Manager. Costs of restarts or additional works arising from non-compliance shall be borne by the Contractor.

### **Sanction**

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 non-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.

#### **d. Environmental and Social Clauses**

##### **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.

##### **Measures for the movement of construction equipment**

During the works, the Contractor 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 activities**

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

##### **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. 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.

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

The Contractor shall take all necessary measures to respect the cultural and cultural sites (cemeteries, sacred sites, 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 the national body responsible for historic and archaeological sites has given permission to continue.

### **Measures for logging and deforestation**

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, depending on the existing laws.

### **Liquid Waste Management**

The Contractor shall prevent spills and wastewater discharge, oil and all kinds of pollutants in surface water or groundwater or on soils. The Project Manager will provide treatment methods, disposal procedures, disposal sites and drainage locations to the Contractor.

### **Solid waste management**

The Contractor shall deposit the garbage in bins 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 wastes in an environmentally sound manner. For this purpose the Contractor should store waste in labeled containers. The Contractor shall deliver the waste, if possible, to existing disposal sites.

### **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.

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

The Contractor shall inform and educate staff on the risks of STD/HIV/AIDS. He must make sufficient and good quality condoms available to staff free of charge to be used against STDs and HIV/AIDS infections. Local communities should also be informed about the risks of STDs and HIV/Aids.

The Contractor shall inform and educate employees on safety and health at work. He must maintain the safety and health of workers and local populations and take appropriate measures for this purpose. The Contractor shall provide the following preventive measures against the health and safety risks: (i) enforce the wearing of masks, uniforms and other appropriate footwear and equipment; and (ii) systematically install a medical clinic at the construction site and provide free medications necessary for emergency care on site for the staff.

### **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.

### **Equipment maintenance and equipment projects**

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. Goggles and dust masks are mandatory.

## Annex 6: Good Agricultural Practices - Hygiene and Safety

### Environmentally and Socially Friendly Agricultural Farming Systems

Technical steps	Environmental and social measures
<b>Clearing (felling of trees and shrubs)</b>	<ul style="list-style-type: none"> <li>• Reforestation of the waste land areas as a compensation</li> <li>• Development of low-lying flood plains for crop production, but leaving high biodiversity wetland areas untouched</li> </ul>
<b>Fertilization</b>	<ul style="list-style-type: none"> <li>• Development of improved farming system by applying improved technology</li> <li>• Training on the safe selection, use, storage and disposal of agricultural inputs</li> <li>• Training on compost making techniques</li> <li>• Train communities on how to improve their nutrition</li> <li>• Reduction of agricultural production losses and wastage</li> <li>• Reuse of agricultural by-products</li> <li>• Integration of short-cycle crops, i.e. 3 months, short stem rice</li> </ul>
<b>Treatment plant</b>	<ul style="list-style-type: none"> <li>• Promotion of integrated pest management</li> <li>• Training on safe pesticide selection, use, storage and disposal</li> <li>• Application of knowledge to get healthy crops, avoid or manage diseases</li> <li>• Adoption of best practices for monitoring insects and knowledge of the life cycle of pests</li> <li>• Use of natural predators and ecological characteristics</li> <li>• Practice of Biological Control</li> <li>• Adoption of short cycle varieties selected for durable resistance to pests</li> </ul>
<b>Cropping systems</b>	<ul style="list-style-type: none"> <li>• Development of agricultural systems and irrigated lowland systems for year-round production</li> <li>• Regular monitoring of the quality of water for irrigation to avoid contamination of food crops</li> <li>• Recycling of crop residues and animal waste</li> <li>• Use of animal traction and shelterbelts</li> <li>• Promotion of home gardens</li> </ul>

### Measures of good agricultural practices integrating environmental and social sustainability aspects

<p><b>Improving seed quality (seed production techniques)</b></p> <ul style="list-style-type: none"> <li>• Enhance the features of improved seeds taking the environmental and dimensions into account, i.e. good ground cover to reduce erosion, short growing season so that more crops per year are feasible</li> <li>• Organize the production and dissemination of improved seeds</li> <li>• Disseminate intensification techniques to improve the competitiveness of produced crops</li> <li>• Improve harvesting and post-harvest techniques in order to reduce losses</li> </ul> <p><b>Improvement of production systems and natural resource base:</b></p> <ul style="list-style-type: none"> <li>• Control erosion with legumes</li> <li>• Improved fertility including alley cropping with legumes</li> <li>• Use of cover crops</li> <li>• Reduce the decline of soil fertility through a better agriculture - livestock integration</li> <li>• Monitoring of Soil Fertility</li> <li>• Program for Research on Integrated Management of soil nutrients</li> <li>• Research Programs on more Sustainable Agricultural Systems leading to an Enhanced and Sustainable Production System</li> <li>• Dissemination of technical erosion control</li> </ul> <p><b>Sustainable agricultural crop production</b></p>
--

- Controlling erosion and rapid depletion of soil organic reserves, the restoration of soil fertility and sustainable land management
- Develop research on technologies that optimize the use of new sources of accessible and sustainable organic fertilizers
- Minimize the effects of mechanized practices (choice of agricultural machinery and equipment suited to the agro-ecological zones for cultivation, etc.).

**Improving food quality**

- Ensure quality of food (hygienic, packaging, transportation, storage and processing)
- Prioritize the establishment of a system of risk analysis and critical control point (HACCP hazard analysis of critical control point)

**Annex 7: Public Participation Process to be Followed under the Project (1<sup>st</sup> Draft, January 2016)**



**REPÚBLICA DE MOÇAMBIQUE**  
**MINISTÉRIO DA TERRA, AMBIENTE E**  
**DESENVOLVIMENTO RURAL (MITADER)**

**Agriculture and Natural Resource**  
**Landscape Management Project**

**(PROJECT -- P149620)**

**PUBLIC ENGAGEMENT PROCESS**

**1<sup>st</sup> Draft**

Maputo, January 2016



## **LIST OF ACRONYMS**

CBNRM	Community-Based Natural Resource Management
DA	District Administration
DCC	District Consultative Council
DLA	Department of Environmental Licensing
DNA	National Directorate of Environment
DNOTR	National Directorate of Land Planning and Resettlement
DPASA	Provincial Directorate of Agriculture and Food Security
DPOPHRH	Provincial Directorate of Public Works, Housing and Water Resources
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
GOM	Government of Mozambique
IDA	International Development Association
MICOA	Ministry for the Coordination of Environmental Affairs
MASA	Ministry of Agriculture and Food Security
MITADER	Ministry of Land, Environment and Rural Development
MOPHRH	Ministry of Public Works, Housing and Water Resources
NGO	Non-Governmental Organization
PDUT	District Land Use Plan
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SDAE	District Services of Economic Activities

SDMAS	District Services of Women, Social Affairs and Health
SDPI	District Services of Planning and Infrastructure
TOR	Terms of Reference
WB	World Bank

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<b>LIST OF ACRONYMS</b>	<b>Y</b>
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## 1 Overview

Public participation and communication will be conducted mainly to meet the requirements of the environmental regulator in Mozambique, i.e. the Ministry of Land, Environment and Rural Development (MITADER) as stipulated by **Decree 45/2004**, which regulated the environmental impact assessment process and Diplomas 129/2006 and 130/2006, on public participation as well as **Decree 31/2012** that regulates “*Resettlement Process Resulting from Economic Activities* and other related regulatory instruments. The process will also be in line with the WB regulations and guidelines on the same subject.

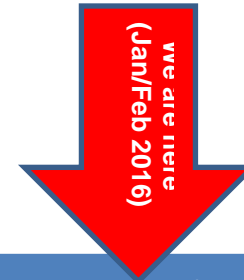
Under the above-mentioned regulations adequate environmental and social management processes, as set in in the various instruments such as ESMF, RPF, PMP, PF, ESIA/ESMP, RAP, etc. emphasise the clear need for frequent interaction and communication between project developers and the general public, parties affected, external interested and concerned organisations, as well as project scientists and engineers.

Each aspect of the technical investigations generally includes a data collection and verification phase, followed by analysis and evaluation, then synthesis and conclusions. The findings of each phase should be communicated as appropriate to external parties. Project implementation and monitoring as well as phasing out should also be characterized by solid engagement of all interested and affected parties.

The main objectives of the public consultation and involvement are to:

- Keep Project Interested and Affected Parties (PI&APs) informed about key issues and findings of each stage of the process;
- Gather concerns and interests expressed by various project stakeholders;
- Obtain contributions/opinions of stakeholders in terms of avoiding/minimizing possible negative impacts and maximizing positive impacts of the project.
- Finally, support the social dialogue and identify from the onset, stakeholders’ perceptions and expectations, which can contribute to the action planning and effective communication in order to minimize the negative impacts of the project. The process also allows for rethinking the project’s technical aspects.

From the environmental and social management point of view it is planned that the **Agriculture and Natural Resources Landscape Management Project (ANRLMP)** will adopt the following work phases:



## Environmental and social management phases

### Phase 1: Formulation and adoption of umbrella environmental and social management instruments (ESMF, RPF and PMP)

**Definition:** Primary environmental and social safeguard instruments to ensure ANRLM subprojects are designed and implemented in a way that is environmentally and socially sound

**Functions:** (i) set out systematic procedures for participatory screening for sub-projects  
(ii) step-by-step procedure for predicting and managing the main potential environmental and social impacts of the planned sub-project ; (iii) general identification of impacts, definition of guidelines for project management



### Phase 2: Formulation and adoption of site specific subprojects environmental and social management instruments (ESIA/ESMP and RAP and/or their simplified abbreviated versions)

**Definition:** ANRLM specific subproject environmental and social safeguards instruments to ensure all aspects of subproject design adhere to sound environmental and social management principles

**Functions:** (i) subproject assessment in terms of impact on the environment and on human beings, indicating both beneficial outcomes and adverse effects; (ii) proposal on measures to avoid, mitigate and eliminate adverse effects at the planning, design and installation stages, and during operation and decommissioning; (iii) setting up of management structures of the project.



### Phase 3: Subproject implementation, monitoring and evaluation

**Definition:** Verification of compliance with previous definitions during subproject installation, operation and decommissioning

**Functions:** (i) ensure that the principles and guidelines set forth in the previous instruments are adhered to and adjusted as found fit; (ii) maintain a constructive dialogue among all affected and interested parties about project and subproject outcomes

**Phase 1 – Formulation and Adoption of the ESMF, RPF and PMP:** these are the primary (umbrella) environmental and social safeguard instruments aimed at ensuring that ANRLM subprojects are designed, approved, implemented, monitored and evaluated in a way that adheres to sound management principles, systems and procedures. These safeguard instruments are usually relevant where there is still an unclear definition of the project (i.e. specific definition of subprojects) interventions. Among other aspects they set out (i) systematic procedures for participatory screening for sub-projects; and (ii) a step-by-step procedure for predicting and managing the main potential environmental and social impacts of the planned sub-project activities. It is going to be at this stage that public participation and involvement with the project will be initiated in a systematic way. ANRLM is at this phase at the moment, i.e. January/February 2016.

**Phase 2 – Formulation and adoption of site specific subprojects environmental and social management instruments (ESIA/ESMP and RAP and/or their simplified abbreviated versions):** at this stage safeguard instruments are aimed at (i) assessing the proposed development in terms of impact on the natural and social environment, indicating both its beneficial outcomes and adverse effects; (ii) proposing measures to be taken in order to mitigate and eliminate adverse effects both at the planning, design and installation stages and during operation and possible decommissioning.

Depending on the magnitude of project impacts the following sub-stages can be involved in the preparation of these instruments:

- Inception Phase - Pre-Assessment Application Form and Project Categorization (mandatory)
- Scoping Phase and Definition of Detailed ESIA Terms of Reference (for Categories A and B Projects)
- Environmental and Social Impact Assessment and Environmental and Social Management Plan Phase (for Categories A and B Projects)

Resettlement Action Plans (RAPs) and/or their abbreviated version are required where subprojects result in involuntary resettlement of people and/or their assets.

## **2 Public Participation Process**

### **2.1 Principles and General Orientation**

The public participation regulations and guidelines require that in addition to interviews and meetings with individuals (e.g. key informants), each one of the above-mentioned phases should be marked by a series of public meetings and where appropriate focus groups discussions in which relevant Interested and Affected Parties (I&APs) are actively involved.

During the meetings the environmental and social management teams in close collaboration with the Developer (MITADER) representatives will maintain I&APs informed of the main issues and findings of each phase and collect concerns and interests expressed by the various project stakeholders.

All the public meetings will be non-technical and are expected to contribute to get stakeholders' inputs in terms of avoiding/minimizing possible negative impacts and optimizing the positive impacts of the project.

Community consultation and participation should be at the centre of the entire process as a way of providing an opportunity for all relevant stakeholders and particularly affected/beneficiary households, communities, public and private organizations to get informed about the project. The process is also designed to instil a sense of ownership for the project and to provide an opportunity for all concerned parties to present their views and interests and expand options for dealing with sensitive matters.

It is important to include the affected communities at the grass root level as integral part of the project development and the environmental and social management process. Therefore, communities must have their own representatives and should be clustered in an appropriate way to ensure social cohesion in addressing the various issues. Considering the different social roles of men and women, it is likely that the impact of the project will be felt differently by men and women and therefore they should be consulted separately. Separate focus group discussions should be held with women and men in each project phase, in each community influenced/affected by the project.

Community leaders must be people with leadership capacity and accepted by local people as their representatives. They shall get involved in the communication and participation process so as to integrate community wishes and institutional arrangements to reach agreements.

At the same time, the community participation process will play an important role in community organization, allowing for the identification of people within communities that can be used in the various aspects of project development and implementation.

There will be a need to ensure that a practical communication system is established in order to strengthen the ability of all project beneficiaries and affected people to articulate, disseminate and make their own decisions.

In order to empower the communities and the beneficiaries the communication systems to be adopted should embrace the “rights based approach”.

## **2.2 Methodologies**

Communication should be conducted in different ways and using different methods as found fit for each case and circumstance, such as:

- General public meetings with groups of interested and affected people. These meetings are publicly announced using national newspapers of major circulation and are open to all those who wish to attend;
- Community and local meetings target to certain communities and groups identified are crucial in the project’s communication strategy at a given point;
- Focus group discussions separately with women, men, youth, business people, company managers, farmers, etc.

Each and every meeting should be properly documented. The minutes of such meetings should, among other aspects, contain:

1. Date
2. Venue - City/Bairro/Quarter

3. Summary of the main issues presented during the meeting by the developer and/or their representatives (Environmental and Social Workers and/or Engineering teams)
4. Summary of the main issues presented by the participants (Note: All concerns and interests expressed should be recorded)
5. Feedback given
6. List of participants including the names and position of the organizers as well as contact details of all who attended the meeting.

Meetings should be conducted in both languages, Portuguese and local languages. Local languages relevant for each city/bairro/quarter will be identified in due course, particularly during Phase 1, i.e. of **Formulation and Adoption of the ESMF, RPF and PMP**. Where needed, local interpreters will be engaged to facilitate this process.

Other means of communication should also be used to disseminate information and all different kinds of instructions to affected and concerned people. These should include but not be limited to:

- radio – national, provincial, municipal and community
- television – national, provincial, municipal and community
- newspapers and news bulletins – national, provincial, municipal and community
- leaflets
- letters
- word-of-mouth
- other media and channels.

Women have often limited or no access to written and audio/audio-visual information channels. It is therefore important to find out, already at the initial phase, how/where women can be reached most efficiently. It is likely that market places, health posts, public standpipes, farms, etc. become strategic meeting points for reaching women in large numbers.

Communication material produced specifically to foster project interests should be circulated in both languages, Portuguese and local languages, using the most appropriate channels for men and women.

The exact venues and the people and entities to be involved in the meetings as well as the way in which the various stakeholders will be grouped will be identified and specified at an opportune time.

In line with the regulations hard copies of the Drafts of main reports, i.e. **ESMF, RPF and PMP** and **later** ESIA/ESMP and RAP and/or their simplified abbreviated versions as well as Non-Technical Summaries should also be made available to the public in certain places such as MITADER and other ministries directly involved, e.g. agriculture, public works, etc. (at the central and Provincial level) Municipalities, etc.

This document outlines the various aspects that will characterize the public meetings associated with the current phase of ANRLMP i.e. **Phase 1 – Formulation and Adoption of the ESMF, RPF and PMP** and it is structured as follows:



## Public Consultation Meetings

Types of Meetings	Objectives	Participants <sup>23</sup>	Location	Dates
Public Meetings	<ul style="list-style-type: none"> <li>▪ Inform Interested and Affected Parties (PI&amp;APs) about key issues of ANRLMP and particularly its expected positive and negative environmental and social impacts</li> <li>▪ Gather concerns and interests;</li> <li>▪ Initiate social dialogue and identify stakeholders' perceptions and expectations to finalize ESMF, RPF and PMP.</li> </ul>	<p>Open meetings announce publicly using national newspaper at least 15 days before the date of the meeting.</p> <p>A number of well identified people and institutions will receive direct invitations to participate in these meetings. These include representatives of (i) central, provincial, district relevant institutions; (ii) private organizations and NGOs; (iii) selected influential people</p> <p>ANRLMP staff and environmental and social consultants</p>	Nampula City	22/02/2016
			Quelimane City	25/02/2016
Local/Community Meetings	<ul style="list-style-type: none"> <li>▪ Inform Interested and Affected Parties (PI&amp;APs) about key issues of ANRLMP and particularly its expected positive and negative environmental and social impacts</li> <li>▪ Gather concerns and interests;</li> <li>▪ Initiate social dialogue and identify stakeholders' perceptions and expectations to finalize ESMF, RPF and PMP.</li> </ul>	<p>Selected people and institutions will receive direct invitations to participate in these meetings. These include representatives of (i) district institutions; (ii) private organizations and NGOs; (iii) selected influential people at the district level</p> <p>Purposively selected sample of local women, men, youth, etc.</p> <p>ANRLMP staff and environmental and</p>	Ribaué	23/02/2016
			Mocuba	26/02/2016

<sup>23</sup> A detailed list of participants to be presented in due course.



### **3 Gender and Poverty Alleviation Sensitive Communication Process**

Women play a crucial role in agriculture and rural development as well as natural resources management. The communication process and strategy to be adopted should be deliberately sensitive to both aspects. In order to be responsive to those aspects it should be informed by adequate knowledge and understanding of gender division of roles and poverty issues within the communities and households to be involved.

In order to prepare a more detailed gender-sensitive participation and communication plan, the consultant and project implementation teams need to gain a thorough understanding of the gender roles, responsibilities and needs in the communities influenced/affected by the project. Focus should be on issues as such:

- Daily division of labour between women and men / young girls and boys at household level. Gender (and age) roles related to production and consumption at household level.
- Are women/men informed of the planned project? How will it affect their activities and living standards?
- What proportion of men and women use the resources related with the project? How often do they use them on a daily, weekly, monthly and yearly basis?
- What concerns/constraints women and men have in relation to current natural and agricultural resources?
- Will the project under consideration solve the agricultural and rural development problems women/men encounter now in the conduct of their public, family and social activities?
- Which solutions could be envisaged under the project, in order to reduce prevailing constraints?
- How can the women/men participate in the implementation of the project?
- Will the project bring about changes in job opportunities as well as improvement in social services particularly appropriate for women and children?
- What impact (positive and negative impact) will the project have on the activities and living conditions of women and men during construction/rehabilitation and operation?
- What impact can construction workers have on local population – women vs. men – and socio-economic activities, including the possible spread of STDs and HIV/AIDS?

In order to have in place adequate measures to deal with the HIV/AIDS epidemic that may escalate during the construction/rehabilitation process, a communication program and strategy will be developed. This will be aimed at:

- Educating workers and local people – women and men – and communities during construction
- Opening of active STDs/HIV/AIDS voluntary counselling and testing centres to prevent and treat infected and affected people.

The formulation of the Safeguard Instruments will be particularly important to get an initial understanding of the social dynamics resulting from the answers to those questions. But the investigative approach will continue in an appropriate manner throughout the various phases of the project, including during its implementation and post-implementation.

## Annex 1

### Preliminary list of entities to receive direct invitations to send representatives to the Public Participation Meetings

Central Level		
No.	Entity	
	MITADER	
	ANE	
	MASA	
	MISAU	
	MOPHRH	

Provincial Level		
No.	Entity	
	DPTADER	
	ANE	
	DPASA	
	DPS	
	DPOPHRH	
	NGOs active in agriculture, rural development, conservation	

Municipal/District Level		
No	Entity	
	Mayor – President of the Municipality	
	Major Industries/Large Consumers (Coca-Cola, Texmoque, Cervejas de Moçambique, Madal, Aeroportos de Moçambique, Large Schools, Hospitals, Universities, Hostels, etc.)	
	Selected Local/Community Leaders <sup>24</sup>	
	NGOs active in agriculture, rural development, conservation	

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<sup>24</sup> List to be developed in consultation with the municipalities/district authorities.

## **Annex 8: Summary of Main Issues from the Public Participation/Consultation Process**

# **Summary of the Public Participation/Consultation Process**

### **1. Introduction**

As part of the preparation of the environmental and social safeguard instruments of ANRLMP, namely the ESMF, PMP and RPF a Public Engagement Document was prepared.

Among other aspects the document clearly indicated that the main objectives of the public consultation and involvement are to:

- Keep Project Interested and Affected Parties (PI&APs) informed about key issues and findings of each stage of the process;
- Gather concerns and interests expressed by various project stakeholders;
- Obtain contributions/opinions of stakeholders in terms of avoiding/minimizing possible negative impacts and maximizing positive impacts of the project.
- Finally, support the social dialogue and identify from the onset, stakeholders' perceptions and expectations, which can contribute to the action planning and effective communication in order to minimize the negative impacts of the project. The process also allows for rethinking the project's technical aspects.

It outlines three main phases that will characterize the PPP the environmental and social management point of view of the project and these are: (i) Formulation and adoption of umbrella environmental and social management instruments (ESMF, RPF and PMP); (ii) Formulation and adoption of site specific subprojects environmental and social management instruments (ESIA/ESMP and RAP and/or their simplified abbreviated versions); and (iii) Subproject implementation, monitoring and evaluation.

Under the first phase, i.e. Formulation and adoption of umbrella environmental and social management instruments (ESMF, RPF and PMP) the following meetings were planned and took place:

- Nampula - Open meeting on the 22nd of February 2016
- Ribaué - Open meeting on the 23rd of February 2016
- Ribaué - Focus groups discussions with groups of men, women, youth and local leaders on the 23rd February 2016
- Malema - Open meeting on the 24th of February 2016
- Quelimane - Open meeting on the 25th of February 2016
- Mocuba - Open meeting on the 26th of February 2016, which was then

The open meetings were announced publicly using "Noticias" national newspaper that went out on the 10<sup>th</sup> February 2016 and 15<sup>th</sup> of February. A separate set of documents has been prepared to document the preparation and implementation of the PPP.

Below are the main issues raised by participants to the above-mentioned meetings:

N° ORD.	NAME	INSTITUTION	ADDRESS	TELEPHONE	QUESTIONS/COMMENTS	FEEDBACK GIVEN
NAMPULA						

		GOVERNO LOCAL				
1	Tomé Capeçe	Provincial Department, Seas, Inland Waters and Fisheries	Avenida Eduardo Mondlane	843701227	Comment: The document should be made available well before the meetings to allow the stakeholders time to review the documents and prepare for the meeting	Comment noted
					How will the funds be managed?  Suggest including a conservation plan for increased agriculture output and to formulate a management plan for the crops	The mechanisms to allow communities access to the funds is still being investigated
					The project should also consider forest management	Forest management is a component of this project includes natural resource management
					Believes that areas of influence of the CDN project are saturated by projects and suggests that each provincial government maps out all the projects (planned and in progress) for a better identification of the implementation areas	That was done during the selection of the project areas and further studies are ongoing. The Landscape project values continuous liaison with other institutions and projects also working in the same areas since that ensures that the projects not only complement each other but also allow projects to share information and experience, hence avoids repeating mistakes
2	Armando Jackson	Provincial Department TADER	Nampula	828273481	The project aims at improving de lives of the community but what does the project propose to ensure sustainability of the community with regards to environmental conservation?	This project aims to improve the communities' current activities and go beyond the activities which guarantee their subsistence. The project does not aim to hand –over money to anyone but instead to train people so they're able to produce and create surplus in production and be apart of a agriculture value chain.  The communities on their own should make this project sustainable
				842778117		
3	Elisio Joao Juarte	SDAE	Distrito Rapale	863977718 829040630	Suggests a greater involvement of the SDAE, SDPI and Civil Society at district level	The SDAE and SDPI have been heavily involved in all the process. This is not the first consultation on the project and there will be others. The SDAE and SDPI has been assisting with the contact wth other institutions on a district level



					<p>Suggests reviewing the Masterplan of Prosavana, since this program has defined goals with regards to DUAT's to avoid land conflicts which can lead to producers losing their lands</p> <p>Answered the question regarding the selection criteria used to choose the districts explaining that each project is implemented where there suitable conditions for the execution.</p>	<p>This project is integrated and it comes to complement the activities currently being undertaken by other projects and learn from lessons learnt on other projects. The Prosavana is a project which should be consulted so that mistakes made on that projects are not repeated</p>
4	Mussa Amade	CDS (Centro de Desenvolvimento Sustentável) Zonas Urbana	Cidade de Nampula	842569536	Suggests including further components which deal with climate change	The component of natural resource management (component 2) aims to promote the sustainable use of natural resources and improve the resilience of these resources to climate change; the protection and rehabilitation of areas of high conservation value amongst other activities
		CDS ( Centre for Sustainable DeveloSMEnt) Urban Areas			Is there any connection with Prossavana?	The Landscape project has not been developed for commercial gain or profits. The project focuses on increasing the producers existing activities which in turn will generate a bigger budget for the producers and their families
					How will the project deal with the urban area?	So far the project does not envisage implementation in urban areas only in rural areas. People in urban areas will benefit indirectly from the project through the increased availability of fresh agricultural produce, production of agricultural supplies amongst others
		<b>PRODUCERS</b>				
5	Miguel Fortes	Producer	Nampula	827320479	Suggests that the producers willing to work are motivated and are able to benefit from financial arrangements to increase their areas of production and their yields through purchasing agricultural machines, irrigations equiSMEnt, which will also contribute to improve de reputation of the national produce. Currently the agriculture produce is not being valued since most of the produced consumed	The fruit trees are part of the value chain of the project and their importance is recognized to improve the production and diversification. Although Mr Fortes is not geographically in a project selected area, Mr Fortes could be an implementation partner and for example for the supply of seedlings, agricultural supplies for the

					nationally is imported. Fruit production should be prioritized given the potential of the area and the need to improve the communities' diet since many are malnourished	communities in the areas covered by the project, training and capacity building of other producers
		<b>INDIVIDUALS</b>				
6	Benn Felix Martinho Segundo	Nampula resident	Carrupeia Nampula	- 845597911	<p>How is the project planning to involve the communities?</p> <p>Many access routes are degraded limiting the access of the agriculture products to the markets and areas where they can be commercialized</p>	<p>The project targets an improvement of the lives of the rural communities. The last beneficiary of the project are the communities themselves, so it is necessary to have regular consultation with the communities. The consultation started last year, and will continue to happen. The leaders of the communities should communicate the issues discussed at the meetings with their own communities</p>
					Who will execute this project?	The project will be executed by the beneficiaries. These include communities, associations, NGO's private and public sector. Provincial coordinators have been appointed for the coordination and execution of the project
7	Jorge Martinho Fernando	Nampula resident	Carrupeia Nampula	- 826326699	<p>How the project does proposes to integrate the community in the management of natural resources and agricultural increased production?</p> <p>Which method will be used to influence the community to engage the community throughout?</p>	<p>The communities are the main beneficiary of the project and therefore the design of this project is targeted towards the communities.</p> <p>The activities of the project are focused towards activities which are being implemented. For the design of the project, the project has been working with central, provincial and district governments (SDAE, SDPI's). Apart from these, the project appointed provincial coordinators who will coordinated the activities with different parties. All of these parties will assist the communication with the communities. In addition, a number of consultation with the communities, government and other institutions has been taking place. This is another consultation and many more will follow.</p>

						The community leaders who participate in these meetings must transmit the information provided in these meetings to their communities
		<b>ASSOCIATIONS</b>				
8	Crispino Mendes	AJAMO	Cidade Nampula de	846064777	The project is aiming at which target groups?	The project targets the rural communities of small and medium producers whose main activities are agriculture value chain, natural resources and forest resource, public and private sector; SME's and civil society
9	Ussene Salimo	AENA	Cidade Nampula de	825273139	Which criteria was used to select the districts, to be part of the project? Many coastal districts face serious food security issues. Suggests that such districts be included to reduce this problem, otherwise would like to understand the reasons behind district selection	A range of indicators, actual production, rural poverty, potential to generate returns on investment, proximity of water resources, potential of agricultural and forest production.  It is important to keep in mind that this is a pilot project and the intention is to replicate it to other districts and provinces.  All the districts and provinces in Mozambique face difficulties but these selection was based on a range of established criterion. The other districts may benefit from another project after the successful implementation of this project
10	Waly Manuel	FORUM TERRA	Cidade Nampula de	844167787	How many people is the project likely to affect?	55,000 families
11	Faria Saide	Academico Civil	Cidade Nampula de	842725733	What will happen to the families who will lose their homes and their land?	The project does not envisage the need to resettle families as result of the project. However, with any initiative involving land there may be the possibility of affecting a portion on land, albeit small; therefore the compensation procedure set by Mozambican legislation would be used in combination with the same process and more stringent set out by the World Bank

					What is the budget for this project	The project budget is being discussed with partners of the project and as a result has not yet been finalized. It is anticipated that in the first phase the budget rounds the 40 million USD
12	Ussene Salimo	AENA	Nampula	825273139	I would recommend that the project considers the non-wood forest products.  The project should review the masterplan for the Prosavanah as there should be a connection between projects since these are both government initiatives.  The project should also complement existing plans including districts	Studies are underway to identify the non woody products already being used in the project areas and to determine what should be done to increase the production of these products
					What is the connection with the district plans	The project Landscape is an integrated project which complements other projects as well as existing plans (district plans)
					What is the dream of the project?	The improvement in the lives of the communities, increase in production of produce, sustainable natural resource management, reduction of tree clearance, rehabilitation of degraded areas. Identification of viable alternatives which may replace the tree feeling used to produce 'lenha'/(fuelwood) and other current needs
13	Wilson Subana	DPREME	Nampula	845220506	Believes that a feasibility study is required to invest in agricultural areas which have been forgotten	The process of consultation which has been taking place as well as the assessment of the various components are in themselves confirmation of feasibility for the implementation of the project since these will provide the final confirmation about implementation of the project in these areas in the way it was designed
					What is the role of the project in the dispute of lands?	The project has component which deals with management of land. It is anticipated that the project assists the communities obtaining the DUAT's as a way to ensure land security and 'ownership'

14	Jorge Martinho Fernando	Nampula Resident	Carrupeia Nampula	- 826326699	How does the project deals with climate change. Districts on the coast have issue with food security	The component of natural resources (component 2) ensures sustainable natural resource management and improvement of these resources to climate change, the protection and rehabilitation of areas with high conservation value amongst others
15	Aníbal António dos Anjos	LGR	Cidade Nampula	de 824478140	How will the community be integrated in the management process?  What will be the method to influence the community to continue with the project?	The communities are the main beneficiaries of the project which is also being designed for the community The efforts will be focused on activities, which are already taking place  The central government, provincial and district levels (SDAEs e SDPIs) have been involved in the design of the project. In addition the project appointed provincial coordinators which will coordinate the efforts and will assist the communication with the communities . Furthermore, a number of consultations with the community, government and institutions have been taking place. This is consultation meeting is one of many which are planned to take place. It is expected that the community leaders who attend these meetings pass on the main messages to their communities
16	Luís Laieque de Oliveira	GITAS Amacenas	Grupo Cidade Nampula	de 845560148	Explained there is limited involvement of the civil society	
<b>Distrito de Ribaué</b>						
		<b>LOCAL GOVERNMENT</b>				
1	Lopes Ernesto	SDAE	Ribaué	845864535	Appeals to the clarification about the value chain including all components beginning with the process prior production – improved seeds, supplies, fertilizers and technology- all key aspects to motivate increased production.  From production, transportation, storage, processing, quality assurance, communication between projects are missed opportunities if the synergies of the projects are not maximized. Improvement of the physical access routes of	Comments noted.

					<p>producers to markets needs to be considered</p> <p>Producers loose a great deal of crops because they are not able to reach the markets on time. Obviously the agro-processing and storage are also key to this process.</p> <p>Finance to grant producer's access to markets needs to be in place and explained to producers to make it work. Ribaué trains new young producers who then are left with no job or means to begin working.</p> <p>FDD- needs to supported to make it work</p> <p>Suggests planting fruit trees and shade trees to revitalize the environment and improve the diet of many communities</p>	
2	Momade Adamugi	SDAE	Ribaué	846507673	How will the total value of the project be divided between the 5 districts	This is still being discussed and it will be decided according to the needs of each district
3	António Julião	Governo do Distrito de Lalaua  District Governement of Lalaua	Lalaua	870070074	<p>Explained that 4 years of project preparation is long. Would like to know if the project proposes rehabilitation of access roads which is one of the main difficulties for producers because it limits what they can sell</p> <p>The agriculture value chain needs to include the supply of improved seeds</p>	<p>The project preparation will not last 4 years. The first 4 years are the first phase of the project and in the first year the design if the project is refined. After this it is expected that to begin the implementation phase.</p> <p>One of the components of the project includes rehabilitation of some infra structure such as tertiary roads</p>
		<b>ACADEMIC INSTITUTIONS</b>				

4	Agito Arnaldo	Docente Agrário Instituto	Ribaué	826742075	<p>Would like to know what does the project plan to ensure sustainability of the project from a social, environmental and economic perspective?</p> <p>Which measures are planned to reduce the tree cutting by the communities?</p> <p>A monitoring plan to focus on obtaining information about the full uses of the forest and forest products to avoid the destruction of the forest</p>	<p>At the social level, the project aims to improve the lives of the rural communities. It is expected that the conditions and everyday activities of the communities improve,</p> <p>From an environmental stand point, the project anticipates sustainable natural resource management including forests, rehabilitation of degraded areas, and reduction of tree clearance through the incentives which focus on the alternative use of resources (non-woody), protection of areas with high conservation value.</p> <p>From an economic view point, the improvement of people's lives is associated with an increase in purchasing power which is obtained through the increased production, surplus available which can be commercialized leading to the increased family budget</p>
5	Feliciano António	EPC de Chica	Chica Sede	842071820	Suggests including the assistance for schools to also obtain DUAT's	Comment noted
6	Assubugi Saide	Docente Secundaria Escola	Ribaué	845997271	<p>Why weren't the districts of Niassa included?</p> <p>How will the affected families be compensated if affected by the project?</p>	<p>In this first phase of the project only the districts selected are included in the project. It is important to keep in mind that this is pilot project and that a criterion was used to select the districts.</p> <p>No resettlement is anticipated as a result of the project, but in case of loss of land, the mechanisms for compensation will be used which follow the national and World Bank requirements</p>
7	Aurélio Maricoa	Docente Secundaria Escola	Ribaué	848021455	This project should include the education component since the project will require that families have greater capacity and are able to replicate their knowledge	Comment noted

		Teacher				
		<b>ASSOCIATIONS</b>				
8	Sidonia Parruque	ORAM	Ribaué	824271229	<p>Which initiatives have been planned with regards to climate change?</p> <p>Suggests construction of infrastructure to retain water, often a challenging factor for the practice of agriculture</p>	<p>-Introduction of improved seeds</p> <p>-Promote production processes which are environmentally and socially sustainable</p> <p>-Protection and rehabilitation of areas with high conservation value</p> <p>The projects anticipates the construction of small irrigation systems associated with the project</p>
<b>Focal Group Meetings</b>						
(Community leaders)						
9	Augusto Tepuanle	Community leader	Distrito de Lalaua	846507552		
10	Mário Lapissonne	Community leader	Matarya - Iapala _Ribaué	867304091	<p>Suggests that efforts are made to assist the producer replacing the hoe for a mechanized method either through individual credit or through an association.</p> <p>In his community there is problem with access routes which are degraded along with reduced availability of potable water, acquisition of pesticides which result on crops being affected by diseases. There is the need to improve seeds such as maize since this crop is easily affected by diseases.</p>	Comment noted.



11	Salvador António Malalo	Community leader	Mecusse Ribaué	Não possui	In his community there are many farmers that produce considerable quantities but face difficulties in getting their produce to the markets because of lack of access routes, lack of energy, inadequate phone coverage. News are obtained via Radio Moçambique and local radio	One of the main purposes of the design of this project is to address the difficulties with the flow of the agriculture value chain
12	José Briga Namulha	Community leader	Chica-Sede Ribaué	861852318	With about 24 residents in the community, most are producers which cultivate maize, peanuts, beans, cassava. These producers don't have regular buyers and cannot set the price of their produce to market value since they have no means to preserve the produce to allow them time to choose the best time to sell	Comments noted.
13	Lopes Lipaneque	Community leader	Mecubúri-Sede	867316896	The producers in his community are willing to use mechanized methods of production to increase production but have no means of obtaining the technology and there is no access routes and lack of potable water. As a result the population consume water which often are not treated leading to diarrheas. There is one health center but has no capacity to treat or to hospitalize patients and given the problems in access getting to a hospital in Nampula takes 2 hours	Comments noted.
14	José António Muatarique	Community leader	Riane-Cunle-Ribaué	Não possui	About 21,000 residents deal with difficulties in access. They have one economic agent which buys parts of the production. The population from Lubi covers over 16km to sell their produce in Cunle sede. The produce is often maize, peanuts, beans, rice and fresh agriculture produce.  Significant number of cashew trees need to be sprayed or replacement with news trees in order to boost production. Cashew grow very well in the region and if production is done well, it can be very profitable	Comments noted.
<b>Focus Group 2</b> <b>(Chiefs of Localities)</b>						
1	Ernesto Antonio	<b>CkļChefe da</b>	Ribaué	849165678	The project should create mechanisms to control bush fires done by the community  The project should provide financial support to the producers and the ensure diverse markets where the products can be sold	The component of natural resources aims at sustainable resource management, one of which uncontrolled burning

2	Fabiao Salazar	Chief of Mecuasse.	Administrative Posto Iapala_Ribaué	f 861620843	The project should create environmental clubs such as: -One student one plant -One leader one forest , one family, one agricultural plot.  Droughts come from as a result of deforestation. Suggests that every time one tree is brought down another is planted.	Comments noted.
3	Delfino Watala	Chefe da localidade de Noré	Administrative Post de Iapala _ Ribaué	861281575	The land is being devastated and destroyed. The project should motivate planting of fruit trees in schools	.  The project will address the planting of fruits tress. Having fruit trees in schools is a very valid point and has been noted
4	Eusebio Moneia Quiriquivano	Chief of Lupi	Administrative Post f Iapala _ Ribaué	8673310461	The project should promote community reforestation with the support of technical staff of SDAE	The project includes planting of forests. Studies are currently taking place to provide more details about how those activities should take place. The SDAEs are very important and are closely engaged in these discussions
5	Fernando Vinte	Chief of Riane	Administrative Post of Iapala _ Ribaué	861620834	The project seem similar to Prossavana – is there a relationship? The project should support the communities in getting the DUAT to minimize the conflicts about land	The project is not related with Prosavana. Prosavana, unlike the ' Landscape' project is driven by commercial returns
6	Chaduli Ussene	Representing the Chief of Matarya	Administrative Post of Iapala _ Ribaué	Sem informação	There are various conflicts involving land issues in the locality of Matarya, how will the project mitigate such conflicts? The DUAT's should be facilitated  The project should support the producers with appropriate techniques	The projects contains a component to deal specifically with the issues relating to DUAT's. The training of technicians ( such as <i>extensionistas</i> ) is another component which will be addressed by the project in order to support the producers
<b>Distrito de Malema</b>						
<b>LOCAL LEADERS</b>						
1	Joao Talapesse	Chief of Nacata	Mutuali _ Malema	868840280	The project should visit the administrative posts, localities and settlements. Technical staff from SDAE should be allocated to train producers. There is no infrastructure to conserve the produce	There is a component on this project which anticipates the need for training and capacity-building. In this, the technicians in the government ( such as SDAE) and the <i>extensionistas</i> to better provide support to the communities covering more

						areas
2	Armando Miteque	Chief of Post Chihulo	Malema	866866380	The district is suitable for agriculture but it lacks financial support to producers, access for tractors to work the land, access to fertilizers and seeds	The mechanisms for financing are being finalised in order to identify the best ways to allow the community access to credit facilities
		<b>PRODUCERS</b>				
3	Antonio Viegas adamo	Producer	Malema	863117905	The producers often require more than one area to cultivate since they lack efficient practices. The project should assist the producers in getting technologies, techniques and fertilizers	There is a need to train <i>extensionistas</i> to improve to attend to the needs of the communities
4	Hilario Felismino Havela	Producer	Nataleia Malema	– 861600580	There is need to introduce systems of irrigation due to shortage of rain	The project anticipates the construction of small irrigation systems
5	Teresa Namutoro	Producer	Mutuali_ Malema	862377627	Which are the groups that the project aims to target?  What will the project do to assist individuals?  There is shortage of markets for producers and no means of preserving the produce.  The project could create factory of agriculture supplies and irrigations systems given the lack of rain	The target groups of this project are the rural communities, small and medium producers with responsibilities for the agriculture value chains, natural resources and forests; private and public sectors, and civil society.  One of the mains drivers of the design of this project is the difficulties in the flow of the agriculture value chain  The projects anticipates the construction of small irrigation systems
6	Armando Joaquim	Producer	Malema	865326343	Several projects have been discussed in the district and many promises were made but nothing happened. So if the producers had waited for those projects they would have gone through tough times. He appeals that MITADER and World Bank ensure that the 'Landscape' project does not end as suddenly as the Prossavana	This project is not making promises to anyone and neither MITADER or World Bank are in a position to promise anything to anyone. MITADER is designing the project in such a way as to improve the lives of the rural communities based on the evidences of need presented by the communities and local government. The design of the project is the result of the contribution of all of those

						involved. A well designed project can then be financed and implemented. This is why these meetings are important to hear everyone's opinion and for the project team to collect contributions
7	Bonifacio Agostinho Julio	Producer	Neoce _ Malema	861621093	The costs associated with obtaining the DUAT are very high. The project should assist with access to credit	The project is investigating financing mechanics to assist access to funds
		<b>COMMERCIAL</b>				
8	Belgior Miguel Sevene	SONIL	Malema	847438110	Where will the project focus?  Who will the project work with, which entities?	The project will focus on the province of Nampula and Zambézia. In Nampula the project will focus in Rapale, Ribaué, Malema, Mecubúri, Lalaua. In Zambézia, the project will be located in Mocuba, Gurué, Ile, Gilé, Alto Molocué.  The project will work with the beneficiaries which include, rural communities, public and private institutions, NGO's, civil society and SME's
9	Daniel balança	<b>Lyughgder Comumnbn</b>	Bairro Toma de agua_Vila de Malema	862124080	The district can accommodate the project but needs technology such as tractors, ability to preserve the produce, storage and commercial markets are needed.  The project should not stop during the study phase, many projects end early in the study phase.	The project is grateful for the contribution. It is intended that the project is well designed to guarantee its financing. The contributions were noted which raised the issues of need for the availability of technology, lack of the ability to preserve and store the produce, lack of access to markets or markets themselves to improve the agriculture value chain
10	Paulo Intuere	Manager of Silos	Malema Sede	845197215	In the implementation, the project should be monitored as many projects have failed due to lack of monitoring. Regular meetings with the community should take place frequently	The project to establish a continuous consultation process. This is not the first consultation process which has started some time ago. This is not the last meeting too. The community leaders must pass on the information obtained at the meetings to their

						community
		<b>RELIGIOUS LEADER</b>				
11	Rafael Age	Religious leader	Pedreira_Malema	845796868	This project should not disappear like others such as Prosavana.  Support to small farmers is essential	All the interested and affected parties should contribute towards achieving a good project which secures financing so that the project is implemented

Distrito de Malema						
1	Antonio Viegas adamo	Producer	Malema	863117905	The producers often require more than one area to cultivate since they lack efficient practices. The project should assist the producers in getting technologies, techniques and fertilizers	Muito obrigada. Para tal, o projecto prevê a capacitação de mais técnicos extensionistas e outras pessoas para apoiarem as comunidades a obterem as tecnologias, técnicas e fertilizantes.  The projects thanks for the contributions. In order to help, the projects aims to provide training of <i>extensionistas</i> and others able of supporting communities obtaining technologies, techniques, fertilizers amongst others
2	Armando Miteque	Chief of Post Chihulo	Malema	866866380	The district is suitable for agriculture but it lacks financial support to producers, access to tractors to work the land, as well as access to fertilizers and seeds	The project is assessing the mechanisms for financing so that needs of the project can be suitably addressed
3	Hilario Felismino Havela	Producer	Nataleia Malema	861600580	There is need to introduce systems of irrigation due to shortage of rain	The anticipated small and medium scale irrigation schemes seek to address the irrigation needs to enable production even during dry periods
4	Teresa Namutoro	Producer	Mutuali Malema	862377627	The project aims to target which groups?  What will the project do to assist individuals?  There is shortage of markets for producers and no means of preserving the produce.  The project could create factory of agricultural supplies, and develop irrigation systems given the lack of rain	While addressing keys issues, the project aims to improve the lives of rural communities, SME's who's mains activities are part of an agriculture value chain and forests. The benefits include addressing needs in the agro-processing, public and private institutions, civil society, local and provincial levels
5	Joao Talapesse	Chief of Nacata	Mutuali Malema	868840280	The project should visit the administrative posts, localities and settlements. Technical staff from SDAE should be allocated to train producers. There is no infrastructure to conserve the produce	The public consultation meetings will continue and community lidere and the communities themselves are invited to continue to participate. It is important that the lidere inform their communities about the discussion held their administrative post and

						remaining members of the community.  It is anticipated the training of technicians from the SDAE/SDPI or extensionistas to assist with a faster and broader assistance the local communities
6	Bonifacio Agostinho Julio	Producer	Neoce Malema	861621093	The costs associated with obtaining the DUAT are very high. The project should assist with access to credit	One of the key aspects being assessed by the project is the access to financing to assist the communities
7	Belgior Miguel Sevene	SONIL	Malema	847438110	Where will the project focus?  Who will the project work with, which entities?	1 - As áreas de implementação do projecto são:  Província de Nampula (distritos de Rapale, Ribaué, Malema, Mecubúri e Lalaua)  Província da Zambézia (distritos de Mocuba, Gurué, Ile, Gilé e Alto Molocué)  2- O projecto irá trabalhar com comunidades rurais, instituições públicas e privadas, sociedade civil, SME's, ONGs.
8	Daniel balança	<b>Lyughgder Comumnb</b>	Bairro Toma de agua_Vila de Malema	862124080	The district can accommodate the project but needs technology such as tractors, ability to preserve the produce, storage and commercial markets are needed.  The project should not stop during the study phase, many projects end early in the study phase.	It's a comment
9	Paulo Intuere	Gestor de Silos Manager of Silos	Malema Sede	845197215	During implementation, the project should be monitored as many projects have failed due to lack of monitoring and meetings with the community should take place frequently	It's a comment
10	Rafael Age	Religious leader	Pedreira_Malema	845796868	This project should not disappear like others such as Prosavana. Support to small farmers is essential	We are all responsible for the suitable design of this project to ensure the project is eligible to financing It is everyone's wish that the project is implemented
11	Armando Joaquim	Producer	Malema	865326343	Several projects have been discussed in the district and many promises were made but nothing happened. So if the producers had waited for those projects they would have gone through tough times. He appeals that MITADER and World Bank ensure that the 'Landscape' project does not end as sudden as the Prossavana	Not always the lack of success of a project can be attributed to the financing organization or to the government. It is important to reassure that the project is well designed from the outset (initial phase) to ensure its robustness later on. The responsibility of strengthening the project is in

						everybody's hands. Therefore, we should all give our utmost best for the project to be implemented.
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## Zambézia Province

N° ORD.	NAME	INSTITUTION	ADDRESS	TELEPHONE	QUESTIONS/COMMENTS	FEEDBACK GIVEN
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Quelimane City

LOCAL GOVERNMENT

1	Estevao Neves	PRODEA	Quelimane	828777830	<p>What is the budget of the project?</p> <p>Is there a connection with ITC? If so, then is there a combined implementation strategy</p>	<p>The budget for the project is still under discussion and hasn't been finalized. At this stage, around 4million USD have been predicted for the first phase of the project.</p> <p>ITC over the past years has been involved with the issues of DUAT's with the communities and therefore is will have a role in scope of the Landscape project in particular as the administration and land management component of this projects gains momentum. A partnership with ITC is considered</p>
					<p>ITC has been working in the 5 districts in Zambézia. As part of the support to the communities, ITC has been providing support with the issuing of DUATs.</p> <p>How is the project planning to allocate (decentralize) the funds in the districts?</p>	<p>The project will operate at central, province and district level</p> <p>The provincial governments are directly involved in the design of the project and the district government (SDAEs e SDPIs) are the main partners and direct links to the local communities. The way in which the funds will be allocated is still under evaluation. The public engagements such as this one serve to discuss and to answers these kind of questions</p>
					<p>In terms of the component 1, the project will deal with aspects relating to infrastructure. Will there be a coordinating unit in the province and districts?</p>	<p>Other than the provincial and district governments which will work closely with this project, the Landscape project has appointed provincial coordinators who will be responsible for the implementation at provincial level and will coordinate all the efforts done within the provinces</p>

2	Hilario Patricio	ITC	Quelimane	842415538	What is the agenda for DUAT's	
3	Luis Martins	Director of Economic Activities In Quelimane	DDAF		With regards to the production, what will be the role of the 'extension workers'?	We would like to hear from you about the local needs with regards to extending services. Is there need for further 'extension workers'? Is there need for better training? In what subjects/aspects? Do the extension workers need more farming supplies to better respond to the needs of the communities? The objective of this meeting is to listen to those involved/interested and understand the needs of the communities.
		<b>GOVERNMENT AGENCIES</b>				
4	Sergio Antonio	ANE	Quelimane	828109139	At the moment a project is looking to improve roads in Gurué, Alto Molocué in order to improve access to producers etc. How does the Landscape project affects this? Will the road project stop?	The project is not going to affect or stop any project that is not the objective of this project. The Landscape project proposes to re-habilitate tertiary roads where it may be necessary to assist the producers reaching their markets
					Appeals to integration between projects so that the communities' expectations can be properly managed to avoid problems later on	That is noted. The project is focused on integration which also includes identifying synergies between projects. Communication with the communities and stakeholders has started last year and this meeting is also seeking to continue to engagement with all of those involved and affected
		<b>ASSOCIATIONS</b>				
5	Amiro Bramia	AMAZA	Quelimane	844110933	Hopes that the project gets to be implemented since many have just stopped. Believes that most are due to bureaucracy	Noted and thanked for the comment
					DUATs continue to be a problem for the communities. The communities need to be assisted with this. Also the communities need infrastructure	Noted and thanked for the comment

					In relation to access, the benefits are understood but will people be trained?	The projects anticipates training of technicians (extension workers, technicians from the Ministry etc.) in different areas in order to contribute to the implementation of the project
6	Ascensão Chaucane	CMC	Quelimane	843023065	Requires clarification with regards to what the project can do to improve resilience to floods	The project is centered on the sustainable use of the natural resources, which in turn contributes to the improvement of the life of rural families through the promotion of sustainable resource management (forests, water and soil) and improve the resilience of these resources to climate change patterns. The project seeks to improve and rehabilitate areas of high conservation value.
exte7	Anastacio Mombassa		Quelimane	824908273	Requires clarification as to where will the increased production go if to national or international markets	Primarily, the projects seeks to increased production and enable the capacity of producers. One of the main objectives of that is to reduce the food shortages in the country and ensure vibrancy of internal markets, as well as contribute towards improving the diet of communities
					How many farmers is the project likely to affect?	Approximately 55,000 families
8	Joao Brito		Quelimane	847531394	How the project does propose to manage wildlife? Has the project considered tourism as one of its components?	Gile has one coutada, which serves a different purpose. There are also synergies with active projects such as Mozbio which is active in the province and addresses the need to protect wildlife and capitalizes on the tourism potential of the region
9	Joao Machel		Quelimane	825810990	The non-wooden projects need to be supported and appropriate markets for products like honey, mushrooms and amongst other needs to be allocated. What is the strategy to value these products?	A study is currently underway which focus on the forest products, woody and non-woody. This study will help identify the main forest products used in the selected areas and understand the problems associated with producing these products

						so that ways for improvement can be considered.
<b>CIVIL SOCIETY</b>						
10	Angelo Amadeu	Civil Society	Quelimane	825475636	Would like further detail on the ESIA process referred to in the presentation	The ESIA topic was deliberately kept short to keep the presentation accessible to all, technical terms have been minimized. The ESIA regulation in Mozambique is widely used and would be followed along with other safeguarding instruments described in the presentation
					Availability of jobs, how will it be done?	The project hasn't yet determined how will jobs be allocated or how many jobs will be created. Issues relating to jobs will be dealt with in the next phase in an organized manner and involving different parties
11	Costa Ernesto	Civil Society	Quelimane		How will the work be done in all the districts in the first phase? What are the risks?	<p>Other than the provincial and district government working closely with the project, provincial coordinators have been appointed to ensure implementation and coordination of efforts at provincial level</p> <p>The areas selected for the project were identified through include participation process involving the provincial and district members. Due to a number reasons, the areas selected are considered priority areas and investment and effort involved would kick-start the activities in those areas. A robust design for the project is being developed to respond to the objectives of the selected areas</p>
<b>INSTITUIÇÕES ACADEMICAS</b>						

12	Fijamo Munhoto	Zambézia University	Quelimane	842008357	<p>Suggests that the issues relating to wood and non-wood issues such as honey etc. are dealt with.</p> <p>What measures will there be to minimize the negative impacts in land and water?</p>	<p>As described in the presentation, there are a range of safeguarding instruments which will be used to limit negative impacts on the natural resources and maximize the positive impacts. Most of those instruments we are already familiarized with such as ESIA, EMP's, Resettlement Plans. The Mozambique legislation provides the main guidance on the applications of these instruments and where the Mozambican legislation is limited, the World Bank guidelines will be triggered to provide protection to communities, when needed. That may relate to compensations for example for partial loss of a "machamba" (agricultural plot) or for resettlement of people, which is not anticipated in this project. The main purpose of those instruments is to provide social safeguards, protection and rehabilitation of areas with a high conservation value</p>
<b>LIDERES COMUNITARIOS</b>						
13	Fajamo Gerenta	Lider Comunitario	Quelimane		<p>The project does not cover all the province, what about us in Quelimane</p>	<p>This is a pilot project which targets rural areas. A criteria of selection was used and includes a number of factors which do not relate to the urban context</p>

## Annex 9: List and Contacts of People Consulted

Nr	Name	Institution	Position
1	Tânia Paco	MITADER-UMFI	Environmental and Social Safeguards Specialist
2	Zalijate da Graça	MITADER-UMFI	Procurement Specialist
3	Roberto Zolho	MITADER-UMFI	Natural Resources Management Specialist
4	Yunassy Tonela	MITADER-UMFI	Communication Specialist
5	Arlindo Dgedge	MITADER-DNOTER	Director
6	André Rodrigues Aquino	World Bank	Sr. Natural Resources Management Specialist and Co-Task Team Leader
7	Paulo Sithoe	World Bank	Environmental Specialist
8	Éden Dava	World Bank	Social Specialist
9	Alfredo Zunguze	World Bank	
10	Bruno Alcantara Cardoso	World Bank	Safeguard
11	João Moura	World Bank	Natural Resources
12	Paiva Munguambe	INIR – Irrigation Institute	Director
13	Eugenio Nhone	PROIRRI	Project Manager
14	Nelson Melo	INIR/PROIRRI	Technical Adviser
15	Aurelio Nhabetse	INIR – Irrigation Institute	Head of Department
16	Manuel Gouveia	DPASA Sofala	Plant Health
17	Manuel Magombe	PROIRRI Sofala	Provincial Coordinator
18	Serafina Mangane	DNAS	Head of Department/Plant Health

## Annex 10: World Bank Safeguard Policy OP/BP 4.01 Environmental Assessment



OP401 Environmental Assessment.pdf



**Annex 11: Environmental and Social Management Framework for World Bank Projects With Multiple Small-Scale Subprojects: A Toolkit (February 2008)**

The document can be found at:

<http://documents.worldbank.org/curated/pt/2008/02/10675492/environmental-social-management-framework-world-bank-projects-multiple-small-scale-subprojects-toolkit>

## Annex 12: TOR for the preparation of the ESMF



Agriculture and  
Natural Resources L