UT-REDD +

The National Environment Fund (FUNAB)

Consultancy Services for the Strategic Environmental and Social Assessment (SESA) under REDD+ financed by National Environment Fund (FUNAB)

Contract No: 05/C/UGEA-REDD+/FUNAB/14

Draft Environmental and Social Management Framework (ESMF) for REDD+

V4

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Synopsis: This document presents the consultant's draft ESMF Report for the Consultancy Services for the Strategic Environmental and Social Assessment (SESA) under REDD+ financed by National Environment Fund (FUNAB), for UT-REDD+.		
Aim of the Report: To present the Draft ESMF of the Strategic Environmental and Social Assessment of REDD+ in Mozambique		
Recommendation:		

Verification	**Capacity**	**Name**	**Signature**	**Date**
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Acronyms

Acronym	Definition
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CC	Climate Change
CENACARTA	National Center for Cartography and Remote Sensing
CGRN	Natural Resources Management Committees
CITES	Convention on International Trade in Endangered Species
CF	Carbon Fund
COGEP	Conselho Participativo de Gestao de Recursos Naturais (Participatory Council of Natural Resource Management)
COP	Conference of Parties
CT-CONDES	Councils of the National Technical Council for Sustainable Development
CTR	Technical Review Committee
DAIA	Department of Environmental Assessment
DAMMC	Department for Adaptation and Mitigation of Climate Change
DEA	Department of Environmental Education
DGA	Department of Environmental Management
DINAMB	National Directorate of Environment
DNAS	National Directorate for Agriculture and Silviculture
DNFFB	National Directorate of Forest and Wildlife
DNF	National Directorate of Forestry
DNOTR	National Directorate of Land Ordinance and Resettlement
DNT	National Directorate of Land
DNTF	National Directorate of Land & Forestry

DPADER	Provincial Directorate of Land, Environment and Rural Development
DUAT	Direito de Uso e Aproveitamento de Terra (Right to Use and Land Utilization)
EPDA	Pre-feasibility and Scoping Study
ESIAs	Environmental Social Impact Assessments
ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FPIC	Free, Prior, and Informed Consent
FUNAB	National Environment Fund
GAP	Gender Action Plan
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoM	Government of Mozambique
IFC	International Finance Corporation
MAEFP	Ministry of State Administration and Public Functions
MASA	Ministry of Agriculture and Food Security
MCT	Ministry of Culture and Tourism
MCTESTP	Ministry of Science, Technology, Higher and Technical Education
MDG	Millennium Development Goals
MEF	Ministry of Economy and Finance
MGCAS	Ministry of Gender, Children and Social Welfare
MIC	Ministry of Industry and Commerce
MICOA	Ministry for Coordination of Environmental Affairs

MINAG	Ministry of Agriculture and Forestry
MIREM	Ministry of Mineral Resources
MITADER	Ministry of Land, Environment and Rural Development
MITUR	Ministry of Tourism
MJACR	Ministry of Justice, Constitutional and Religious Affairs
MRV	Measurement Reporting and Verification
NASCCM	National Adaptation Strategy and Climate Change Mitigation
NGO	Non-governmental organisations
NIRAP	National Rhino and Ivory Action Plan
NTFP	Non-timber Forest Products
PRPMU	Provincial REDD Program Management Unit
PS	Performance Standards
QAM	Quality Assurance Monitor
REDD+	Reduction in Emissions from Deforestation and Forest Degradation
SAP	Stakeholder Action Plan
SDAE	District Services of Economic Activities
SEG	Socially Excluded Groups
SEP	Stakeholder Engagement Plan
SESA	Strategic Environmental and Social Assessment
SIS	Safeguards Information System
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UT-REDD	Technical Unit of REDD
VCDP	Vulnerable Community Development Plan

VCS	Verified Carbon Standard Association
VDC	Village Development Committee
WB	World Bank

Definitions

APD	Activities to Avoid Planned Deforestation (APD) are those activities that reduce GHG emissions by stopping or reducing deforestation on forest land that is both legally authorized (by relevant government authorities) and documented to be converted to non-forest land.
Deforestation	The direct, human induced conversion of forest to non-forest land
Degradation	The persistent reduction of canopy cover and/or carbon stocks in a forest due to human activities such as animal grazing, fuel-wood extraction, timber removal or other such activities, but which does not result in the conversion of forest to non-forest land (which would be classified as deforestation). For example, degradation occurs when trees are selectively cut and used for fuel-wood, but the area where the trees were removed still meets the definition of forest.
De Minimis	Carbon pools and GHG sources which do not have to be accounted for if together the omitted decrease in carbon stocks (in carbon pools) or increase in GHG emissions (from GHG sources) amounts to less than 5% of the total GHG benefit generated by the project
IFM Projects	Activities that reduce GHG emissions by protecting forests that would otherwise have been logged (or by protecting currently logged or degraded forests from further logging) are considered IFM Logged to Protected Forest (LtPF) projects. To qualify under IFM, the baseline logging activities must have been sanctioned by a national or local regulatory body (e.g. as a timber concession or plantation).
REDD Projects	Activities that stop unsanctioned and/or illegal degradation (e.g. through the removal of fuel-wood or timber).

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1 EXECUTIVE SUMMARY

Introduction

Reducing Emissions from Deforestation and Forest Degradation (REDD) is evolving as a means to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. REDD+ goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. REDD is also seen as delivering 'co-benefits' such as biodiversity conservation and poverty alleviation. REDD is being promoted strongly by the World Bank and UN as a means to set up the bases for the carbon market and the legal and governance frameworks of countries receiving REDD payments. Activities can be undertaken by national or local governments, NGOs, the private sector, or any combination of these.

The World Bank's Forest Carbon Partnership Facility (FCPF) is assisting the Government of Mozambique (GoM) with financial and technical support to develop and apply strategies to address the drivers of deforestation and forest degradation. The GoM is among countries participating in the preparation process of REDD+ and has been implementing its Readiness Plan for REDD+ (R-PP) since 2012. One of the goals of the R-PP was to prepare a REDD+ Strategy for Mozambique, which was originally drafted in 2013, and subsequently updated in 2014 and 2015 (Sitoe et al., 2013, 2014 and 2015).

This ESMF is designed to guide mitigation and monitoring programs developed and implemented for REDD+ projects that may be implemented as part of the GOM's national strategy for REDD+. To accomplish this, the ESMF includes a Framework of Execution Regulations (FER), which identifies the national policies, laws, regulations and safeguards that provide the legal framework for implementing the ESMF. Through its implementation, this ESMF will help ensure consistency in the mitigation measures employed for the different strategy options, ensure they comply with state laws and regulations as well as achieve international best practices standards. This ESMF has been developed for the Technical Unit of REDD+ (UT-REDD+), funded through the National Environmental Fund (FUNAB) and financially

supported by the World Bank Fund for Forest Partnership (FCPF), and was overseen by the Review Technical Committee (RTC).

Limitations and Objectives of the ESMF

At the time of writing this draft ESMF, the REDD+ Strategy for the GoM has yet to be finalized, creating a challenge for undertaking the SESA as well as preparing this ESMF. Without a strategy in place, there was nothing concrete in place to provide a clear focus for assessment or developing an environmental and social management framework. The proposed strategies were received by the SWMOZ Team in October 2015, after the SESA community and stakeholder process was complete. As such, the SWMOZ Team had to interpolate community and stakeholder sentiments, regarding the potential environmental and social impacts of the scenarios retroactively, based on general information received during consultations. Additionally, at the time of writing this draft ESMF the GoM was in the process of restructuring its ministries after the October 2014 general elections. Although this restructuring process was captured in the SESA, new policies and legislation that were just starting to be developed at the time of writing the SESA will affect the implementation of the national strategy for REDD+ and are not captured in the SESA or this draft ESMF.

The draft ESMF discusses several elements that were outlined in the Terms of Reference (Tasks 10-11 in Appendix 1):

This ESMF discusses:

- Institutional arrangements for implementing the ESMF
- **Procedures and methodologies** for the environmental and social assessment, review, approval and implementation of interventions, activities/projects to be implemented under the REDD+ Strategy, including:
    - A ***screening process*** to determine: (a) which interventions/projects will likely have moderate or significant environmental and social impacts and which will therefore require an EIA or ESIA, and which will likely require other responses such as the preparation of a Resettlement Action Plans (RAP), Vulnerable Community Development Plan (VCDP) or Gender Action Plan (GAP); and (b) those interventions/projects which are environmentally and socially benign and

can proceed to further consideration without an EIA/ESIA or supplemental response plans (RAP, VCDP, or GAP). Such screening will signal where potential environmental and social risks may arise and, through the assessment and response steps, trigger consideration of measures to avoid, minimise or mitigate them, as well as indicating where monitoring procedures of outcomes should particularly focus.

- Guidance on conducting environmental and initial environmental assessments (IESE) and EIA/ESIAs, conducting scoping for EIA/ESIAs and identifying mitigation measures to prevent or minimise negative impacts.

- A mechanism for ***monitoring the environmental and social outcomes*** of implementing the REDD+ strategy and arrangements for relevant ***stakeholder participation*** in this process – which specifies appropriate ***roles and responsibilities***; and an outline of the necessary ***reporting procedures*** for managing and monitoring environmental and social concerns related to project implementation;

- Summaries of key GoM ***laws, policies and regulations*** and ***safeguards*** for managing environmental and social issues related to development activities and other safeguards (e.g. UNFCCC Cancun safeguards and World Bank safeguard policies); socio-economic status (SES) principles, standards and indicators.

Methodology

Based on the findings of the SESA, SWMOZ developed this ESMF to address potential environmental and social impacts associated with the implementation of the proposed REDD+ strategy options. This included:

1. a review of public and stakeholder comments concerning the strategy as a whole, and each option in and of itself;
2. identifying the institutional framework that would provide oversight of REDD+ strategy implementation;
3. identifying the laws, regulations and safeguards that will guide implementation of this ESMF;

4. reviewing the EIA and ESIA process in Mozambique and as implemented for World Bank undertakings, and providing step by step guidance for undertaking an EIA and ESIA that meet GoM and World Bank requirements;
5. identifying current capacity to implement REDD+ sustainably in Mozambique, and making recommendations to build needed capacity;
6. identifying best practices and roles and responsibilities for supervising and monitoring REDD+ projects; and
7. identifying best practices reporting procedures for environmental and social management of REDD+ projects.

Proposed REDD+ Strategy Options for Mozambique

The draft REDD+ national strategy identifies a range of land use related and natural resource exploitation practices as the direct causes of deforestation and forest degradation. Despite these practices contributing to deforestation and forest degradation, they are also central to the rural economy and significantly contribute to the national economy. These practices are greatly influenced by limited technology, social and economic factors but also, and perhaps most significantly, by the weak institutional governance in sectors with direct or indirect impact on forest cover in Mozambique. Because of this, the strategy recognizes the need for combined and coordinated interventions that aim to:

A. Improve natural resource governance system;

B. Ensure economic and financial feasibility of the production process, transformation and utilization of goods and services in strategic sectors;

C. Provide and facilitate access to alternative technologies to prevent deforestation and forest degradation;

D. Integrate social and cultural interventions to reduce deforestation and forest degradation.

The national strategy identifies 6 strategic actions which address the factors outlined in A-D above, as illustrated in Table 1.

Table 1 Proposed REDD+ strategy options in Mozambique

Priority sector or strategic actions	Pillars (barriers)			
	Governance	Economic	Technology	Socio-cultural
Agriculture	• Implementation of ZEAN • Implementation of agrarian policies	• Commercialization system • Access to agriculture inputs	• Alternatives to itinerant agriculture	• Improve technology and access to markets
Energy	• Implement new and renewable energy policies	• Support low income communities' access to alternative clean energy • Support forest plantations for energy	• Increase access to alternative energy to biomass	• Capacity and promotion to support the use of alternative energy in urban areas
Conservation areas	• Enhance the management system of conservation areas	• Develop income generating activities within conservation areas	• Improve infrastructure and conservation areas management	• Community land use compatible with conservation
Sustainable forest management	• Apply sustainable forest management principles	• Reduce the impact of illegal logging and enhance the concession system	• Support access technology that add value to forest products	• Capacity building of forest workers and improve the relationship between concessionaries and communities
Forest plantation	• Improve business environment for forest plantations		• Provide support for plantations that are adequate with correct species, site and market	• Expand tree plantations
Cross-cutting issues	• Land use planning • Adequate use of legislation	• Set up an incentive and taxation system that promote good	• Capacity building on the use of alternative	• Conduct awareness campaigns on forest

	and institutions to reduce deforestation and forest degradation	practices of exploitation and use of natural resources	technologies to deforestation and forest degradation	conservation, tree plantation and alternative energy

For the purpose of the SESA the cross-cutting option was not evaluated because of the level of unknowns related to legislation and policy and economic reform issues; the remaining five (5) options were, however, evaluated (Table 2).

Table 2 Summary of proposed REDD+ strategic options and objectives

Strategic options	Strategic actions
Agriculture: Promote alternative practices to itinerant agriculture whilst ensuring increase in productivity of both subsistence and cash crops	**1.** Promote the adoption of sustainable agriculture practice using annual and perennial crops (cashew, coconut and macadamia); **2.** Intensify and promote agriculture; **3.** Divert commercial agriculture to non-forest areas; **4.** Promote agroforest systems that are appropriate for individual regions (agriculture or livestock with trees); **5.** Promote good practices of natural livestock grazing management and production of fodder
Energy: Increase access to alternative sources of biomass in urban areas and efficiency in the production and utilization of biomass energy	**1.** Promote sustainable production of biomass from natural forest (forest management for charcoal and firewood); **2.** Promote the setup of forest plantation for energy purposes; **3.** Promote sustainable use of biomass energy through the use of improved stoves; **4.** Expand the measure to promote other sources of renewable energy- wind, solar and biogas energy.
Conservation: Enhance the conservation system and adopt effective ways to generate income	**1.** Improve the management regime and protection of conservation in natural forest (parks, reserves and hunting concessions).
Sustainable forest management: Promote forest concession system with added value for forest products	**1.** Enhance sustainable forest management (forest concession of native forest) including community management of native forest; **2.** Promote and develop value chain of non-forest products
Forest plantations: Improve business environment for forest plantations and the relationship between companies and communities	**1.** promote the establishment of forest plantations in deforested or degraded areas or of a different cover than forest

The Legal and Institutional Framework for REDD+

National policies, laws, legislation and safeguards reviewed and summarized in the ESMF include:

- Constitution of the Republic of Mozambique, 1990
- Law on the Protection of Cultural Heritage,
- Law No. 10/88 of December 22, 1988
- Burial Regulations, Decree No. 42/90 of 29 December
- Land Law, Law No. 19/97 - 1 October
- Environment Frame Law, 1997
- Forest Law and Wildlife Law, Law No. 10/99 of 7 of July; as amended
- Tourism Law, Law No. 4/2004 17 June 2004
- New Labor Law, Law No. 2007; 11 May 2007
- Territorial Planning Law, Law No. 17/2007 of 18 July
- Law on Spatial Planning and its Regulation, Law No. 2007/19
- Transportation Legislation, 2011
- Protection, Conservation and Sustainable use of Biological Diversity, Law no. 16/2014 of 20 of June
- New Mining Law, Law No. 14/2002 of 26 June, mining law, as amended 20/2014 of 18 August
- EIA Regulation (Decree No. 45/2004 of 29 September)
- Water Law (No. 16/91 of 03 August)
- Disaster Management Law (No 15/2014 of 20 of June)

National strategies reviewed include:

- The Strategy and its Action Plan for the Conservation of Biological Diversity in Mozambique 2003-2010
- Agriculture and Natural Resources Strategy (2010)
- National Adaptation Strategy and Climate Change Mitigation (NASCCM) for the period 2013-2025.
- National Strategy for REDD +
- National Rhino and Ivory Action Plan (NIRAP)
- Environmental Strategy For Sustainable Development (2007)

International Guidelines, Standards and Conventions to which Mozambique is party that were reviewed include:

- Equator Principles
- World Bank and IFC Performance Standards (PS 1-8)
- Ramsar Convention on Wetlands
- The World Heritage Convention (WHC)
- The International Convention on International Trade in Endangered Species (CITES)
- Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or Bonn Convention)
- Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, 1987
- Kyoto Protocol, 1997 and UNFCCC, 1992
- The United Nations Convention to Combat Desertification (UNCCD) was adopted in June 1994 and entered into force on 26 December 1996.
- Convention for the Safeguarding of the Intangible Cultural Heritage is a UNESCO treaty adopted by the UNESCO General Conference on 17 October 2003.

Institutional Framework for REDD+

The ESMF also presents relevant institutions for implementation of REDD+ in Mozambique. Much of the information provided under this section was derived from the study report on “Análise do Quadro Legal e Institucional para a Implementação do REDD+” or “The Institutional and Legal Framework for the implementation of REDD+” (Beta & Nemus, 2015).

Summary of Institutional Gaps

The review of institutional roles in the implementation of REDD+ indicates that at present relevant expertise and responsibility for implementation are primarily confined to the national level, which will constrain the feasibility of implementing REDD + on the ground.

The institutional framework study conducted for the SESA identified coordination, training, legal requirements, private sector and community participation as major challenges facing REDD+ implementation in Mozambique. Regarding coordination, there are structures that can be used

for the coordination of REDD+ activities from the district level (District Advisory Board) to the Council of Ministers through the Provincial Councils, CONDES, etc.,

REDD+ Strategy Implementation

It is assumed that overall REDD+ Strategy implementation will include the establishing of an overall ***Information Management System***. It is further assumed that this system will also incorporate a Safeguards Information System (SIS) requested under UNFCCC agreements.

Liaison will also be necessary with all relevant ***stakeholders*** (through UT REDD+). Consideration will need to be given to the membership of this body to ensure that it adequately reflects all relevant stakeholders – from government, private sector and civil society.

There may be merit in establishing an ***Assessment and Monitoring Advisory Group*** to provide advice/guidance to the MRV unit, and help with training – particularly in the first 2-3 years of its operation. Such a Group would include professional experts with experience of environmental and social assessment and monitoring in Mozambique

Provincial Level REDD+ Projects

It is assumed the majority of proposals for project-level activities to implement REDD+ will be solicited at the Provincial level. These will need to be screened: for their suitability to receive REDD+ financial support; for their compliance with REDD+ strategy objectives and focus areas; and particularly for their likely environmental and social impacts (both positive and negative).

During the SWMOZ Team's consultations with Provincial authorities and stakeholders, it became clear that an independent, inclusive Joint REDD+ Consultative Body needs to be established consisting of experts, officials and others from: (a) Provincial level related government line agencies, (b) MITADER, DINAMB, DNF, DNT, etc., and (c) civil society, media, and, civil organisations including women's groups. Such a group could meet regularly (e.g., quarterly) to discuss REDD+ progress, proposals in the pipeline, progress and outcomes. These bodies could be linked as a national network to facilitate communication and learning and build on the experience of the existing REDD+ network of REDD pilots.

Provincial Management Plans should be prepared so that they support REDD+ and incorporate planned REDD+ projects.

A grievance redressal mechanism will need to be operated at Provincial level

Local Level Redd+ Projects

At the local level, Village Development Committees (VDCs) can play an important role in monitoring the implementation and outcomes of individual REDD+ projects, but working in an integrated manner. Their roles would be:

- Informing people of REDD+ programs and motivating local communities to develop projects – helping in proposal writing, including completing required environment and social screening information;
- Assisting and facilitating the subsequent process of environmental and social assessment, when required;
- Undertaking environmental and social monitoring of REDD+ projects and verifying self-monitoring undertaken by project implementers.

In addition, the VDC can facilitate tabling grievances to the Provincial-level grievance redressal mechanism.

Overview of REDD+ Strategy Options for Mozambique

The REDD+ national strategy seeks to reduce CO_2 emissions from deforestation and forest degradation and secure sustainable management of forests, forests conservation and enhance carbon stocks and reduce GHGs. The draft strategy options are designed to address priority drivers of deforestation and degradation identified, namely, subsistence farming (itinerant farming), urban and infrastructure expansion, wood and forest products exploitation, firewood and charcoal production, commercial agriculture, livestock and mining activities.

Proposed REDD+ Strategy Options

In the following sections brief background information is presented under each of the proposed REDD+ national strategy options to provide a context for the evaluation of these options.

Option 1: Promoting alternative practices to itinerant agriculture

In order to reduce deforestation and degradation resulting from agriculture activities, the REDD+ national strategy intends to promote sustainable agriculture through diverting commercial agriculture into non-forest areas, agro-forest systems adapted to each region, and best practices of livestock and pasture management.

Option 2: Energy

The proposed REDD+ national strategy establishes the promotion of alternative sources of energy to biomass in urban areas and efficient utilization of biomass as the second strategy option. This option envisages the promotion of improved and efficient cook stoves.

Option area 3- Conservation areas

The REDD+ national strategy option 3 proposes that conservation areas be enhanced and generate income for communities. According to this strategy, this would encompass improvements of the management regime and protection of conservation areas with natural forest, including parks, reserves and game hunting. This section presents the current situation of land use practices impacting on the forest cover on the ground as noted in reports and published literature, observations on the ground during field trips and views aired by stakeholders during fieldwork.

Option 4 – Sustainable Forest Management

The REDD+ national strategy envisages promoting the forest concession system with value added to the forest products. This involves enhancing sustainable forest management (including forest concessions of native forest) and promoting development of value chain of non-timber forest products (NTFP). Forest production in Mozambique is divided in two major activities: (i) exploitation of native forest, based on selective trees cut under a long term concession regime (up to 50 years) or simple or short-term licenses (up to 5 years); (ii) forest plantations focusing on production of exotic trees for timber and non-timber products.

Option Area 5 – Business Environment for Forest Plantation

The REDD+ national strategy has as one of its strategic options the improvement of the business environment for forest plantations, including the day-to-day relationship between the forest companies and local communities. More specifically, the option includes the facilitation for forest companies to establish their business in deforested and degraded areas or with other non-forest cover.

In Mozambique there are two different systems are used to grow wood with introduced tree species: (i) large-scale commercial forestry plantations for poles, pulpwood and saw timber products; and (ii) small-scale woodlots to provide alternative sources for poles and fuel wood.

Guidelines for Implementation of ESMF

All REDD+ projects shall be subjected to a review and screening process in order to determine the level of required environmental and social assessment. During this phase, the assessment shall bear in mind the main objectives of REDD+, which are to reduce deforestation and degradation in the country, contribute to global reductions in GHGs, improve biodiversity conservation, and enhance economic growth and improve livelihoods.

All REDD+ projects will be undertaken under the direction and guidance of UT-REDD, with oversight of the multi-ministerial committee for REDD (CTR-REDD), headed by MITADER and MINAG. All REDD+ projects shall comply with the OP 4.01 and national legal requirements on environmental and social management.

Screening Phase

Screening of proposed projects/activities will need to be undertaken at several levels: national, regional and Provincial. Table 5 summarizes recommendations for where primary responsibility for screening should lie at different levels.

Table 3 Recommendations for where primary responsibility for screening should lie at different levels.

Level	Type of initiative	Implementation by	Overall responsibility for screening	Possible assessment action required
National	National-level Initiatives of government	UT REDD+ Coordination Division, line agencies	Monitoring, Reporting and Verification Unit (MRV) (in UT REDD Coordinating Division of MITADER)	EPDA or ESIA, RAP, VCDP or GAP
Regional	Landscape and pprotected area initiatives/projects	International and National NGOs, community groups	MRV unit (in REDD+ Coordinating Division of MITADER) in coordination with Regional/Provincial REDD+ Focal Desk	
Provincial	Provincial-level activities	DDC, I/NGOs, community groups	Provincial REDD+ Program Management Unit (PRPMU)	
Local	Small-scale local and sub-projects	Local organisations, investors etc.,	PRPMU	

Screening of REDD+ pilot projects and proposed REDD+ projects will commence at the project inception phase, as soon as the specific project details are known including: nature, scope, and proposed location, among other parameters.

In order to comply with legal requirements and the WB guidelines, this ESMF includes two screening forms - Environmental and Social Screening Forms (Annexure A), as well as the Preliminary Environmental Information Sheet[1] (Annexure C) - part of the Decree nr. 54/2015. The screening forms and information sheets must be completed for each proposed REDD+ project.

The Preliminary Environmental Information Sheet will include:

- Project name
- Site land use zoning category

[1]Annex IV, Decree nr. 45/2004

- Identification of local communities
- Identification of land and forestry conservation activities occurring in the area
- Identification of agricultural management activities occurring in the area
- Provision of REDD Project Description
- Site location and environmental setting
- Site environmental, social and cultural sensitivity
- Identification of potential environmental and social impacts (based on Annexure A)
- Mitigation measures already included (based on Annexure A)

These forms, when correctly completed, will facilitate the:

- Identification of potential environmental and social impacts and the identification of health and safety risks;
- Assignment of the appropriate environmental category; and
- Determination of the need to conduct an ESIA/ESMP, a SES/ESMP and/or to prepare Resettlement Action Plans (RAPs), Vulnerable Community Development Plans, or Gender Action Plans, where required or determine that no action need to be taken.

Screening and Project Categories: A, B, C and FI (WB 4.01)

Under REDD+ implementation, REDD eligible projects will include agriculture, energy, conservation, and forest plantation projects which have a project purpose designed to reduce deforestation and desertification, and/or to sequester carbon in Mozambique. It is recognized that REDD + is a countrywide program – private or public projects that intend on seeking compensation under REDD will be subject to this ESMF.

All REDD projects will be subject to screening to help determine the appropriate extent and type of Environmental Impact Assessment (EIA) or Environmental Social Impact Assessment (ESIA) required.

The ESIA Process (Mozambican EIA Regulation (Decree No. 54/2015 of 31 December)

The ESIA process is summarized in the body of the ESMF, including the major steps involved in this process:

- Preparation of Terms of Reference (ToR) for the ESIA
- The eligibility of Consultants selected to prepare the ESIA
- Stakeholder Engagement and the Public Participation Process for the ESIA
- Compilation of Environmental and Social Requirements for Tender Documents **-** The UT REDD+ environmental assessment specialist will make a compilation of environmental and social requirements to be met by the REDD+ project proponents. This compilation will be based in the Environmental and Social Management Plan (ESMP) approved by MITADER (for Category A and B activities).
- Consultation and Disclosure - Consultation must comply with WB OP 14, WB stakeholder consultation guidelines, and national requirements for stakeholder consultation.
- Review and Approval - The UT REDD+ environmental and social specialists will review the ESIA prior to submission to the Provincial Directorate of Land, Environment and Rural Development (DPADER). The DPADER will always be responsible for the review and final approval of environmental studies and environmental management plans and the accompanying environmental licensing.

Capacity Building

Successful implementation of a REDD+ Project will depend among others on the effective implementation of the environmental and social management measures outlined in the ESMPs, RAPs, GAPs, and VCDPs. Training and capacity building will be necessary for the key stakeholders in order to ensure effective implementation of the ESMF, and will be identified in the ESMF

Therefore it should include awareness-raising and sensitization to issues, as an addition to technical training.

Supervision and Monitoring

The UT REDD+ environmental specialist and their environmental and social consultants shall monitor the practitioners (e.g., Contractors, or Project Proponents) who implement the ESMP and/or Resettlement Action Plan (RAP) and/or other mitigation measures to ensure the practitioners comply with the ESMP. From here-on, this position is referred to as a Quality Assurance Monitor (QAM).

Reporting

The process implemented for this ESMF document should be properly documented and filed for future reference in the audit stage. This includes Pre-Environmental Assessment Sheets, correspondence with the MITADER, reports produced by consultants, records of public consultations or complaints received and, where appropriate, the environmental permit.

The environmental and social specialists will submit quarterly monitoring reports of all active investments under implementation to the UT REDD+ who will then submit these reports to the World Bank. It will report the activities carried out under the ESMF, indicating the whole process carried out for each and every subproject undertaken, and conducting an assessment of the level of performance achieved, the difficulties encountered and the solutions found or proposed.

The annual report must also describe the training activities carried out, indicating its content, duration and participants.

Sumario Executivo

Introdução

Reduzir as Emissões por Desmatamento e Degradação Florestal (REDD) está a expandir como um meio de criar um valor financeiro para o carbono armazenado nas florestas, oferecendo incentivos para que os países em desenvolvimento reduzam as emissões das terras cobertas com florestas e invistam em abordagens de baixo carbono para um desenvolvimento sustentável. O REDD+ vai mais além do que somente desmatamento e degradação florestal, e inclui o papel da conservação, maneio sustentável de florestas e aumento dos estoques de carbono florestal. REDD também é visto como um programa que providencia 'co-benefícios ", tais como a conservação da biodiversidade e redução da pobreza. REDD está sendo fortemente promovido pelo Banco Mundial e quadros legais e de governação dos países contemplados pelo REDD. As actividades podem ser realizadas por governos nacionais ou locais, ONGs, o sector privado, ou qualquer combinação destes.

O Fundo do Banco Mundial para a Parceria Florestal (FCPF) está apoiando tecnicamente e financeiramente ao Governo de Moçambique (GM), no desenvolvimento e aplicação da estratégia para lidar com as causas de desmatamento e degradação florestal. O Governo de Moçambique está entre os países que participam no processo de preparação de REDD + e tem vindo a implementar seu Plano de Preparação para REDD + (R-PP) desde 2012. Um dos objectivos da R-PP foi preparar uma Estratégia + REDD para Moçambique, que foi originalmente redigido em 2013, e posteriormente actualizado em 2014 e 2015 (Sitoe et al., 2013, 2014 e 2015).

Este ESMF é elaborado para orientar os programas de mitigação e monitoramento dos projectos desenvolvidos e implementados pelo REDD + que podem ser implementados como parte da estratégia nacional do governo para REDD +. Para alcançar este objectivo, o ESMF inclui um quadro do Regulamentos de Execução (FER), que identifica as políticas, leis, regulamentos e salvaguardas nacionais que fornecem o quadro legal para a implementação do ESMF. Através da sua execução, este ESMF irá apoiar a assegurar a coerência das medidas de mitigação utilizadas para as diferentes opções da estratégia, garantir que eles estejam dentro da lei e dos regulamentos nacionais, bem como alcançar melhores padrões de práticas internacionais. Este ESMF foi desenvolvido pela Unidade Técnica de REDD + (UT-REDD +), financiado através do Fundo Nacional do Meio Ambiente (FUNAB) e financiado pelo Fundo do Banco Mundial para a Parceria Florestal (FCPF), e foi supervisionado pelo Comité Técnico de revisão (RTC).

Limitações e objectivos do ESMF

No momento da elaboração do rascunho do ESMF, a Estratégia do REDD+ ainda não estava finalizado, criando um desafio para a realização do SESA, assim como a preparação do mesmo. Sem uma estratégia aprovada, não havia nada de concreto para fornecer um foco claro para avaliação ou desenvolvimento de um quadro de gestão ambiental e social. A equipe da SWMOZ recebeu as estratégias propostas em Outubro de 2015, muito depois de o processo de consultas as comunidades e partes interessadas estar completa. Por esta causa, a equipa da SWMOZ teve que interpolar sentimentos da comunidade e das partes interessadas, sobre os potenciais impactos ambientais e sociais dos cenários retroactivamente, com base em informações gerais recebidas durante as consultas. Além disso, no momento da elaboração deste ESMF o Governo estava num processo de reestruturação dos seus ministérios após as eleições gerais de Outubro de 2014. Embora este processo de reestruturação tenha sido capturado no SESA, novas políticas e legislação que foram sendo aprovadas no momento da elaboração do SESA vão afectar a implementação da estratégia nacional do REDD + e não estão patentes no SESA ou neste ESMF.

O Rascunho do ESMF discute alguns elementos que foram definidos nos termos de referência (Acções 10-11 no Apendix 1):

Este ESMF aborda:

- Os arranjos institucionais para a implementação do ESMF
- **Os procedimentos e metodologias** para a avaliação ambiental e social, revisão, aprovação e implementação das intervenções, actividades/projectos no âmbito da Estratégia REDD +, incluindo:
    - ***Processo de triagem*** para determinar: (a) que intervenções/projectos terão impactos ambientais e sociais moderados ou significativos e que, portanto, requerem um EIA ou ESIA, e que provavelmente vai exigir outras reacções, como a preparação de um Plano de Acção de Reassentamento (PAR), Plano de Desenvolvimento de Comunidade vulneráveis (VCDP) ou Plano de Acção de Género (GAP); e (b) as intervenções/projectos que são social e ambientalmente benigna e podem avançar para uma análise mais aprofundada sem um EIA / EIAS ou planos de resposta suplementares (RAP, VCDP, ou GAP). Essa triagem vai sinalizar onde os potenciais

riscos ambientais e sociais podem surgir e, através das etapas de avaliação e resposta, a consideração de accionar medidas para evitar, minimizar ou mitigá-los, bem como indicando onde os procedimentos de monitorização dos resultados devem concentrar-se particularmente.

- Orientação sobre a realização de avaliações ambientais e avaliações ambientais preliminares, a realização a definição do âmbito para EIA / ESIAs e identificação de medidas de mitigação para evitar ou minimizar os impactos negativos.

- Um mecanismo para o **acompanhamento dos resultados ambientais e sociais** da implementação da estratégia de REDD + e modalidades de participação relevante das partes interessadas neste processo – que especifica as funções e responsabilidades; e um esboço dos procedimentos de comunicação necessários para gerir e monitorar as preocupações ambientais e sociais relacionadas à implementação do projecto;

- Resumos das principais leis, políticas e regulamentos e salvaguardas nacionais para a gestão de questões ambientais e sociais relacionadas com as actividades de desenvolvimento e outras salvaguardas (por exemplo salvaguardas de Cancun UNFCCC e políticas de salvaguarda do Banco Mundial); status socioeconómico (SES) princípios, padrões e indicadores.

Metodologia

Com base nas conclusões do SESA, a SWMOZ desenvolveu este ESMF para abordar os potenciais impactos ambientais e sociais associados com a implementação das opções da estratégia do REDD + propostas. Que incluiu:

8. Uma revisão dos comentários do público e das partes interessadas sobre a estratégia como um todo, e cada opção individualmente;
9. Identificar o quadro institucional que iria supervisionar a implementação da estratégia do REDD +;
10. Identificar a legislação e salvaguardas que irão orientar a implementação deste ESMF;
11. Revisão do processo de AIA e ESIA em Moçambique e aqueles implementados pelos empreendimentos do Banco Mundial, e fornecer orientação passo a passo para a realização de um EIA e AIAS que atendam aos requisitos do GdM e do Banco Mundial;

12. Identificar a capacidade actual para implementar o REDD + de forma sustentável em Moçambique, e fazer recomendações para o desenvolvimento de capacidade necessária;
13. Identificar as melhores práticas, os papéis e responsabilidades de acompanhamento e controlo dos projectos de REDD +; e
14. Identificar as melhores pratica para procedimentos de informação/relatórios para gestão ambiental e social de projectos REDD+.

Proposta de REDD + opções de estratégia para Moçambique

O rascunho da estratégia nacional do REDD + identifica uma gama de usos da terra relacionadas e práticas de exploração de recursos naturais como as causas directas de desmatamento e degradação florestal. Apesar destas práticas contribuírem para o desmatamento e degradação florestal, eles também são fundamentais para a economia rural e contribuem significativamente para a economia nacional. Estas práticas são muito influenciados pela tecnologia limitada, factores sociais e económicos mas também, e talvez mais significativamente, pela fraca capacidade institucional em sectores com impacto directo ou indirecto sobre a cobertura florestal em Moçambique. Devido a isso, a estratégia reconhece a necessidade de intervenções combinadas e coordenadas que visam:

A. Melhorar o sistema de governação dos recursos naturais;
B. Garantir a viabilidade económica e financeira do processo de produção, transformação e utilização de produtos e serviços em sectores estratégicos;
C. Fornecer e facilitar o acesso a tecnologias alternativas para evitar o desmatamento e degradação florestal;
D. Integrar as intervenções sociais e culturais para reduzir o desmatamento e degradação florestal.

A estratégia nacional identifica 6 acções estratégicas que abordam os factores descritos acima de A-D, como ilustrado na Tabela 1.

Tabela 4 Opções estratégicas propostas do REDD+ em Moçambique

Sectores Estratégicos	Pilares Estratégicos			
	Governação	**Económico**	**Tecnológico**	**Social**
Agricultura	Implementação Do ZAEN Implementação de políticas agrárias	Sistema de comercialização agrícola Acesso aos insumos agrícolas	Acesso a tecnologias para assegurar a produtividade do solo e sedentarizar os produtores do sector familiar	Melhorar a Adopção de tecnologias e acesso aos mercados
Energia	Implementação De políticas de energias novas e renováveis	Provera População de baixa renda com alternativas para acesso a energia limpa Viabilizar as plantações energéticas	Aumentar o acesso a energias limpas e alternativas à biomassa	Capacitação e Promoção de uso de energias alternativas nos meios urbanos
Áreas de Conservação	Fortalecimento Do sistema de gestão de áreas de conservação	Desenvolver mecanismos de geração de renda nas áreas de conservação	Melhorar a Infra-estrutura e o sistema de informação das AC	Práticas de uso De terra pelas comunidades residentes compatíveis coma conservação
Maneio Florestal Sustentado	Aplicação dos princípios de maneio florestal sustentável	Reduzir consideravelmente o impacto da exploração florestal ilegal para viabilizar o sistema de concessões	Prover e facilitar o Acesso a tecnologias De adição de valor dos produtos florestais	Treinar e Capacitar trabalhadores florestais Melhorar a relação entre concessionários e comunidades Estabelecer iniciativas de maneio comunitário florestal
Plantações florestais	Esclarecer e simplificar as questões relativas ao acesso e segurança de terra para plantações florestais	Criar as bases de Conhecimento e De funcionamento de PME no estabelecimento e gestão de plantações florestais	Prover material Adequado para plantio com a combinação espécie: sítio: mercado	Massificar o Plantio de árvores para as famílias rurais, e como parte da urbanização
Acções Transversais	Planificação do uso de terra Adequar a Legislação e Instituições para reduzir o desmatamento	Sistema de taxas e incentivos para Promoveras “boas práticas”	Capacitação sobre o uso de tecnologias Alternativas	Campanhas de educação e treinamento sobre conservação de florestas e plantio de árvores e energias alternativas

Para efeitos do SESA a opção transversal não foi avaliada por causa do nível de incógnitas relacionadas com as questões de legislação, políticas e reformas económicas; as restantes cinco (5) opções foram, no entanto, avaliadas (Tabela 2).

Tabela 5 Sumario das opções estratégicas e objectivos do REDD+

Opções estratégicas	Acções estratégicas
Agricultura: Promover práticas alternativas para a agricultura itinerante, garantindo aumento da produtividade de ambas as culturas de subsistência e de rendimento	**6.** Promover a adopção de práticas de agricultura sustentável com culturas anuais e perenes (caju, coco e macadâmia); **7.** Intensificar e promover agricultura; **8.** Desviar agricultura comercial para áreas não florestais; **9.** Promover sistemas agro-florestais que são apropriados para cada região (agricultura ou pecuária com árvores); **10.** Promover boas práticas de gestão de pastagem natural e produção de forragem
Energia: Aumentar o acesso a fontes alternativas de biomassa em áreas urbanas e eficiência na produção e utilização da energia da biomassa	**5.** Promover a produção sustentável de biomassa a partir de florestas naturais (manejo florestal para produção de carvão e lenha); **6.** Promover a instalação de plantações florestais para fins energéticos; **7.** Promover a utilização sustentável da energia de biomassa através da utilização de fogões melhorados; **8.** Expandir a medida para promover outras fontes energética renováveis, energia solar, eólica e biogás.
Conservação: Melhorar o sistema de conservação e adoptar meios eficazes para gerar renda	**2.** Melhorar o regime de gestão e protecção da conservação em florestas naturais (parques, reservas e concessões de caça).
Maneio florestal sustentável: Promover sistema de concessão florestal com valor acrescentado para produtos florestais	**3.** Melhorar a gestão florestal sustentável (concessão florestal de mata nativa), incluindo a gestão comunitária da floresta nativa; **4.** Promover e desenvolver a cadeia de valor de produtos não florestais
As plantações florestais: melhorar o ambiente de	**2.** Promover o estabelecimento de plantações florestais em áreas desflorestadas ou degradadas ou com cobertura diferente de floresta.

negócios para as plantações florestais e as relações entre empresas e comunidades	

Quadro institucional e legal para o REDD+

Politicas, legislação e salvaguardas revistas e sumarizadas no ESMF incluem:

- Constituição da Republica de Moçambique, 1990

- Lei sobre a Protecção do Património Cultural,
- Lei nº 10/88 de 22 de Dezembro de 1988
- Regulamentos sobre funerais, Decreto nº 42/90 de 29 de Dezembro
- Lei de Terras, a Lei nº 19/97 - 01 de Outubro
- Lei-quadro do Meio Ambiente de 1997
- Lei Florestal e fauna bravia, Lei n.º 10/99, de 7 de Julho; conforme alterada
- Lei do Turismo, a Lei nº 4/2004 17 de Junho de 2004
- Nova Lei do Trabalho, a Lei nº 2007; 11 de Maio de 2007
- Lei do Ordenamento do Território, a Lei nº 17/2007 de 18 de Julho
- Lei de Ordenamento do Território e do seu regulamento, a Lei nº 2007/19
- Legislação de Transporte de 2011
- Protecção, Conservação e Utilização Sustentável da Diversidade Biológica, a Lei n. 16/2014, de 20 de Junho
- Nova Lei de Minas, a Lei nº 14/2002, de 26 de Junho de lei de mineração, conforme alterada 20/2014 de 18 de Agosto

Estratégias Nacionais revistas incluem:

- Plano de Acção e Estratégia para a Conservação da Diversidade Biológica em Moçambique 2003-2010
- Estratégia para Agricultura e Recursos Natural (2010)
- Estratégia Nacional de Adaptação e Mitigação das Alterações Climáticas (NASCCM) para o período 2013-2025.
- Estratégia Nacional de REDD +

- Plano de Acção Nacional do Marfim e Rinoceronte (NIRAP).

Guiões internacionais, padrões e convenções de que o país é parte revistos foram:

- Princípios do Equador
- Padrões de Desempenho do Banco Mundial e do IFC (PS 1-8)
- Convenção de Ramsar sobre Zonas Húmidas
- A Convenção do Património Mundial (WHC)
- A Convenção Internacional sobre o Comércio Internacional de Espécies Ameaçadas (CITES)
- Convenção de Bona (também conhecidos como CMS ou Convenção de Bona)
- Acordo sobre o Plano de Acção para a gestão ambientalmente correcta do Sistema Comum rio Zambeze, 1987
- Protocolo de Quioto, 1997 e UNFCCC, 1992
- A Convenção das Nações Unidas de Combate à Desertificação (UNCCD) foi adoptada em Junho de 1994 e entrou em vigor em 26 de Dezembro de 1996.
- Convenção para a Salvaguarda do Património Cultural Imaterial é um tratado UNESCO, adoptada pela Conferência Geral da UNESCO em 17 de Outubro de 2003.

Quadro Institucional para o REDD+

O ESMF também apresenta instituições relevantes para a implementação de REDD + em Moçambique. Grande parte das informações fornecidas ao abrigo desta secção foi obtida a partir do relatório de estudo sobre "Análise do Quadro Legal e Institucional Para a Implementação do REDD + (Beta & Nemus, 2015).

Sumario de lacunas institucionais

A revisão das atribuições das instituições na implementação do REDD + indica que, neste momento o REDD + está confinado principalmente a nível central, o que irá restringir a viabilidade da implementação de REDD no terreno.

A análise do quadro institucional conduzido no âmbito do SESA identificou coordenação, treinamento, requisitos legais, envolvimento do sector privado e a participação da comunidade como principais

desafios a enfrenta durante a implementação de REDD + em Moçambique. Relativamente à coordenação, há estruturas que podem ser usados para a coordenação das actividades de REDD + a partir do nível distrital (Junta Consultiva Distrital) ao Conselho de Ministros através dos Conselhos Provinciais, Condes, etc.

Implementação da Estratégia do REDD+

Assume-se que a execução global da Estratégia do REDD + incluirá o estabelecimento de um ***sistema de Gestão de Informação*** global. E também assume-se que este sistema irá incorporar um Sistema de Informações de Salvaguardas (SIS) segundo o requisito plasmado nos acordos da UNFCCC.

Ligações também serão necessárias com todas as partes interessadas (através da UT-REDD +). Consideração terá de ser dada a todos os membros deste corpo para garantir que ele reflicta adequadamente todas as partes interessadas - do governo, sector privado e sociedade civil.

Pode haver mérito na criação de um **Grupo Consultivo de Avaliação e Monitoramento** que irá prestar aconselhamento / orientação para O MRV, e apoiar com o treinamento - particularmente nos primeiros 2-3 anos do seu funcionamento. Tal grupo inclui profissionais especialistas com experiência em avaliação ambiental e social e monitoramento em Moçambique

Projectos REDD+ de nível provincial

Supõe-se que a maioria das propostas de actividades de nível de projecto para implementação do REDD + serão solicitadas a nível Provincial. Estes terão de ser rastreados: para a sua adequação de maneira a receber apoio financeiro de REDD +; para a sua conformidade com os objectivos da estratégia e áreas focalizadas do REDD +; e particularmente para os seus prováveis impactos ambientais e sociais (tanto positivos como negativos).

Durante as consultas feitas pela equipa da SWMOZ as autoridades provinciais e partes interessadas, ficou claro que um grupo conjunto independente e inclusivo do REDD+, deveria ser estabelecido, cuja composição inclui especialista, técnicos e representantes de: (a) sectores relativos a nível do governo provincial; (b) MITADER, DINAMB, DNF, DNT, etc., e (c) sociedade civil, media, e organizações civis incluindo grupo de mulheres. Este grupo poderia reunir-se regularmente (por exemplo trimestralmente) para discutir o progresso do REDD+, propostas em espera, em execução e resultados. Estes corpos pode estar conectados formando uma rede que facilitaria a comunicação e troca de experiencia a partir dos actuais projectos-piloto REDD+.

Planos de gestão provinciais devem ser preparados de maneira a que sirvam de apoio ao REDD+ e incorporem projectos REDD+ planificados.

Mecanismo de reclamações deve estar operacional a nível provincial.

Projectos REDD+ a nível Local

A nível local, Comissões de Desenvolvimento da Vila (VDCs) podem desempenhar um papel importante no acompanhamento da execução e dos resultados dos projectos individuais de REDD +, porem trabalhando de uma maneira integrada. O seu papel será:

• Informar as pessoas dos programas de REDD + e motivar as comunidades locais para desenvolver projectos - ajudando na elaboração de propostas, incluindo o preenchimento das informações ambientais e sociais do processo de triagem;

• Apoiar e facilitar o processo subsequente de avaliação ambiental e social, quando necessário;

• Levar a cabo o monitoramento ambiental e social dos projectos REDD+ e verificar o monitoramento interno levado a cano pelos implementadores dos projectos.

Para além disto, o VDC pode facilitar o encaminhamento de queixas ao mecanismo de reclamações provincial.

Visão geral das opções estratégicas do REDD+ para Moçambique

A estratégia nacional do REDD+ visa reduzir as emissões de CO_2 provenientes do desmatamento e da degradação florestal e garantir a gestão sustentável das florestas, conservação das florestas e aumentar os estoques de carbono e reduzir os GEE. As opções apresentadas no “draft” da estratégia visam atender acções prioritárias de desmatamento e degradação identificadas, ou seja, agricultura de subsistência (agricultura itinerante), expansão urbana e infra-estrutura, exploração de madeira e produtos florestais, lenha e produção de carvão, agricultura comercial, pecuária e actividades de mineração.

Opções estratégicas propostas para o REDD+

Nas secções seguintes apresenta-se uma breve discrição com informação de base para cada uma das opções estratégicas propostas de maneira a contextualizar e se poder avaliar cada uma delas.

Opção 1: Promover práticas alternativas para a agricultura itinerante

A fim de reduzir o desmatamento e a degradação resultante de actividades agrícolas, a estratégia nacional de REDD+ tem a intenção de promover a agricultura sustentável através do desvio da agricultura comercial para áreas não florestais, sistemas agro-florestais adaptadas a cada região, e melhores práticas de pecuária e maneio de pastagens.

Opção 2: Energia

A estratégia nacional REDD + proposta estabelece a promoção de fontes alternativas de energia á biomassa em áreas urbanas e utilização eficiente da biomassa como a segunda opção de estratégia. Esta opção prevê a promoção de fogões melhorados e eficientes.

Opção 3 - Áreas de conservação

A opção estratégica nacional 3 propõe que as áreas de conservação sejam reforçadas e devem gerar renda para as comunidades. De acordo com esta estratégia, isto abrangeria melhorias do regime de gestão e protecção das áreas de conservação com floresta natural, incluindo parques, reservas e caça. Esta secção discute a situação actual das práticas de uso da terra com impacto na cobertura florestal no terreno tendo como base os relatórios e literatura publicada, as observações no terreno durante viagens de campo e pontos de vistas veiculadas pelas partes interessadas durante o trabalho de campo.

Opção 4 - Maneio Florestal Sustentável

A estratégia nacional de REDD prevê a promoção do sistema de concessão florestal com valor acrescentado aos produtos florestais. Trata-se de melhorar a gestão florestal sustentável (incluindo concessões florestais de mata nativa) e promover o desenvolvimento da cadeia de valor de produtos florestais não-madeireiros (PFNM). A Produção florestal em Moçambique está dividida em duas actividades principais: (i) exploração de floresta nativa, com base em corte de árvores seleccionadas sob um regime de concessão de longo prazo (até 50 anos) ou licenças simples ou de curto prazo (até 5 anos); (II) plantios florestais com foco na produção de árvores exóticas para produtos madeireiros e não-madeireiros produtos**.**

Opção 5 - Ambiente de Negócios para plantações florestais

A Estratégia nacional tem como uma de suas opções estratégicas a melhoria do ambiente de negócios para as plantações florestais, incluindo a relação do dia-a-dia entre as empresas florestais e as comunidades locais. Mais especificamente, a opção inclui a facilitação para as empresas florestais de estabelecer seus negócios em áreas desmatadas e degradadas ou com outra cobertura não-florestal.

Em Moçambique existem dois sistemas diferentes usados para produção de madeira com espécies arbóreas introduzidas: (i) as plantações florestais comerciais em grande escala para postes, madeira para celulose e produtos madereiros; e (ii) lotes de pequena-escala para fornecer fontes alternativas de postes e lenha**.**

Directrizes para Implementação de ESMF

Todos os projectos de REDD + devem ser submetidos a um processo de revisão e de triagem, a fim de determinar o nível de avaliação ambiental e social necessário. Durante esta fase, a avaliação deve ter em conta os principais objectivos do REDD +, que são reduzir o desmatamento e a degradação no país, contribuir para a redução global dos GEEs, melhorar a conservação da biodiversidade e promover o crescimento económico e melhorar os meios de subsistência.

Todos os projectos de REDD + serão realizados sob a direcção e orientação da UT-REDD, com a supervisão do comité multi-ministerial para REDD (CTR-REDD), liderado por MITADER e MINAG. Todos os projectos de REDD + devem respeitar a OP 4.01 e as exigências nacionais em matéria de gestão ambiental e social.

Fase de triagem

Triagem de projectos propostos / actividades terá de ser feita a vários níveis: nacional, regional e provincial. Tabela 3 resume as recomendações para onde a responsabilidade primária pela triagem deve estar a diferentes níveis.

Tabela 6 Recomendações sobre onde ou quem é responsável primário pela triagem a diferentes níveis.

Nível	Tipo de iniciativa	Implementado por	Responsabilidade geral pela triagem	Possível acção de avaliação necessária
Nacional	Iniciativa do governo a nível nacional	Divisão de coordenação da UT REDD+, agências similares	MRV (dentro da UT REDD divisão de coordenação dentro do MITADER)	EPDA ou ESIA, RAP, VCDP ou GAP
Regional	Iniciativas e projectos Landscape e áreas protegidas	Grupos comunitários, internacionais ou ONG's nacionais	MRV (dentro da UT REDD divisão de coordenação dentro do MITADER em coordenação com focal point do REDD + regional/Provincial	
Provincial	Actividades de nível provincial	DDC, Grupos comunitários, internacionais ou ONG's nacionais	REDD+ Provincial Unidade de gestão de programa (PRPMU)	
Local	Subprojectos ou projectos locais de pequena escala	Organizações locais, investidores etc.,	PRPMU	

A Triagem de projectos-piloto assim como de projectos de REDD + propostos começa na fase inicial do projecto (inception phase) logo que os detalhes específicos do projecto sejam conhecidos, incluindo: a natureza, o alcance e localização proposta, entre outros parâmetros.

A fim de cumprir os requisitos legais e as orientações do Banco Mundial, o ESMF inclui dois formulários de triagem - Formulário de Triagem Ambiental e Social (Anexo A), bem como a Ficha de Informação Ambiental Preliminar (Anexo C) - parte do Decreto nr. 54/2015. Os formulários de informação devem ser preenchido para cada proposta de projecto REDD +.

O formulário preliminar de informação ambiental irá incluir:

- Nome do projecto
- Localizar os locais usando categoria de zoneamento
- Identificação das comunidades locais

- Identificação de actividades de conservação do solo e silvicultura ocorrendo na área
- Identificação de actividades de maneio agrícola que ocorre na área
- Descrição do Projecto REDD
- Localização do sítio e situação ambiental
- Sensibilidade ambiental, social e cultural do Sítio
- Identificação de potenciais impactos ambientais e sociais (com base no Anexo A)
- As medidas de mitigação já incluída (com base no Anexo A)

Estes formulários, quando correctamente preenchidos, irá facilitar na:

• Identificação dos potenciais impactos ambientais e sociais e a identificação dos riscos de saúde e segurança;

• Atribuição da categoria ambiental apropriada; e

• A determinação da necessidade de realização de uma ESIA / ESMP, a SES / ESMP e / ou preparar planos de acção de Reassentamento (RAPs), Planos de Desenvolvimento para comunidades vulneráveis, ou planos de acção de género, sempre que necessário ou determinar que nenhuma acção precisa ser tomada.

Triagem e categorização de projectos: A, B, C e FI (WB 4.01)

Durante a implementação do REDD +, projectos elegíveis irão incluir a agricultura, a conservação de energia, e projectos de plantações florestais que têm um propósito projectado de reduzir o desmatamento e a desertificação, e / ou para sequestrar carbono em Moçambique. Reconhece-se que o REDD + é um programa em todo o país - projectos privados ou públicos que pretendem compensações ao abrigo do REDD estarão sujeito a este ESMF.

Todos os projectos de REDD estarão sujeitos a triagem para ajudar a determinar a extensão apropriada e tipo de Avaliação de Impacto Ambiental (EIA) ou Avaliação de Impacto Social e Ambiental (ESIA) necessária.

Processo de ESIA (Regulamento de EIA em Moçambique) (Decreto No. 54/2015 de 31 Dezembro)

O processo de ESIA está resumido no corpo do ESMF, incluindo as principais etapas envolvidas neste processo:

- Elaboração dos Termos de Referência (ToR) para o AIAS
- A elegibilidade dos consultores seleccionados para preparar o AIAS
- Participação das partes Interessadas e o Processo de Participação Pública para o AIAS
- Compilação de requisitos ambientais e sociais para o Caderno de Encargos - O especialista em avaliação ambiental da UT REDD + vai fazer uma compilação dos requisitos ambientais e sociais a serem cumpridas pelos proponentes do projecto REDD+. Esta compilação será baseada no Plano de Gestão Ambiental e Social (ESMP), aprovado pelo MITADER (para actividades categorias A e B).
- Consulta e Divulgação – As consulta devem cumprir o WB OP 14, guiões sobre consulta das partes interessadas e as exigências nacionais para consulta das partes interessadas.
- Revisão e aprovação - especialistas ambientais e sociais da UT REDD + irão rever os AIAS antes da sua apresentação à Direcção Provincial da Terra, Ambiente e Desenvolvimento Rural (DPADER). O DPADER será sempre responsável pela revisão e aprovação final dos estudos ambientais e dos planos de gestão ambiental e licenciamento ambiental que o acompanha.

Capacitação

A implementação bem sucedida de um Projecto REDD+ irá depender, entre outros, da aplicação efectiva das medidas de gestão ambientais e sociais delineadas nos ESMPs, RAPs, GAP e VCDPs. Formação e capacitação será necessário para as principais partes interessadas, a fim de assegurar a aplicação efectiva do ESMF, e esta necessidade virá plasmada no ESMF

Por isso, deve-se incluir a sensibilização e a consciencialização sobre as questões, como um complemento a formação técnica.

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Supervisão e Monitoramento

Os especialista em meio ambiente da UT-REDD assim como os seus consultores ambientais e sociais devem acompanhar os executantes (por exemplo, empreiteiros ou os proponentes do projecto) que implementam o Plano de Acção de Reassentamento ESMP e/ou (RAP) e/ou outras medidas de mitigação para garantir que quem esteja a executar cumpra o ESMP. A partir deste momento, esta posição é referido como monitoramento de garantia de qualidade (QAM).

Relatórios

O processo implementado para este documento ESMF deve ser devidamente documentado e arquivado para referência futura na fase de auditoria. Isso inclui folhas de pré-avaliação Ambiental, correspondência com a MITADER, relatórios produzidos por consultores, registos de consultas públicas ou queixas recebidas e, se apropriado, a licença ambiental.

Os especialistas ambientais e sociais apresentarão relatórios trimestrais de acompanhamento de todos os investimentos activos em implementação a UT REDD + que, por sua vez, irá encaminhar ao Banco Mundial. Ele irá relatar as actividades desenvolvidas no âmbito do ESMF, indicando todo o processo realizado para cada subprojecto levado a cabo, bem como a realização de uma avaliação do nível de desempenho alcançados, as dificuldades encontradas e as soluções encontradas ou propostas.

O relatório anual deve descrever também as actividades de formação realizadas, indicando o seu conteúdo, duração e participantes.

2 Introduction

2.1 Background to REDD+ in Mozambique

Reducing Emissions from Deforestation and Forest Degradation (REDD) is evolving as a means to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. REDD+ goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. REDD is also seen as delivering 'co-benefits' such as biodiversity conservation and poverty alleviation. REDD is being promoted strongly by the World Bank and United Nations (UN) as a means to set up the bases for the carbon market and the legal and governance frameworks of countries receiving REDD payments. Activities can be undertaken by national or local governments, NGOs, the private sector, or any combination of these.

The World Bank's Forest Carbon Partnership Facility (FCPF) is assisting the Government of Mozambique (GoM) with financial and technical support to develop and apply strategies to address the drivers of deforestation and forest degradation. The GoM is among countries participating in the preparation process of REDD+ and has been implementing its Readiness Plan for REDD+ (R-PP) since 2012. One of the goals of the R-PP was to prepare a REDD+ Strategy for Mozambique, which was originally drafted in 2013, and subsequently updated in 2014 and 2015 (Sitoe et al., 2013, 2014 and 2015). According to the Cancun Agreements, from the Conference of Parties (COP-16) meetings (2010), REDD+ encompasses actions which:

a) Reduce emissions from deforestation;
b) Reduce emissions from forest degradation;
c) Conserve forest carbon stocks;
d) Sustainably manage forests;
e) Enhance forest carbon stocks.

The GoM REDD+ strategy were still in draft stage and not fully developed at the time of writing this ESMF, but REDD+ strategy would have both positive and negative impacts on the bio-physical and socio-economic, socio-cultural environment. To identify potential impacts associated with REDD+ Strategy, the GoM undertook a Strategic Environmental and Social Assessment (SESA). The SESA

was undertaken through participative, transparent and comprehensive approaches (Scott Wilson, 2016).

The scientific and social studies and stakeholder engagement undertaken for the SESA resulted in the identification of a variety of mitigation measures that could be implemented to minimize potential adverse REDD+ project impacts and optimize positive impacts. An integral component of the SESA included developing an Environmental and Social Management Framework (ESMF) and a Resettlement Policy Framework (RPF): The RPF is presented under as a separate document.

2.2 Rationale for the ESMF

Specific project investments, especially the sub-projects to be financed by the World Bank Fund for Forest Partnership (FCPF), have not been clearly identified at this stage, but will be identified via a rolling application, screening, review, approval and financing process during the project implementation period. Hence, an ESMF is the appropriate tool for general impact identification, screening subprojects, and defining the required processes, measures and instruments to address adverse environmental and social impacts. The ESMF also provides a generic overview of physical and biological, as well as socio-economic baseline conditions in the regions of Mozambique where REDD+ projects will be implemented.

This ESMF is designed to guide mitigation and monitoring programs developed and implemented for REDD+ projects that may be implemented as part of the GoM national strategy for REDD+. To accomplish this, the ESMF includes a Framework of Execution Regulations (FER), which identifies the national policies, laws, regulations and safeguards that provide the legal framework for implementing the ESMF. Through its implementation, this ESMF will help ensure consistency in the mitigation measures employed for the different strategy options, ensure they comply with state laws and regulations as well as achieve international best practices standards. This ESMF has been developed for the Technical Unit of REDD+ (UT-REDD+), funded through the National Environmental Fund (FUNAB) and financially supported by the World Bank FCPF, and was overseen by the Review Technical Committee (RTC).

2.3 Purpose of the ESMF

The objective of this ESMF is to provide a framework for effective management of environmental and social issues associated with implementing the proposed REDD+ strategy options. The framework is flexible and broad reaching and therefore can be applied to revised or additional strategy options that may be presented in the Final REDD+ Strategy for Mozambique. In addition to adhering to GoM laws, policies, regulations and safeguards the ESMF identifies relevant World Bank operational policies and

performance standards as they pertain to the bio-physical and socio-economic and socio-cultural environment and other relevant international policies and standards (i.e., UNFCCC). Accordingly, this ESMF provides programmatic level guidance to help ensure international best practises are implemented when national, provincial and local policy level decisions are being made that may affect the bio-physical and social, economic and cultural environment.

Because the precise locations and potential impacts of future REDD+ related actions and projects are not yet known, and will not be identified prior to the appraisal of individual project proposals, this ESMF further provides the framework for conducting environmental impact assessments and environmental social impact assessments (EIAs and ESIAs) for project activities supported under the REDD+ strategy, as well as for developing environmental and social management plans (ESMPs).

The ESMF also seeks to provide guidance to both enhance environmental and social development benefits of REDD+ actions and projects in order to mitigate any adverse impacts, in line with both GoM laws, policies, regulations and World Bank safeguards policies for managing environmental and social issues related to development of activities.

The ESMF discusses several elements that were outlined in the Terms of Reference (Tasks 10-11 in Appendix 1):

- Institutional arrangements for implementing the ESMF
- Procedures and methodologies for the environmental and social assessment, review, approval and implementation of interventions, activities/projects to be implemented under the REDD+ Strategy, including:
    - A ***screening process*** to determine: (a) which interventions/projects will likely have moderate or significant environmental and social impacts and which will therefore require an EIA or ESIA, and which will likely require other responses such as the preparation of a Resettlement Action Plans (RAP), Vulnerable Community Development Plan (VCDP) or Gender Action Plan (GAP); and (b) those interventions/projects which are environmentally and socially benign and can proceed to further consideration without an EIA/ESIA or supplemental response plans (RAP, VCDP, or GAP). Such screening will signal where potential environmental and social risks may arise and, through the assessment and response steps, trigger consideration of measures to avoid, minimise or

mitigate them, as well as indicating where monitoring procedures of outcomes should particularly focus.

- Guidance on conducting environmental and initial environmental assessments (IESE) and EIA/ESIAs, conducting scoping for EIA/ESIAs and identifying mitigation measures to prevent or minimise negative impacts.

- A mechanism for ***monitoring the environmental and social outcomes*** of implementing the REDD+ strategy and arrangements for relevant ***stakeholder participation*** in this process – which specifies appropriate ***roles and responsibilities***; and an outline of the necessary ***reporting procedures*** for managing and monitoring environmental and social concerns related to projects implementation;

- Summaries of key GoM ***laws, policies and regulations*** and ***safeguards*** for managing environmental and social issues related to development activities and other safeguards (e.g. UNFCCC Cancun safeguards and World Bank safeguard policies); socio-economic status (SES) principles, standards and indicators.

To understand the level of EIA/ESIA and associated environmental management plans or environmental and social management plans (EMP/ESMP) that may be required for proposed REDD+ projects, it is first essential to understand the REDD+ strategies. A screening tool which can be used to determine whether an EIA/EMP or ESIA/ESMP will be required for a proposed REDD+ project is provided in Annexure A. A Programmatic level screening form is provided as Annexure B, and would be applied to pilot projects and for changes to national policies, laws and reguations for the REDD+ Strategy. Environmental assesment forms required by the GoM to be completed for review and approval are provided in Annexures C and D, as per Decree 45/2004 and 54/2015.

Overall, this ESMF sets out the structures and procedures for undertaking environmental and social due diligence for REDD+ implementation. Figure 1 provides an overview of how the interlocking elements of the ESMF process relate to each other; these elements are described in the subsequent sections of this document.

More detailed and focused management requirements to address environmental and social issues arising from specific and individual actions and projects to implement REDD+ will need to be dealt with under Environmental and Social Management Plans (ESMPs). The latter would be prepared through

Environmental and Social Impact Assessments (ESIAs) of those activities/projects, where triggered by screening.

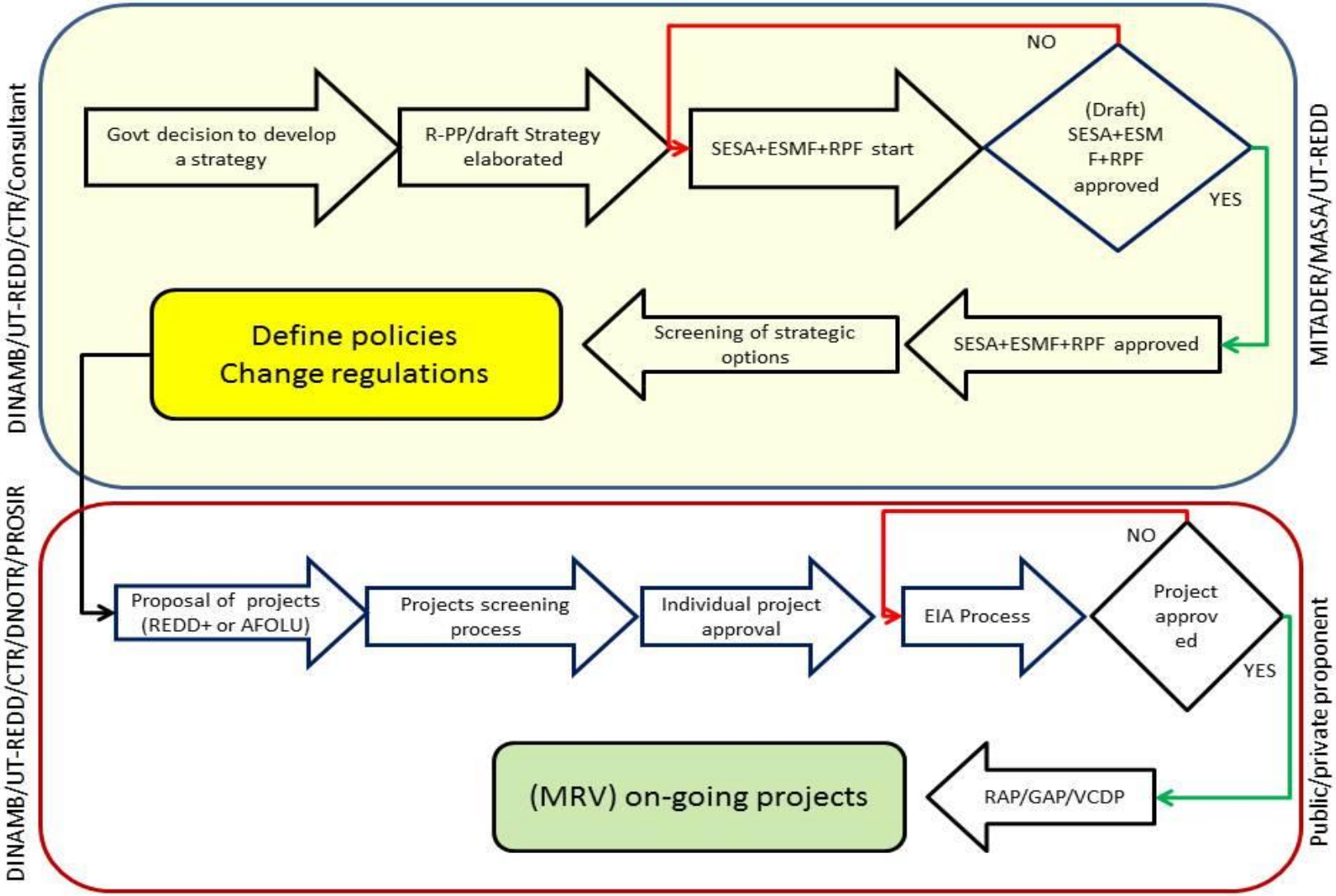

Figure 1 Flow Chart for ESMF Process, revised Jan 2016

2.4 Limitations of the ESMF

At the time of writing this ESMF, the REDD+ Strategy has yet to be finalized, creating a challenge for undertaking the SESA as well as preparing this ESMF. Without a strategy in place, there was nothing concrete to provide a clear focus for assessment or developing an environmental and social management framework. The proposed strategies were received by the SESA analytic team, led by Scott Wilson Mozambique (SWMOZ) in October 2015, after the community and stakeholder process was complete. As such, the SWMOZ Team had to interpolate community and stakeholder sentiments, regarding the potential environmental and social impacts of the scenarios retroactively, based on general information received during consultations. Additionally, at the time of writing this ESMF the GoM was in the process of restructuring its ministries after the October 2014 general elections. Although this restructuring process was captured in the SESA, new policies and legislation that were just starting to be developed at the time of writing the SESA will affect the implementation of the national strategy for REDD+ and are not captured in the SESA or in this ESMF.

Firstly, the institutional structures and mechanisms for managing and implementing the ESMF will need to be embedded in those for managing and implementing the overall REDD+ strategy. We envisage that some initiatives under REDD+ will be national in orientation (e.g. harmonisation of legislation and policies, or provision of financial incentives); others may be undertaken at regional or landscape level, and yet others at Provincial or local level. It is not clear what mechanisms will be established for such interventions. For the first two categories, we assume that interventions will be proposed and managed at the national level. For Provincial and local-level interventions, we assume that proposals will be solicited and developed, screened, and then passed to the national level for consideration and approval. Given the uncertainties, however, those mechanisms that we suggest for the ESMF and for screening are tentative only.

At the time the SESA and this ESMF were undertaken, Strategy Option 6 was not defined and therefore was not presented as a specific option during stakeholder consultation or community meetings. This strategy option was finally defined by the REDD+ strategy team in April 2016, and provided to the SESA team at that time. However, the types of actions associated with this option are captured in the Institutional Framework for REDD+ (SESA Section 4.10), Institutional Capacity Building (SESA Section 10.5), and Grievance Redress Mechanism (SESA Section 10.6) prepared for the SESA (SWMOZ, 2016: SESA for REDD+). This strategy option would be implemented through the implementation of the proposed institutional framework, institutional capacity building, stakeholder consultation framework and the grievance redress mechanism, all of which were included in the SESA and ESMF consultation. Given the late date of provision of this newly titled strategy option to the SESA team (five days before

the final SESA was due to UT REDD), and absence of actions defined by the REDD+ Strategy Team associated with the new option title, this option was not included in the SESA analysis. However, through the types of actions that are anticipated under this strategy, in associaition with institutional coordination and stakeholder consultation, Mozambique's institutional policies, and laws and regulations pertaining to environmental and social management would be implemented. Similarly, any actions that are implemented under this strategy option must follow this ESMF and the RPF prepared for the REDD+ strategy.

2.5 Methodology and proposed REDD+ Strategy Options

2.5.1 Methodology

Based on the findings of the SESA, this ESMF was developed to address potential environmental and social impacts associated with the implementation of the proposed REDD+ strategy options. This included:

15. Stakeholder Consultation. Stakeholder engagement (SE) and community meetings were held (list locations and dates) to discuss the REDD+ national strategy, including potential environmental and social impacts, capacity building requirements, local training that might be needed to involve community members in new types of jobs (e.g., forestry plantations), potential mitigation measures that would be implemented to reduce potential adverse environmental and social impacts resulting from the REDD+. A critical part of these meetings was identifying community obervations about potential opportunities, and any concerns they had regarding how REDD+ strategies might affect their livlihoods, etc. Information derived from the SE and community meetings were incorporated into the SESA, and this ESMF.
16. Policy Analysis. Beta Nemus was retained by UT REDD to perform an analysis of existing institutional policies, regulations and laws to determine gaps that may need to be filled for the successful implementation of REDD+ in Mozambique. SWMOZ consulted with Beta Nemus and reviewed their reports to obtain insights to institutional capacity building that would be needed to implement REDD+, as well as identify gaps in existing policies that could hinder successful implementation of REDD+.
17. Legal Analysis. SWMOZ policy analysts reviewed all national laws and regulations and determined which would directly apply to the successful environmental and social management of the REDD+ strategy implementation, including the EIA process. National

policies, laws, regulations and environmental, social strategies were further reviewed against international treaties and conventions to which Mozambique is party, as well as International Finance Corporation (IFC) Performance Standards (1-8), and World Bank Operational Policies, to determine whether these national laws etc., achieved the objectives of these international conventions, standards and polcies.

18. Legal Framework for this ESMF. Based on the results of the policy analysis and legal analysis, the ESMF presents a step by step framework to guide users in the processes that must be followed for implementation of REDD+ projects (e.g., projects that apply for carbon credit), as well as for strategy programs that may be developed in the future to support REDD+ implementation in Mozambique (e.g., strategies like MozBio).
19. Insitutional Framework Analysis. SWMOZ policy analysts consulted with UT REDD and MITADER to identify the institutional framework that would provide oversight of REDD + strategy implementation.
20. Monitoring and Reporting Procedures. SWMOZ consulted with UT REDD and MITADER to identify roles and responsibilities for supervising and monitoring REDD+ projects.
21. High Level Mitigation Measures for Environmental and Social Impacts. Based on a review of actions associated with the REDD+ Options, and stakeholder and community consultation, SWMOZ determined the types of environmental and social impacts that might occur as a result of implementation of REDD+ strategy option projects. Based on professional experience and a review of ESMF's prepared for other REDD+ projects (list), SWMOZ identified "high level" mitigation measures that might be implemented to help mitigate these potential impacts. Project specific mitigation meaures can only be developed at the project stage, as an EA will be required to determine project specific risks.

2.5.2 Proposed REDD+ Strategy Options for Mozambique

The draft REDD+ national strategy identifies a range of land use related and natural resource exploitation practices as the direct causes of deforestation and forest degradation. Despite these practices contributing to deforestation and forest degradation, they are also central to the rural economy and significantly contribute to the national economy. These practices are greatly influenced by limited technology, social and economic factors but also, and perhaps most significantly, by the weak institutional governance in sectors with direct or indirect impact on forest cover in Mozambique. Because of this, the strategy recognizes the need for combined and coordinated interventions that aim to:

A. Improve natural resource governance system;

B. Ensure economic and financial feasibility of the production process, transformation and utilization of goods and services in strategic sectors;

C. Provide and facilitate access to alternative technologies to prevent deforestation and forest degradation;

D. Integrate social and cultural interventions to reduce deforestation and forest degradation.

The national strategy identifies 6 strategic actions which address the factors outlined in A-D above, as illustrated in Table 7.

Table 7 Proposed REDD+ strategy options in Mozambique

Priority actions (priority sector or strategic actions)	Pillars (barriers)			
	Governance	**Economic**	**Technology**	**Socio-cultural**
SO.1 Agriculture	• Implementation of ZEAN • Implementation of agrarian policies	• Commercialization system • Access to agriculture inputs	• Alternatives to itinerant agriculture	• Improve technology and access to markets
SO. 2 Energy	• Implement new and renewable energy policies	• Support low income communities' access to alternative clean energy • Support forest plantations for energy	• Increase access to alternative energy to biomass	• Capacity and promotion to support the use of alternative energy in urban areas
SO3. Conservation areas	• Enhance the management system of conservation areas	• Develop income generating activities within conservation areas	• Improve infrastructure and conservation areas management	• Community land use compatible with conservation
SO 4. Sustainable forest management	• Apply sustainable forest management principles	• Reduce the impact of illegal logging and enhance the concession system	• Support access technology that add value to forest products	• Capacity building of forest workers and improve the relationship between concessionaries and communities
SO 5. Forest plantation	• Improve business environment for forest plantations	• Create alternative sources of income for members of communities whose livelihoods are affected by REDD+	• Provide support for plantations that are adequate with correct species, site and market	• Expand tree plantations

		• Strengthen the economic income derived from		
SO 6. Institutional Coordination and Stakeholder Engagement	• Adequate use of legislation and institutions to reduce deforestation and forest degradation, and implement coordinated and sustainable land use planning across all ministries in the future	• Institutional coordination and stakeholder consultation to identify sustainable economic growth for the country, that does not promote deforestation and land degradation	• Institutional coordination and stakeholder consultation to identify sustainable technologies for implementation in the reduction of deforestation and land degradation	• Institutional coordination and stakeholder consultation to raise awareness of forest conservation issues in Mozambique, identify sustainable solutions to reducing deforestation and degradation that also support traditional social /community networks and cultural identity

As noted under Section 1.3 Limittions of the ESMF, Strategy Option 6 title was only made available to the SESA strategy team on April 21, 2016, and no associated actions were provided. The information presented in the pillars cells for this Strategy Option reflect the SESA team's interpretation of how this strategy will contribute to the goals of the REDD+ strategy., based on discussions with strategy authors – but as of April 25, 2016, a definition of this strategy option was not available.

3 Overview of REDD+ Strategy Options for Mozambique

The REDD+ national strategy seeks to reduce CO_2 emissions from deforestation and forest degradation and secure sustainable management of forests, forests conservation and enhance carbon stocks and reduce GHGs, as defined by UNFCCC COP 16. . The draft strategy options are designed to address priority drivers of deforestation and degradation identified, namely, subsistence farming (itinerant farming), urban and infrastructure expansion, wood and forest products exploitation, firewood and charcoal production, commercial agriculture, livestock and mining activities.

3.1 Proposed REDD+ Strategy Options

In the following sections brief background information is presented under each of the proposed REDD+ national strategy options to provide a context for the evaluation of these options. This background information is derived from a combination of literature review, results from stakeholders' consultations and evidences from project site-visits in Cabo Delgado, Zambézia, and Gaza provinces. A more detailed description of the options is provided in the SESA (SWMOZ 2015), and the draft strategy (Sitoe et al. 2015).

3.1.1 Option 1: Promoting alternative practices to itinerant agriculture

In order to reduce deforestation and degradation resulting from agriculture activities, the REDD+ national strategy intends to promote sustainable agriculture through diverting commercial agriculture into non-forest areas, agro-forest systems adapted to each region, and best practices of livestock and pasture management.

3.1.1.1 Subsistence and commercial farming

Agriculture is the most important economic activity in Mozambique. About 80% of Mozambicans report agriculture as a livelihood and the sector comprises 29% of the country's GDP (World Bank 2013). There about four million smallholder farming families in the sector; the majority growing food crops of which approximately 66% is for consumption and 16% are cash crops.

Slash-and-burn or shifting cultivation is the traditional agricultural system practiced widely in tropical moist forests and deciduous woodlands, and also in northern and other parts of Mozambique. It is often perceived as degrading and destructive and should be stopped. However recent research suggests that recovery of the natural miombo forest takes place faster than originally thought as the rootstocks of the

trees remain in the ground in this type of cultivation, and hence regrowth can take place. (Geldenhuys, 2015)

3.1.1.2 Conservation agriculture (CA)

The FAO defines three broad principles that make up CA: minimum or reduced soil disturbance, maintaining a permanent soil residue or vegetative cover, and crop rotations or intercropping with legumes (FAO, 2002). It is associated with the reduction in labor requirement for land preparation, improved soil fertility and improved water stress in crops, making it vital in the context of regional impacts of climate change which is marked by increased temperatures and erratic rainfall.

Though CA appears to be relatively a new development its practice dates back to mid-90s when Mozambique introduced it with the view of increasing smallholder productivity, minimizing soil erosion, increasing soil fertility and improving drought tolerance. Since then, there has been a surge of multiple CA projects implemented by government, Non-Governmental Organisations (NGOs) and international development institutions across different agro-ecological conditions.

Two sites were visited, as part of the fieldwork undertaken for this SESA, with recent experience in implementing CA projects, one having been implemented by the Agha Khan Foundation (AKF) in the Quirimbas National Park (QNP) and another by IGF Foundation in the Gilé National Reserve (GNR).

3.1.1.3 Introduction of perennial crops

Some of the perennial crops (especially coconut, cashew and tea) indicated in the proposed REDD+ national strategy are not entirely a new development in Mozambique. They date back to the 1960s or 1970s when these crops were introduced under the colonial rule. The inclusion of perennial crops in the REDD+ strategy is largely associated with climate change mitigation through carbon sequestration, but also because of the ability of perennial crops to provide timber and non-timber products which are important to communities.

3.1.2 Option 2: Energy

The proposed REDD+ national strategy establishes the promotion of alternative sources of energy to biomass in urban areas and efficient utilization of biomass as the second strategy option. This option envisages the promotion of improved and efficient cook stoves.

3.1.2.1 Firewood and charcoal production

The Global Alliance for Clean Cook Stoves estimate that wood fuel emissions alone are equivalent to approximately 25% of global emissions from deforestation in the tropics. If wood fuel is unsustainably harvested, increased wood fuel consumption is likely to lead to localized degradation of forest.

The relationship between firewood, charcoal production and deforestation and degradation in Mozambique has been widely examined (see Sitoe et al., 2007). Large amounts of fuel wood (firewood and charcoal) are collected in the woodlands. Wood is used in most rural households to cook food, and different dimensions of wood are used to cook different types of food.

Observations from fieldwork suggest charcoal production has a lesser impact on Miombo woodland than slash-and-burn agriculture, with the major impact at the site where the pile of wood is burnt. In the surrounding area most of the larger trees may have been removed and regrow vegetatively, with smaller trees not cut. Sometimes these charcoal production sites are the initial step for preparation of a slash & burn site. General observation suggests that there is room for better utilization of the cut trees (such as for charcoal production) in site preparation for crop cultivation. However, the burning of the branches and stems left on site after stand clearing for crop cultivation is important to release the nutrients that are needed for productive crops.

The socioeconomic role of charcoal and firewood production is undeniable. Thousands of household have this activity as their means of livelihood across the country. This is even relevant for households in areas where food production is challenging due to agro-ecological situation, especially in the southern region of Mozambique.

The social and environmental impacts of charcoal production are widely documented and these impacts range from health issues of producers relating to air pollution, GHG emission, deforestation and depletion of woodland, gender and labor issues.

Thus, addressing sustainability issues (social and environmental) relating to charcoal production should consider important key steps in the value chain- the site where forest resources for charcoal production are derived (step 1); the actual process of charcoal production (step 2); the transportation process (step 3) and the end user (step 4). Using criteria such as GHG balance; biodiversity; food production, local prosperity and level of welfare, the table above provides important insights into possible aspects to take into account if the proposed strategy option of introducing sustainable production of charcoal is accepted. This framework will be further used to derive major socioeconomic and environmental issues associated with the option under section “assessment of results”.

3.1.2.2 Forest plantations for energy production

The REDD+ national strategy envisages as part of its broader strategic option 2 to promote forest plantation for energy production, i.e. firewood and charcoal, as there is much deforestation taking place to supply fuel needs of people, mostly in urban areas. Like other proposed strategic options, promoting forest plantations for energy dates back to colonial periods. In the 1920s the first forest department was established and it was during this period when the Marracuene and Limpopo wood fuel plantations were first established.

3.1.2.3 Sustainable use of biomass, improved and efficient cookstoves

Another important component of the strategy option 2 is the use of the sustainable use of biomass through the introduction of efficient and improved cookstoves as discussed previously.

3.1.3 Option 3- Conservation areas

The REDD+ national strategy option 3 proposes that conservation areas be enhanced and generate income for communities. According to this strategy, this would encompass improvements of the management regime and protection of conservation areas with natural forest, including parks, reserves and game hunting. This section presents the current situation of land use practices impacting on the forest cover on the ground as noted in reports and published literature, observations on the ground during field trips and views aired by stakeholders during fieldwork.

3.1.3.1 Protected areas, from National Parks to Nature reserves to Forest reserves

National Parks, designed purely for the protection of nature, are managed by ANAC (National Administration of Conservation Areas) of the Ministry of Tourism under Resolution No. 8/2014, of 13 June. No resources may be extracted and no settlements are allowed within this category. Many of the parks are co-managed with international funding, e.g. Gorongosa NP which is jointly managed with the Gorongosa Restoration Project.

3.1.4 Option 4 – Sustainable Forest Management

The REDD+ national strategy envisages promoting the forest concession system with value added to the forest products. This involves enhancing sustainable forest management (including forest concessions of native forest) and promoting development of value chain of non-timber forest products (NTFP). Forest production in Mozambique is divided in two major activities: (i) exploitation of native forest, based on selective trees cut under a long term concession regime (up to 50 years) or simple or short-term licenses (up to 5 years); (ii) forest plantations focusing on production of exotic trees for timber and non-timber products.

3.1.4.1 Timber concessions

Timber concessions are managed by the Department of Forestry and Wildlife and generally allocated to private operators under long-term timber concessions or annual licenses, but local communities are also eligible. Timber concession management is based on single-tree timber harvesting, minimum tree size limits for cutting timber species, planting to replace harvested trees, but no silvicultural management.

3.1.5 Option Area 5 – Business Environment for Forest Plantations

The REDD+ national strategy has as one of its strategic options the improvement of the business environment for forest plantations, including the day-to-day relationship between the forest companies and local communities. More specifically, the option includes the facilitation for forest companies to establish their business in deforested and degraded areas or with other non-forest cover.

In Mozambique there are two different systems are used to grow wood with introduced tree species: (i) large-scale commercial forestry plantations for poles, pulpwood and saw timber products; and (ii) small-scale woodlots to provide alternative sources for poles and fuel wood.

3.1.5.1 Commercial plantation forestry

Development of forestry plantations in Miombo woodland raises many concerns. The main areas of commercial plantation forestry seem to be in the Chimoio area and parts of the Sofala, Zambézia and Niassa Provinces.

3.1.5.2 Small-scale woodlots for poles and fuelwood

In various areas the intensive agricultural practices have left large areas with few to no Miombo trees in the landscape. There is always a need for fuelwood and many areas also a need for poles for construction of various kinds. Various organizations have planted woodlots to provide in those needs. In some places Forestry may have planted woodlots to provide in such needs. NGO's also often promote the planting of woodlots of indigenous or introduced species to provide in pole and fuel wood needs.

4 The Legal and Institutional Framework for REDD+

4.1 Legal Framework

Mozambique's national policies, laws, legislation and safeguards were reviewed to identify potential gaps that would need to be filled to ensure REDD+ could be implemented sustainably and with minimal impact to the bio-physical, socio-economic and socio-cultural environment. Additionally, international conventions/treaties to which Mozambique is a signatory country were reviewed to identify the GoM's commitments to international standards of environmental and social management. World Bank policies and performance standards which the GoM is committed to upholding were also reviewed.

Relevant national laws and legislation are summarized in Table 8; national strategies are summarized in Table 9; and international conventions/treaties to which Mozambique is a signatory country, and World Bank policies and performance standards are summarized in Table 10.

Table 8 National Mozambican legislation

Law or Legislation	Key Description
Constitution of the Republic of Mozambique, 2004	Guides environmental, social, health and safety policy and laws in Mozambique to protect the nation's citizens, help ensure their health, safety and security, rights to appreciate and enjoy nature and provide quality of life.
Law on the Protection of Cultural Heritage, Law No. 10/88 of December 22, 1988	The objective of this law is to ensure the legal protection of the tangible (e.g. archaeological and historical sites, sacred places, monuments) and intangible (e.g. traditional knowledge, indigenous language, craft skills) assets forming part of the cultural heritage of Mozambique.
Burial Regulations, Decree No. 42/90 of 29 December	This law provides legislation covering the exhumation and reburial of corpses in urban and rural areas.
Land Law, Law No. 19/97 - 1 October	As a universal means of wealth creation and social welfare, the use and enjoyment of land is the right of all Mozambicans. This Act established the terms for the establishment, exercise, modification, transfer and termination of rights of use and benefits of land. The Land Law confirms the Constitutional Principle of State ownership of all land and both ratifies and simplifies the processes of government allocations of State land.
Environment Frame Law, Law No. 20/97 of 1 October	Mozambique's Constitution confers on every citizen the right to live in a balanced environment as well as the

	duty to defend this right. The law defines public rights, namely the right to information, education, and access to justice.
Forest Law and Wildlife Law, Law No. 10/99 of 7 of July; as amended	The objectives to be pursued under this Act are to protect, conserve, develop and rationally use sustainable forest and wildlife resources for the economic, social and ecological benefit of current and future generations of Mozambicans. This law applies to protection activities, storage, use, exploitation and production of forest and wildlife resources, and covers the marketing, transportation, storage and primary processing, trade or industrial applications of these resources.
Tourism Law, Law No. 4/2004 17 June 2004	This Law establishes the legal framework for promoting and carrying out tourism activities, while respecting the forest, faunal, mineral, archaeological and artistic heritage, which should be preserved and passed on to future generations. The tourism law promotes preservation of historical and cultural values, promotes national pride, and contributes to the harmonious and balanced development of the country. The law was established to promote the conservation of biodiversity and marine and land ecosystems.
New Labour Law, Law No. 2007; 11 May 2007	The new labour law protects the rights of children, pregnant women, women nursing babies, men and women with new born babies to have paternity/maternity leave. The law also stipulates provision of safety and security at work, and right to compensated medical aid for persons injured at work.
Territorial Planning Law, Law No. 17/2007 of 18 July	The Territorial Planning Law stipulates that expropriation for public interest gives rise to the payment of fairly calculated compensation in order to compensate for the loss of tangible and intangible goods and productive assets as well as the disruption of social cohesion. This is supported by Article 86 of the New Constitution of Mozambique on The Right of Eminent Domain, which states that individuals and entities have the right to equitable compensation for expropriated assets and the right to a new and equal plot of land.
Law on Spatial Planning and its Regulation, Law No. 2007/19	According to the Law of Spatial Planning and its Regulation, when necessary, the State can request and expropriate land under public interest - as in the case of economic development and construction of infrastructure. However, expropriation must be preceded by a statement of need of public interest in

	relation to the area to be expropriated, including the respective justifications. Right's holders of land to be expropriated shall receive a letter of notification that contains a copy of the declaration of the expropriation, or describe the goods to be expropriated.
Decree-Law 1/2011, of 23 March – road code	The provisions of this Code are applicable to transport on roads which are within the public ownership of the State, and on roads which are privately owned, when these are open for public transport.
Protection, Conservation and Sustainable use of Biological Diversity, Law no. 16/2014 of 20 of June	This law has as its main objective the establishment of the basic principles and norms for the protection, conservation, restoration and sustainable use of biological diversity in the conservation areas. The law is applicable for all groups of natural resources existing in the national territories and waters under national jurisdiction.
New Mining Law, Law No. 14/2002 of 26 June, mining law, as amended 20/2014 of 18 August	The Mining Law establishes the general principles for the use and exploitation of mineral resources, access to and the exercise of prospecting and research activities, development and production, processing and sale of mining products, including mineral water (and excluding hydrocarbons, which are subject to their own law). Mining operations have preferential use of the land, even if the land has been previously granted to a third party. However, a compensation scheme might be imposed if the use of the land for mining purposes imposes an economical limitation on the land. Should such compensation be settled, the holder of the mining rights cannot be stopped from carrying out any mining activity.
EIA Regulation (Decree No. 45/2004 of 29 September) New EIA Regulation (Decree No. 54/2015 of 31 December)	There is a new decree that replace the Decree No. 45/2004 of 29 September: This Decree covers the following points: categorization of projects and subprojects (A+, A, B, C); EIA expertise in the field; EIA procedure; initial assessment; Rating criteria; Technical Evaluation Committee (Members, operation, etc.); Summary terms of reference; Process of public participation; evaluation procedures of the EIA; environmental agreement; consultation procedures. The Ministry of land, Environment and Rural development (MITADER), which operates at central and provincial level, is responsible for regulating the environmental impact assessment procedures (EIA)

	in Mozambique. The main entity in this process is the National Directorate of Environmental (DINAB). MITADER also has a mandate to monitor the EIA compliance during construction and implementation of the project, where appropriate. However, it continues to be the project proponent's responsibility to ensure that standards and identified mitigation measures are met.
(UT – REDD) Decree No. 70/2013, of 20 December	Approves the Regulation of Procedure for approval of REDD + projects and creates the REDD Technical Unit + (UT-REDD +) and the Technical Committee Review process of REDD +, which are subordinated to the ministers that oversee the areas of Environment and Agriculture. Under Article 7, the UT-REDD + is the unit responsible for implementation of activities related to REDD +
Decree No. 31/2012, of August 8 - Regulation on the Resettlement Procedure Resultant from Economic Activities	Clarifies and guides the steps to be followed and the products to be present in the different stages of the process, and focusing on the reasons, in its political and legal framework, in the process of resettlement plans, the process of consultation and public participation, in the approval and implementation of the resettlement plan, monitoring and supervision of implementation
Water Law - Law No. 16/91 of 03 August	The objective of this law is to define, with respect to, interior waters: • Water in the public domain of the State, and general management policy; • The general legal framework governing the activities of protection and conservation, inventorying, use and appropriation, control and monitoring of water resources; • The powers of the Government, as regards water in the public domain.
Disaster Management Law (No 15/2014 of 20 of June)	This law's main objective is the establishment of the legal framework for disaster management. This includes prevention, mitigation of negative impacts of natural disasters, development of action plans to help and assist those affected by natural disasters, as well as action plans for reconstruction and recovery of affected areas. Disaster management includes policies, mitigation and prevention plans and strategies, with the aim to avoid or reduce the impact of natural disasters in communities.

	Article 13 (disaster management plans) states that part of the national disaster management plan should take into account the following risk occurrence of: • Flooding • Drought • Cyclones • Bushfires • Fires • Epidemics • Erosion • Land subsidence • Spillage of hydrocarbons

Table 9 National Strategies

National Strategy	Key Description
The Strategy and its Action Plan for the Conservation of Biological Diversity in Mozambique 2003-2010	The strategy was designed in order to define implementation mechanisms of the Convention on Biodiversity. This strategy identifies the challenges and priorities to reduce deforestation and the degradation of flora and fauna and the increase of carbon by introducing constant and flexible monitoring of ecosystem components and systems of the species; diversification of species exploited for production of wood to reduce the pressure in less than a dozen species of a set of more than one hundred; monitoring the use of firewood and charcoal; limitation of uncontrolled fires; promoting the replacement of native and exotic species commercially exploited in order to ensure the maintenance of currently reforested areas and prevent the spread of these; identification of multiple use zones of forest resources and design of integrated management plans, including non-timber forest products; creation of community systems to regulate and control the extraction of forest products timber and non-timber; facilitate the acquisition of inputs (through credit) for family farming; promote the link between the commercial and household sectors in land allocation; promote the development of agro-industries and export of cash crops; improving knowledge about genetically modified organisms and eradicate invasive species and ultimately strengthen the supervision and monitoring of the use of natural resources.
National Water Policy, approved by Resolution no. No. 46/2007 of 21 August.	This policy is based in a vision, reflected in water availability "in adequate quantity and quality for

	present and future generations, serving for sustainable development, poverty reduction and promotion of the welfare and peace and where to minimize the negative effects of floods and droughts "
Agriculture and Natural Resources Strategy (2010)	The strategy focussed on the country's existing agricultural potential, in order to transform it into a source of wealth, improve the welfare of the population and enhance the socio-economic development of the country. The strategy also introduced measures to help protect natural resources, reduce deforestation and desertification, and reduce wildfires.
National Adaptation Strategy and Climate Change Mitigation (NASCCM) for the period 2013-2025.	The NASCCM includes an action plan for 2013-2014, and strategic and priority lines to adopt and implement for 2013-2025. Climate Change (CC), defined as changes in climate (in temperature and precipitation patterns) attributed to human activities and that are in addition to the natural variability of climate observed over comparable time periods, are a key factor in the development process and are recognized as the greatest risk to the achievement of development targets, especially for least developed countries. The primary objective of the NASCCM is to establish guidelines for action to build resilience, including reducing climate risk, communities and the national economy and promote the development of low carbon and green economy by their integration into the sector planning and local process. This strategy is designed to help achieve the objectives of the UNFCCC and UNCCD.
Draft National Strategy for REDD+ (2016)	Proposes a strategy for reducing the amount of Greenhouse gas emissions emitted in Mozambique; and the means of reducing deforestation and desertification, and evaluates the financial benefits to the nation's citizens of implementing REDD+, including selling carbon credits to industrialised countries such as the USA. This strategy is designed to help achieve the objectives of the UNFCCC and UNCCD.
National Rhino and Ivory Action Plan (NIRAP). March 2015	The key objective of the NIRAP is to step up the existing efforts to control the illegal rhino horn and ivory trade as well as elephant poaching in Mozambique though enhanced cooperation between different Government Agencies, increased cooperation with neighbouring countries and with the support of conservation partners. The NIRAP is designed to achieve the objectives of CITES.

Environmental Strategy for Sustainable Development of Mozambique, 2007	The environmental strategy for sustainable development addresses land and resources. The long-term vision is to ensure equitable access to land and general management and exploitation of natural resources so that they maintain their functional and productive capacity for present and future generations as to Mozambique. Agriculture It plays a key role in addressing the issue of meeting the needs of a growing population and is inextricably linked to poverty eradication. So the access and security of tenure of land and other natural resources are essential for the implementation of an integrated approach for increased food production and consolidation of food security in an environmentally sustainable manner.

Table 10 International Guidelines, Standards and Conventions to which Mozambique is a signatory party.

International guideline, standard, convention	Key Description
Kyoto Protocol, 1997 and UNFCCC, 1992	The Kyoto Protocol (1997) is an international agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC, 1992), and binds countries that have ratified the protocol to reduce and ultimately cap their greenhouse gas emissions (GHGs). Although Mozambique has signed the UNFCCC, ratified the Kyoto Protocol and agreed to the Copenhagen Convention, as a developing country no binding targets to reduce GHGs have been established. However, the country has indicated its commitment to reducing GHGs.
Equator Principles	The Equator Principles are based on the International Finance Corporation (IFC) Performance Standards on social and environmental sustainability, and on the World Bank Group's Environmental, Health and Safety general guidelines. The Equator Principles recognize that the Social and Environmental Assessment process provides the opportunity to determine the social and environmental impacts and risks of a proposed project in its area of influence.
World Bank and IFC Performance Standards (PS 1-8)	The World Bank's environmental and social safeguard policies are a cornerstone of its support to sustainable poverty reduction. The objective of

	these policies is to prevent and mitigate undue harm to people and their environment in the development process. These policies provide guidelines for bank and borrower staffs in the identification, preparation, and implementation of programs and projects. World Bank Performance Standards for conducting environmental, social impact assessments provide guidelines that help protect the natural, social, and cultural environment as well as help ensure the health and safety of workers and members of the community. World Bank Performance Standards on Social and Environmental Sustainability include: PS 1: Assessment and Management of Environmental and Social Risks and Impacts PS 2: Labour and Working Conditions PS 3: Resource Efficiency and Pollution Prevention PS 4: Community Health, Safety, and Security PS 5: Land Acquisition and Involuntary Resettlement PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources PS 7: Indigenous Peoples PS 8: Cultural Heritage IFC Performance Standards closely parallel the World Banks PS 1-8.
Ramsar Convention on Wetlands	The Ramsar Convention is an intergovernmental treaty that provides the framework for national action and international cooperation for "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world". (Special Reserve Marromeu - This conservation area was established by Legislative Diploma No 1982 of 8 June 1960, in order to protect the largest population of buffaloes in the world. that the reserve belongs to the Marromeu complex, a place listed in the RAMSAR. It is located in Marromeu district of Sofala, and covers an area of 1500km2.
The World Heritage Convention (WHC)	The WHC sets out the duties of States Parties in identifying potential sites and their role in protecting and preserving them. By signing the Convention, each country pledges to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage.
The International Convention on International Trade in	CITES is a multilateral treaty to protect endangered

Endangered Species (CITES)	plants and animals. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species in the wild, and it accords varying degrees of protection to more than 34,000 species of animals and plants.
Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or Bonn Convention)	The Bonn Convention aims to conserve terrestrial, aquatic and avian migratory species throughout their range. It is an intergovernmental treaty, concluded under the aegis of the United Nations Environment Programme, concerned with the conservation of wildlife and habitats on a global scale.
Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, 1987	The Governments of the Republic of Botswana, the People's Republic of Mozambique, the United Republic of Tanzania, the Republic of Zambia, and the Republic of Zimbabwe, are Parties to this Agreement. As a member country of the agreement, Mozambique has made a commitment to environmentally sound management of the Zambezi River, its tributaries and the aquifers that flow to the Zambezi River.
The United Nations Convention to Combat Desertification (UNCCD) was adopted in June 1994 and entered into force on 26 December 1996.	The objective of this Convention is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements,
Convention for the Safeguarding of the Intangible Cultural Heritage is a UNESCO treaty adopted by the UNESCO General Conference on 17 October 2003.	Intangible cultural heritage refers to "traditions or living expressions inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts" At the national level, State Parties are supposed to 'take necessary measures to ensure the safeguarding of the intangible cultural heritage present in its territory."

4.1.1 World Bank Safeguard Policies and Program-for-Results Financing Policy

In addition to the above laws regulations and international conventions guding implementation of the REDD + strategy in Mozambique, the World Bank's Safeguard Policies will play a critical role on how REDD+ is implemented, and the mitigation and monitoring measures employed for REDD+.

The World Bank's environmental and social ("safeguard") policies are designed to avoid, mitigate, or minimize adverse environmental and social impacts of projects supported by the Bank. The Bank encourages its borrowing member countries to adopt and implement systems that meet these objectives while ensuring that development resources are used transparently and efficiently to achieve desired outcomes.

4.1.1.1 World Bank Operational Policy on Environmental Assessment: OP 4.01

The World Bank Operational Policy on Environmental Assessment (O.P. 4.01) is a key driver for this ESMF. First and foremost, the Bank requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. The Bank advises the borrower on the type of EA that will be required for a project based on the type of project proposed. The range of environmental and social assessments that may be conducted include: 1) Environmental Impact Assessment (EIA); 2) regional or sectoral EA; 3) Strategic Environmental and Social Assesment (SESA); 4) Environmental Audit; 5) Hazard or Risk Assessment (HA or RA); 6) Environmental Management Plan (EMP), and; 7) Environmental and Social management Framework. The borrower is required to carry out the EA, which is reviewed by the bank and only approved if all conditions of the EA are met.

In addition to the above points, paragraphs within O.P. 4.01 that are directly relevant to this ESMF include:

Par. 2: EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. The Bank favors preventive measures over mitigatory or compensatory measures, whenever feasible.

Par. 3: EA takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and physical cultural resources); and transboundary and global environmental aspects. EA considers natural and social aspects in an integrated way. It also takes into account the variations in project and country conditions; the findings of country environmental studies; national environmental action plans; the country's overall policy framework, national legislation, and institutional capabilities related to the environment and social aspects; and obligations of the country, pertaining to

project activities, under relevant international environmental treaties and agreements. The Bank does not finance project activities that would contravene such country obligations, as identified during the EA. EA is initiated as early as possible in project processing and is integrated closely with the economic, financial, institutional, social, and technical analyses of a proposed project.

Par. 5: The Bank advises the borrower on the Bank's EA requirements. The Bank reviews the findings and recommendations of the EA to determine whether they provide an adequate basis for processing the project for Bank financing. When the borrower has completed or partially completed EA work prior to the Bank's involvement in a project, the Bank reviews the EA to ensure its consistency with this policy. The Bank may, if appropriate, require additional EA work, including public consultation and disclosure.

Par. 8: The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA. The Bank classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

(a) Category A: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. EA for a Category A project examines the project's potential negative and positive environmental 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 performance.

(b) Category B: A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas--including wetlands, forests, grasslands, and other natural habitats--are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A EA. Like Category A EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. The findings and results of Category B EA are described in the project documentation (Project Appraisal Document and Project Information Document).

(c) Category C: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

(d) Category FI: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

Par. 13: When the borrower has inadequate legal or technical capacity to carry out key EA-related functions (such as review of EA, environmental monitoring, inspections, or management of mitigatory measures) for a proposed project, the project includes components to strengthen that capacity.

Par. 14: For all Category A and B projects proposed for IBRD or IDA financing, during the EA process, the borrower consults project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, the borrower consults these groups at least twice: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) once a draft EA report is prepared. In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them.

Par. 15: For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B projects proposed for IBRD or IDA financing, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.

Par. 19. During project implementation, the borrower reports on (a) compliance with measures agreed with the Bank on the basis of the findings and results of the EA, including implementation of any EMP, as set out in the project documents; (b) the status of mitigatory measures; and (c) the findings of monitoring programs. The Bank bases supervision of the project's environmental aspects on the findings and recommendations of the EA, including measures set out in the legal agreements, any EMP, and other project documents

Other World Bank Policies which shall be considered by REDD+ projects, are listed in Table 11.

Table 11 Sumary of World Bank Operational Policies that apply to REDD+, their objectives and how they are triggered.

Policy	Objective	Trigger for the Policy
OP/BP 4.04 Natural Habitats	This policy recognizes that the conservation of natural habitats is essential to safeguard their unique biodiversity and to maintain environmental services and products for human society and for long-term sustainable development. The Bank therefore supports the protection, management, and restoration of natural habitats in its project financing, as well as policy dialogue and economic and sector work. The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. Natural habitats are land and water areas where most of the original native plant and animal species are still present. Natural habitats comprise many types of terrestrial, freshwater, coastal, and marine ecosystems. They include areas lightly modified by human activities, but retaining their ecological functions and most native species. This bank policy prohibits financing for developments that would significantly convert or degrade critical natural habitats, and preference is on siting projects on already converted land.	This policy is triggered by any project (including any sub-project under a sector investment or financial intermediary) with the potential to cause significant conversion (loss) or degradation of natural habitats, whether directly (through construction) or indirectly (through human activities induced by the project).
OP/BP 4.36 Forests	The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development and protect the vital local and global environmental services and values of forests. Where forest restoration and plantation development are necessary to meet these objectives, the Bank assists borrowers with forest restoration activities that maintain or enhance biodiversity and ecosystem functionality. The Bank assists borrowers with the establishment of environmentally appropriate, socially beneficial and economically viable forest plantations to help meet growing demands for forest goods and services.	This policy is triggered whenever any Bank-financed investment project (i) has the potential to have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests; or (ii) aims to bring about changes in the management, protection or utilization of natural forests or plantations.
OP 4.09 Pest Management	The objective of this policy is to (i) promote the use of biological or environmental control and reduce reliance on synthetic chemical pesticides; and (ii) strengthen the capacity of the country's regulatory framework and institutions to promote and support safe, effective and environmentally sound pest management. More specifically, the policy aims to (a) Ascertain that pest management activities in Bank-financed operations are based on integrated approaches and seek to reduce reliance on synthetic chemical pesticides (Integrated Pest Management (IPM) in agricultural projects and Integrated Vector Management (IVM) in public health projects. (b) Ensure that health and environmental hazards associated with pest	The policy is triggered if : (i) procurement of pesticides or pesticide application equipment is envisaged (either directly through the project, or indirectly through on-lending, cofinancing, or government counterpart funding); (ii) the project may affect pest management in a way that harm could be done, even though the project is not envisaged to procure pesticides. This includes projects that may (i) lead to substantially increased pesticide use and subsequent increase in health and environmental risk; (ii)

	management, especially the use of pesticides are minimized and can be properly managed by the user. (c) As necessary, support policy reform and institutional capacity development to (i) enhance implementation of IPM-based pest management and (ii) regulate and monitor the distribution and use of pesticides. Pesticides in WHO Classes IA and IB may not be procured for Bank supported projects.	maintain or expand present pest management practices that are unsustainable, not based on an IPM approach, and/or pose significant health or environmental risks.
OP/BP 4.11 Physical Cultural Resources	The objective of this policy is to assist countries to avoid or mitigate adverse impacts of development projects on physical cultural resources. For purposes of this policy, "physical cultural resources" are defined as movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above ground, underground, or underwater. The cultural interest may be at the local, provincial or national level, or within the international community.	This policy applies to all projects requiring a Category A or B Environmental Assessment under OP 4.01, project located in, or in the vicinity of, recognized cultural heritage sites, and projects designed to support the management or conservation of physical cultural resources.
OP/BP 4.12 Involuntary Resettlement	The objective of this policy is to (i) avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; (ii) assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them; (iii) encourage community participation in planning and implementing resettlement; and (iv) provide assistance to affected people regardless of the legality of land tenure.	This policy covers not only physical relocation, but any loss of land or other assets resulting in: (i) relocation or loss of shelter; (ii) loss of assets or access to assets; (iii) loss of income sources or means of livelihood, whether or not the affected people must move to another location. This policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.
OP/BP 4.37 Safety of Dams	The objectives of this policy are as follows: For new dams, to ensure that experienced and competent professionals design and supervise construction; the borrower adopts and implements dam safety measures for the dam and associated works. For existing dams, to ensure that any dam that can influence the performance of the project is identified, a dam safety assessment is carried out, and necessary additional dam safety measures and remedial work are implemented.	This policy is triggered when the Bank finances: (i) a project involving construction of a large dam (15 m or higher) or a high hazard dam; and (ii) a project which is dependent on an existing dam. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. Dams with ≥15m in height review by an independent dam safety panel is required.
OP 7.50 Projects in International Waters	The objective of this policy is to ensure that Bankfinanced projects affecting international waterways would not affect: (i) relations between the Bank and its borrowers and between states (whether members of the Bank or not); and (ii) the efficient utilization and protection of international waterways. The policy applies to the following types of projects: (a) Hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial and similar projects that involve the use	This policy is triggered if (a) any river, canal, lake or similar body of water that forms a boundary between, or any river or body of surface water that flows through two or more states, whether Bank members or not; (b) any tributary or other body of surface water that is a component of any waterway described under (a); and (c) any

	or potential pollution of international waterways; and (b) Detailed design and engineering studies of projects under (a) above, include those carried out by the Bank as executing agency or in any other capacity.	bay, gulf strait, or channel bounded by two or more states, or if within one state recognized as a necessary channel of communication between the open sea and other states, and any river flowing into such waters.
OP 7.60 Projects in Disputed Areas	The objective of this policy is to ensure that projects in disputed areas are dealt with at the earliest possible stage: (a) so as not to affect relations between the Bank and its member countries; (b) so as not to affect relations between the borrower and neighboring countries; and (c) so as not to prejudice the position of either the Bank or the countries concerned.	This policy is triggered if the proposed project will be in a "disputed area". Questions to be answered include: Is the borrower involved in any disputes over an area with any of its neighbors. Is the project situated in a disputed area? Could any component financed or likely to be financed as part of the project be situated in a disputed area?
The WB Group Environment, Health and Safety Guidelines.	The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors. The guidelines include;- **Environmen**t • Air Emissions and Ambient Air Quality • Energy Conservation • Wastewater and Ambient Water Quality • Water Conservation • Hazardous Materials Management • Waste Management • Noise • Contaminated Land • Occupational Health and Safety Guidelines • Community Health and Safety • Construction and Decommissioning	These guidelines will be followed during the preparation of mitigation measures. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment.

4.1.2 Summary of Legal Framework for REDD+ implementation

The Beta&Nemus study (2015) outlines the legal framework as it applies to REDD+ implementation in Mozambique. Below are the pertinent pieces of legislation.

Regulation of Procedures for Emission Reduction Project Approval from Deforestation and Forest Degradation

By Decree No. 70/2013 of 20 December approved the Regulation of Procedures for Emission Reduction Project Approval from Deforestation and Forest Degradation (REDD+), following the confirmation of the need to operationalize the United Nations Framework Convention on Climate Change ratified by Mozambique, through Resolution No. 1/94 of 24 August, this Regulation sets out to establish the procedure for the approval of projects and studies related to REDD+, as well as establishing the institutional framework and skills (Article 2). It applies to REDD+ projects intended to be implemented in areas of forest production, protection, conservation, forest plantations and at risk of threat from deforestation and degradation (Article 3, paragraph 1).

It defines responsibilities for approval and license issued for the sale of carbon credits (in line with the provisions of land legislation on skills to assign DUAT's) (Article 5) and the authority to conduct the demonstration project (Article 6).

In regulatory terms, each project should always predict the distribution of benefits, including local communities, in terms to be established by ministerial order of the Ministers that oversee the areas of Environment, Agriculture and Tourism (Article 21, paragraph 1, of the Regulation of the REDD+). Note that the benefits of local communities should be subject to an agreement by notarial deed between the proponent and the representation of local communities, should cover: the identification of the parties; the object of the agreement; the rights and duties of the parties; its duration; the termination conditions; the dispute resolution mode; the date and signature (Article 21, paragraph 2, of the REDD + Regulation).

EIA Regulation (Decree No. 54/2015 of 31 December)

This provides requirements for environmental and social assessment that helps Mozambique meet the objectives of the World Bank's Operational Policies. The regulation is a central point to analyze all common environmental issues such as pollution, waste management, desertification, deforestation, impacts on environmental media such as soil, air and water. In Article 9 of the evaluation criteria, the decision depends not only on environmental issues, impacts on ecosystems, plants and animals but also people and communities covered by the project. Article 11 requires the environmental impact study

to identify and analyze the impacts on health and gender of the affected communities. It requires presentation of provisional DUATs in order to guarantee and avoid ownership conflicts. Article 15 outlines the process of public participation, which includes consultations and public hearings, opening the possibility of these being requested by citizens, groups and environmental organizations. This will guide all future ESIA/ESMPs developed for any REDD+ projects to be implemented.

Regulation on Access and Benefit Sharing Arising Genetic Resources and Associated Traditional Knowledge (Decree No. 19/2007, of August 9)

This outlines the principle of recognition and appreciation of the traditions and knowledge of local communities, in the legal environment (Article 4 b).

The first focus is on the provision of a set of rights of local communities, on the understanding that any traditional knowledge associated with genetic resources may be of community ownership, if only an individual member of the community holds that knowledge.

It is also recognizes that local communities that create, develop, hold or preserve traditional knowledge associated with genetic resources, the rights to indicate the origin of the access to traditional knowledge in all publications, uses, explorations and disclosures; prevent unauthorized third parties from using, carry out tests, research or exploration relating to traditional knowledge associated or disclose, transmit or retransmit data or information that incorporate or constitute associated traditional knowledge; and especially to receive benefits for economic exploitation by third parties, directly or indirectly, associated traditional knowledge, whose rights are of their ownership (Article 15).

It should be noted that, under this Regulation, the benefits resulting from the product of exploitation or process developed from genetic resources component sample and associated traditional knowledge obtained by a national institution or institution based abroad, will be shared, a fair and equitable way between the contracting parties (Article 20).

Disaster Management (Law No. 15/2014 of 20 June)

This law establishes the legal framework of disaster management, including prevention, mitigation of the destructive effects of natural disasters, development of relief and assistance measures and the reconstruction and recovery of the affected areas (Article 1).

It also outlines government control of watersheds and effective early warning systems that enable the monitoring and prevention of meteorological hydro phenomena that can cause disasters, as well as regular monitoring of earthquakes and forecasts of changes time, with a view to issuing warnings and alerts to local communities (Article 6 paragraph 2 and 3).

The Act provides further that the land use planning should define the risk areas of calamities, classified into high, medium and low risk (Article 6 paragraph 1 and 2 of the Legal Management of Calamities Regime)

National Strategy for Adaptation and Mitigation of Climate Change (2013 - 2025)

The overall objective of ENAMMC is the establishment of directives for action to build resilience, including the reduction of climate risks, communities and the national economy and promote the development of low carbon and green economy, through its integration into the sector planning process and location.

Conservation Policy and its Implementation Strategy (PCEI)

In 2009, Conservation Policy and its Implementation Strategy (PCEI) was approved by Resolution No. 63/2009 of 2 November, with the ultimate goal of "develop and consolidate a national system of conservation of natural resources biological and its aquatic and terrestrial biodiversity, contributing to sustaining life, economic growth and the eradication of absolute poverty. "

Biodiversity Conservation Act (Law No. 16/2014 of 20 June)

The object of this law is "the establishment of the basic principles and rules on the protection, conservation, restoration and sustainable use of biological diversity in the areas of conservation and the framework of an integrated management for the sustainable development of the country "(cf. Article 2).

The following basic principles have been established: the ecological heritage; sovereignty; equality; citizen participation in the management and benefits; environmental responsibility; development; public-private partnerships; precautionary and informed decision-making; and international cooperation.

The law provides for the existence of the national system of protected areas, make up of the management bodies of the conservation areas, the funding mechanisms of conservation areas and national network of conservation areas.

The law has established a legal basis for the financing mechanisms for conservation areas, which should be adopted to minimize losses and increase the benefits to local, national and international, through the establishment of public-private and community partnership; creation of institutions to support conservation activities; capitalization of genetic wealth, wildlife, other natural resources and local and traditional knowledge on the use of biological material; and compensation to the efforts of conservation, the ecological and other services that are established by the Council of Ministers (Article 8 of the Biodiversity Conservation Act).

For REDD+, it is particularly important to stress "the right of use and improvement of existing carbon stocks in a conservation area and its respective buffer zone belong to the entity that manages its conservation area, and may the marketing be done in collaboration with other private or public entities "(Article 11, paragraph 3, of the Biodiversity Conservation Act). Here an explicit forecast of REDD+ approach, the first held by means of the National Assembly Law is required.

There is an overall conservation areas classification (for the preservation of ecosystems and species without resource extraction operations, assuming only the indirect use of natural resources with the exceptions provided for in this) and sustainable use conservation areas (areas of public domain and private domain, for the conservation, subject to an integrated management with permission of resource extraction levels, respecting sustainable limits according to the management plans) (Article 13, paragraph 2 5, Biodiversity Conservation Act). The national reality is that all conservation areas have communities residing within their boundaries.

Article 14 and 15 outline the different categories of protection regimes, i.e. integral nature reserve, national park and the cultural and natural monuments, special reserve, area of environmental protection, coutada, community conservation area, sanctuary, wild farm and municipal ecological park.

Article 42 focuses on the conservation of biological diversity and its consequent inventory and special attention of species of flora and native fauna; controlled and sustainable use of natural resources, as authorized; and management in collaboration with local communities, promoting and supporting that which is compatible with their conservation, and contribute to improving the quality of life of local communities.

Policy and Forestry and Wildlife Development Strategy (PEDFFB) (Resolution No. 8/97 of 1 April)

Its overall objective, designed for the long-term is to "protect, conserve, develop and use a rational and sustainable forest and wildlife resources for economic, social and ecological benefit of current and future generations of Mozambicans".

Some of the objectives include use and conservation of the resource by the community, with emphasis on community education; use and exploitation of resources by communities and community forestry with the focus "on increasing the participation of rural people and communities as direct agents in integrated management, protection against fires, use and conservation of forest and wildlife resources."

It also establishes the "improvement of the protection, management and use of forest conservation and wildlife areas, in order to contribute to national sustainable development and local appropriate use land and biodiversity conservation "(point 53 iii) PEDFFB).

Part of the institutional objective is to "strengthen the organization and functional capabilities at provincial, district and local levels in accordance with the requirements of decentralization and participatory management of natural resources."

Several implementation strategies were defined, including: "the implementation of the pilot areas network with community participation in the conservation and use of forest and wildlife resources"; the "training to all levels for participatory development of community projects for the management of forests and wildlife in all categories of land use"; the "establishment of Resource Management Committees with the participation of local state authorities, local communities, NGOs and private sector in the regions of most forest and wildlife potential"; the "introduction of legal mechanisms to progressively ensure access to resources forest and wildlife to local communities"; and "inventory, demarcation and establishment of management plans in units of areas of community use forests, allowing their rational use, thus generating funds for investment in rural areas"; among others (paragraph 56 of PEDFFB).

Law and Regulations of Forestry and Wildlife

The legal framework of forest and wildlife is composed mainly by the Law of Forestry and Wildlife - LFFB (Law 10/99 of 7 July) and its Regulation approved by Decree No. 12/2002, of 6 June, as amended successively by Decree No. 11/2003 of 25 March, by Decree 76/2011, of 30 December and Decree No. 30/2012 of 1 August.

Article 2 establishes the basic principles and rules on the protection, conservation and sustainable use of forest and wildlife resources within the framework of an integrated management, economic and social development of the country. With the approval of the new Law of Biodiversity Conservation and eminent regulations governing, among other things, the wildlife, it is crucial to review the LFFB and its Regulations.

Article 5 also provides for the concept of forestry resources, integrating the conservation of forests: comprising plant formations located in the protection zones and subject to a special management regime; productive forests: comprising plant formations of high forestry potential, located outside the protected zones; and forests for multiple use: comprising plant formations located outside the protection areas with low forest potential.

Article 3 outlines the principle of state ownership of the forest and wildlife resources and Article 9 states that the holder of DUATs or acquired by occupancy or by authorization of an application requires a license for exploitation of forest resources and natural wildlife existing in their local area, unless it is for personal consumption.

However, the Land Law recognizes the DUATs acquired by occupation, according to norms and practices. This understanding is not in the legislation of forest and wildlife, as any rights acquired by occupation on forest and wildlife resources are not recognized. As a result, communities have no authority over forests and fauna and other natural resources in their areas, only being allowed to exploit the resources necessary (timber, fauna, etc) for their own subsistence, but always in competition with private operators.

Exploitation of forest resources (defined by LFFB as "set of measures and operations related to the extraction of forest products for the satisfaction of human needs, including harvesting, transportation, sawing timber, extraction, drying, including coal production, as well as the wood processing activities and any other that technical developments will indicate as such, regardless of its purpose ") (Article 18 of LFFB), operators can opt for any of the prescribed forest schemes – the simple license or forest concession (Article 14, paragraph 1, of LFFB).

However, LFFB the Regulation was revised by Decree No. 30/2012, of August 1, corresponding to the forestry scheme simple license, following huge criticism from the various quarters about the lack of requirements guaranteeing the sustainable exploitation of forest resources. Under this legal instrument, logging in simple license arrangements will be in compliance with the approved management plan, corresponding to a contiguous area not exceeding 10,000 hectares, subject to the payment of the annual rate of occupation of the area and observing the quota annual logging of 500 cubic meters or the equivalent (Article 1 of Decree No. 30/2012 of 1 August).

With the amendments to simple license, an operating contract is now necessary (previously contracts were only required for forestry concessions), signed between the State, represented by the Provincial Governor, and the forest operator, for a period not exceeding five years, which is renewable (Article 2, paragraph 1 of Decree No. 30/2012, of August 1. Previously, the simple license was valid for only one year, and renewable - Article 16, paragraph 2, of the LFFB Regulation).

Channeling of 20% of the harvesting tax for local communities

Under the regulations of LFFB, "Twenty percent of any forest or wildlife exploitation tax is for the benefit of local communities in the area where resources are extracted, in accordance with paragraph 5 of Article 35 of Law No. 10 / 99 of 7 July "(Article 102 RLFFB).

Ministerial Decree No. 93/05, of 4 May was jointly issued by the Ministries of Agriculture, Tourism and Finance, in order to define the mechanisms of channeling and utilization of 20% of the rates set out in favor of local communities, charged under the forests and wildlife legislation.

Overvaluation wood /timber tax

Law No. 7/2010 of 13 August created the Overvaluation timber tax and its Regulation approved by Decree n. No. 21/2011 of 1 June. This tax is aimed at encouraging environmental protection, sustainable use of resources and enables the collection of revenues that may be applied in the sustainable development of forest resources, fostering the emergence of new industries to make full use of forest resources. It focuses on the export of wood raw or processed, depending on the complexity of the process, based on its price FOB (Article 2 of Law No. 7/2010 of 13 August).

Legal framework of land

The National Land Policy (approved by Resolution n. º 10/95 of 17 October) and the Land Act (Law No. 19/97 of 1 October) guide the use of land.

With regards to rural and urban areas, respectively, Regulation of the Land Law (approved by Decree No. 66/98 of 8 December) and the Urban Land Regulations (Decree No. 60/2006 of 26 December) are applicable.

The Constitution enshrines the principle that all land belongs to the state and, for that reason, should not be sold or otherwise alienated, mortgaged or encumbered (Article 109, paragraphs 1 and 2, respectively, of the Constitution 2004), still safeguarding the fundamental right of every citizen to access to land (according to Article 109, paragraph 3, "as a universal means of wealth creation and social welfare, the use and enjoyment of land is the right of all Mozambican people "), in addition to recognizing the land rights acquired through inheritance or occupation (Article 111 of the 2004 Constitution).

The Land Law establishes the terms on which operates the establishment, exercise, modification, transfer and termination of the right to use and enjoyment of land (Article 2 of the Land Law).

The Land Law and its regulations provide for the protection of the vast majority of land occupants, mostly peasants. It gives rights of use and enjoyment of land, which may be purchased not only by authorization of an application, but also by occupation by individuals and local communities, according to the norms and practices as not contrary to the Constitution; and occupation by national individuals who, in good faith, have been using the land for at least ten years (Article 12 of the Land Law).

By Ministerial Decree No 29 - A / 2000 of 17 March, the requirements for the definition of areas occupied by local communities and national individuals of good faith were defined as well as the demarcation in the context of emission titles for the right to use and enjoyment of land. By Ministerial Decree No 158/2011 of 15 June, procedures have been defined specific to the Community consultation.

Spatial planning

Article 1 of Law No. 19/2007 of 18 July outlined spatial planning as "a set of principles, guidelines and rules to ensure the organization of the national space through a dynamic, continuous, flexible and participating in the search for balance between man, the physical environment and natural resources, with a view to promoting sustainable development".

In addition to its inclusion in the Constitution, through Article 117 of the 2004 Constitution, bearing in mind the enormous importance of the organization of the various socio-economic activities in the territorial space to safeguard the environmental values, planning is outlined in the Land Management Policy (approved by Resolution No. 18/97 of 30 May.), the Spatial Planning Act (Law No. 19/2007, of 18 July) and Regulations (approved by Decree No. 23/2008 of 1 July) and the Directive on the Expropriation Process for the purpose of Land Management (Ministerial Decree No. 181/2010 of 3 November).

One of its specific objectives is ensuring the right to the current occupation of the national physical space for people and local communities, which are always considered as the most important element in any planning intervention and planning of land use, natural resources or the built heritage. Another objective is the management of conflicts of interest, always giving priority to the agreement between the parties, safeguarding the rights of occupancy of the local communities (Article 5).

4.1.2.1 Gap analysis

Mozambique has passed several laws and legislation and developed comprehensive strategies to protect and enhance the country's bio-physical and socio-economic environment. The country's laws, legislation or strategies that address the objectives of the international guidelines, standards and conventions to which the Mozambique is a signatory party is illustrated in Table 12 (marked with an x). In other words, the 'x' designation indicates the national law or regulation provides the nation with guidance and regulations that if implemented would help achieve the objective of the treaty or convention. Whilst the majority of Mozambique's National laws, regulations and strategies do provide a framework for the country to achieve international treaties and conventions to which it is a signatory party, several do not. National laws that should be revisited by lawmakers to better ensure sustainable development within the country in a manner that protects the bio-physical and social environment, include the: Territorial Planning Law (17/2007); Law on Spatial Planning (2007); New Labor Law (2007); Transportation Legislation (2011); New Mining Law (14/2002, and 20/2014). While these laws require developers to undertake environmental and social assessments for proposed projects, they do

not provide broader strategies to help ensure the conservation of biodiversity, reduction of deforestation and degradation, reduction in desertification, and protection of cultural resources.

Whilst other laws, legislation etc., in place in Mozambique support the sustainable management of the bio-physical and socio-economic/socio-cultural environment, an analysis of whether they were successfully implemented found that in many occasions they were not. This in part was due to a lack of funding and capacity at local, provincial and national levels, but was also associated with corruption. Building capacity and addressing corruption (adequate enforcement of existing legislation) will be critical to the successful implementation of the REDD+ strategy.

Corruption also presents a significant problem to the successful implementation of REDD+. In some instances, when politicians have a vested interest in an illegal activity (such as illegal logging) that may harm the bio-physical or social environment, the law is not enforced as designed because he/she can manipulate the system to his/her benefit. An anti-corruption campaign and adherence to anti-corruption are needed for successful implementation of REDD+. At present, enforcement of key laws designed to protect forests and the environment is weak.

Table 12 Summary of GAP Analysis of National Laws against International Guidelines and Conventions

Mozambique Legislation	International Conventions.									WB and IFC Performance Standards							
	Ramsar Convention, 1971	CITES, 1979	Bonn Convention	International Convention on Biodiversity	UNFCCC	UNCCD	World Heritage Convention, 1972	Safeguarding Intangible Cultural Heritage UNESCO, 2003	Zambezi River Action Plan, 1987	1	2	3	4	5	6	7	8
Mozambique's Constitution (1990)	x		x	x	x	x			x	x		x	x		x		x
Protection of Cultural Heritage (Law No. 10/88)							x	x		x							x
Burial Regulations (Decree No. 42/90)							x	x		x				x			x
Land Law (No. 19/97)							x	x		x				x			x
Environment Law (1997)	x		x	x	x	x			x	x		x	x		x		
Forest Law and Wildlife Law (Law No. 10/99)				x	x	x	x	x	x	x		x		x	x		x
Tourism Law (Law nr. 4/2004)							x	x		x	x				x		
Territorial Planning Law (17/2007)										x				x			
Law on Spatial Planning (2007)										x				x			
New Labor Law (2007)										x	x						
Biodiversity Cons. Strategy (2003-2010)	x	x	x	x	x	x			x	x		x		x	x		
Agriculture & Natural Resources Strategy (2010)				x		x				x					x		
Transportation Legislation (2011)										x							
New Mining Law (14/2002, and 20/2014)										x		x		x	x		

National Adap. Strat. CC Mitigation (2013-2025)	x		x	x	x	x				x		x			x		
National Rhino & Elephant Action Plan (2015-2016)		x		x					x	x					x		
National Strategy for REDD+ (2014)				x	x	x				x					x		
Protection, Conservation and Sustainable use of Biological Diversity (Law no. 16/2014)		x		x	x	x			x	x					x		
Environmental Impact Assessment (Decree No. 54/2015 of 31 December)	x	x	x	x	x	x	x	x	x	X		X	X		X		

PS 1: Assessment and Management of Environmental and Social Risks and Impacts; PS 2: Labour and Working Conditions; PS 3: Resource Efficiency and Pollution Prevention; PS 4: Community Health, Safety, and Security; PS 5: Land Acquisition and Involuntary Resettlement; PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; PS 7: Indigenous Peoples; PS 8: Cultural Heritage

The Beta&Nemus study also identifies several gaps and constraints in the current legal framework.

Ministerial mandate to manage forests

MITADER is the Ministry responsible for the forests, including the newly created National Forest Bureau, but MASA is responsible for forest plantations, through the National Agriculture and Forestry Directorate. This division of forests in two ministries can bring duplication of skills, as shown in the table below. There could be a possible duplication of skills can be found in the fact that the MASA have the power to "ensure the development of agro-forestry plantations for conservation purposes ..." while the MITADER has to "ensure the sustainable use of woody biomass" for example.

Table 13 Ministry responsibilities

Ministry	Responsibilities
MITADER	Propose the adoption of legislation, policies and development strategies in the area of forests Establish standards for licensing, management, protection, conservation, surveillance Monitoring and sustainable use of forest resources Develop and implement policies and procedures for the use and sustainable management of forest resources Assess quantitative and qualitative forest resources and the reduction of Emissions from deforestation and forest degradation Establish measures to prevent and control wildfires; Ensuring sustainable use of woody biomass To promote the rational use of forest species and NTFPs

MASA: Agro-forestry plantations	Proposing the adoption of legislation, policies and strategies and development of agro-forestry plantations Implement policies, strategies, plans, sub-sector programs and projects Establish standards for the implementation of projects and development programs of agro-forestry plantations Ensure the development of agroforestry plantations for conservation purposes, energy, commercial and industrial Promote forestry research programs and disseminating the results Promote internal processing of resources from agro-forestry plantations

Source: Beta & Nemus study, 2015 Presidential decree n.º15/2015, 25 of March and Presidential decree n.º 13/2015, 16 March

It is clearly identified that the MITADER is the direct responsibility of REDD+ when it says it should "develop procedures on the use and sustainable management of forest resources," "evaluate quantitative and qualitatively forest resources as well as reducing emissions from deforestation and forest degradation, "and" establishing measures to prevent and control wildfires "(see Table above). However, the REDD+ policy does not refer only to forest conservation but also for planting, under the responsibility of MASA.

This division between forests and agroforestry plantations has several risks, overlap of functions, conflicts and no sector prioritization in either of the ministries. Another risk from this division is the weakening of the institutional capacity to meet the challenges of the sector by separating human resources, technical capacity and resources between the two institutions from two different ministries.

Moreover, there is the question of revenue from forestry. It is unclear how the fees for exploitation and utilization of forest resources, the surcharge of afforestation and the overvaluation rate of wood should be consigned between the two ministries.

Given that MASA oversees the area of forest plantations, it is expected that this Ministry should receive only the amounts allocated to this action. However, most of the revenues are for afforestation measures, such as the entire reforestation surcharge (15%), and of the 30% of the wood overvaluation rate (15% between ministries?) is assigned to "conducting reforestation activities and supervision of forest resources" (Article 11 of Decree No. 21/2011 of 1 June).

Thus, it is expected that much of the forestry fees are earmarked for MASA, particularly for the Agrarian Development Fund (the current fund receives all the revenue) and not for MITADER. Given this reality, the institutional capacity for coordination is even more essential for a successful implementation of REDD+.

Duplication

There are also several duplications in mandates of the different ministries, which will require a lot of coordination to manage. The table below highlights these duplications.

Table 14 Ministries responsibilities

Institution	Responsibilities
FUNAE (MIREME)	Promote the development and planting of forests for the production of biomass assisting or providing financial support for their management and conservation
Directorate for Development of Arid and Semi-arid Regions INGC (MAEFP)	Promote moisture conservation agriculture and agro-forestry Promote forms of ecological rehabilitation, conversion and integration of the rural economy Study of climate change
Department of natural resources CDS-Natural resources (MITADER)	Design, promote and coordinate pilot programs related to natural resource management Implement management pilot projects of natural resources
DINAMB (MITADER)	Promote environmental conservation actions, aiming in particular, biodiversity, sustainable management of sensitive or protected areas and rehabilitation of degraded áreas Design and implement reduction projects of soil degradation for control the fires, erosion, desertification and drought, adaptation and mitigation to climate change, recovery of contaminated areas, sensitive ecosystems, management wetlands and environmental education
DNF (MITADER)	Ensure licensing, management, protection, research, conservation, ficalização and monitoring the us of forest resources Establish prevention and control measures of wildfires Ensuring sustainable use of woody biomass To promote the rational use of forest species placed second and NTFPs To promote community participation in sustainable management of natural resources

ANAC (MITADER)	Manage the national parks and reserves, the Coutadas Officers, the Bravio Farms and other conservation areas legally created and placed under the administration of ANAC Ensure the role of protected areas in maintaining the functioning of ecosystems, protecting the flora, wildlife and habitat by ensuring the integrity of the Conservation Areas System Ensure effective management of protected areas in order to bring positive impacts in the life quality and climate change
DNAS (MASA)	Promote reforestation for conservation, energy, commercial and industrial purposes
Forest Department at FDA (MASA)	Support reforestation and repopulation of wildlife Support the development of community forest plantations for conservation and energy purposes and programs that contribute to the better organization of the communities involved in the management of forests and wildlife Promote partnerships with the private sector in the rehabilitation of degraded areas and stabilization of dunes To support the surveillance activities Support programs to combat wildfires

Source: Beta & Nemus study, 2015 Decree n.º 24/97, 22 of July; Decree n.º52/2007, 27 of November; Decree n.º 7/2003, 18 February; Resolução n.º 6/2015, 26 of June; Decree n.º 9/2013, 10 of April; Resolução n.º 2/2015, 24 of June; Ministerial diploma n.º 80/2009, 6

It can be seen that under the REDD+ there are some responsibilities that are covered by different institutions. For example, in the case of forests, as can be seen in the above table, FUNAE (subordinate to MIREME) has the authority to "Promote the development and planting of forests for biomass production." The INGC, through the Directorate for the Development of Arid and Semi-arid Regions also has the function to "promote moisture conservation agriculture and agro-forestry."

There are other similar mandates in this field, such as DINAMB (MITADER), which has the function to "design and implement reduction projects of soil degradation to control fire ...” as well as to "ensure the licensing, management, protection, research, conservation, oversight and monitoring the use of forest resources."

With the mandate of forest plantations in MASA, DNAS has the power to "promote reforestation for conservation, energy, commercial and industrial." However, the FDA also continues to "support reforestation and repopulation of wildlife" and also "support surveillance activities."

Four different ministries (MIREME, MAEFP, MITADER and MASA) have a mandate in the field of forests.

Duplication also occurs with the sustainable management of natural resources, with DINAMB the DNF, the CDS-Natural Resources, INGC and FUNAE all having identical mandates (see Table above).

There is duplication between the mandate of ANAC, management of protected areas, and DINAMB specific function "to promote environmental conservation actions, aiming in particular, biodiversity, sustainable management of sensitive or protected areas ...".

There is a clear need for clarification of several public bodies' mandates, with a view to elimination of duplicate mandates for greater effectiveness and efficiency of policies and actions.

Coordination

Coordination is also necessary on many levels: the various institutions concerned, the various levels of government involved (National, Provincial and District) and the various financing bodies in question (e.g. Embassy of Norway - IIED; AFD / FFEM, World Bank). Better coordination allows cost savings (including use of existing and common platforms) and enhances synergies in fundraising.

In addition to a challenge of coordination of REDD+ projects, a greater coordination challenge is the integration within the context of climate change. In this field, various institutions and bodies were established, such as the Climate Change Unit, CONDES, the Knowledge Management Center and even a discussion forum called the Interagency Group on Climate Change.

These bodies were set up under the National Strategy for Adaptation and Mitigation of Climate Change, and there is not yet an interconnection with the existing institutional framework for the implementation of REDD+ in Mozambique. It would be useful, therefore, to make use of the existing structures in this area for the coordination and discussion of issues related to REDD+.

There are several institutional structures created to deal with specific challenges but a single binding element between these various entities is missing.

District coordination

District level coordination of REDD+ activities also has several issues. At district level, under MITADER (DPTADER) these components are separated under SDPI and SDAE (agriculture, livestock, wildlife and fisheries, industry, commerce, and local development), making it difficult to coordinate policies and priorities. The combination of several areas in the same service prioritization raises problems in the distribution of resources.

In connection with the implementation of a REDD+ activity at the district level there may be some constraints in the coordination of forest monitoring efforts, forest plantation and promotion of community management of natural resources.

Forest monitoring

Forest monitoring on the ground (except conservation areas) is the responsibility of the Provincial Services of Forestry and Wildlife (SPFFB) which answer to both the Provincial Governor, as well as the National Forestry Board. There is also a lack of human and material resources for an effective response to the challenges that forest monitoring creates. At national level there is the National Forestry Directorate responsible for ensuring the "supervision and monitoring of the use of forest resources" (Resolution No. 6/2015 of 26 June). In relation to Conservation Areas ANAC is the entity responsible for overseeing both forest and fauna.

REDD+ activities need a successful a strategy that addresses the problem of illegal logging in order not to make vain efforts against deforestation and forest degradation. Existing mechanisms should be used effectively.

Holistic perspective

In the context of recent international discussions on the subject, REDD+ has expanded its focus, not only reducing emissions from deforestation and forest degradation, but using a holistic view of landscape management. In a broader view, promoting sustainable farming practices, combating hunger and poverty, REDD+ can be a genuine rural development policy, attracting national and international funds for rural communities with various difficulties, widening the focus from conservation of nature to human development.

This holistic perspective is opposed to the Decree No. 70/2013 vision of 20 December, which has a more isolated and individual perspective of REDD+ projects. The philosophy of this Decree is based on a private development of REDD+ projects, which would be after submission, approved by the central government, allowing them to be implemented. In this light, the guarantees of rural development of the communities are lower and initial funding difficulties are greater.

4.2 Institutional Framework for REDD+

This section presents relevant institutions for implementation of REDD+ in Mozambique. Much of the information provided under this section derives from the study report on “Análise do Quadro Legal e Institucional para a Implementação do REDD+” or “The Institutional and Legal Framework for the implementation of REDD+” (Beta & Nemus, 2015).

4.2.1 Government institutions relevant for REDD+

The main institutions relevant for REDD+ are Mozambique’s environmental regulatory body are the Ministry of Land, Environment and Rural Development (MITADER); the Ministry of Agriculture and Food Security (MASA); the Ministry of Economy and Finance (MEF); the Environment Fund (FUNAB); and local government structures.

4.2.2 UT-REDD+

The activities related to REDD+ are coordinated by a technical unit installed within former DNGA now DINAB (National Directorate of Environment), referred to as UT-REDD+. The main responsibilities of the UT-REDD+ include: i) ensuring proper fiduciary management (financial management and procurement); ii) overseeing the preparation and implementation of annual operating plans; iii) managing the project monitoring system (collecting and processing data and reporting, including through annual reports); v) ensuring compliance with the project legal agreements (including subsidiary agreements); vi) securing compliance with WB safeguards policies in collaboration with other entities implementing project activities; and vii) providing strategic communication for the project.

The UT-REDD+ is in turn monitored by a multi-ministerial committee (CTR – REDD+) comprised of technical representatives from MITADER, MASA, MCT, MIC, MGCAS, MIREME, EM, MSPA, MEF, as well as representatives of the private sector, environmental NGOs, research institutions and religious groups (designated by the Ministry of Justice and Religious Affairs). The multi-ministerial committee is principally coordinated by MITADER with the assistance of MASA, and oversees the activities of UT-REDD+, suggests improvements in their work and checks the compliance of activities with national and international law. The proposed structure for monitoring REDD+ is presented below in Figure 2.

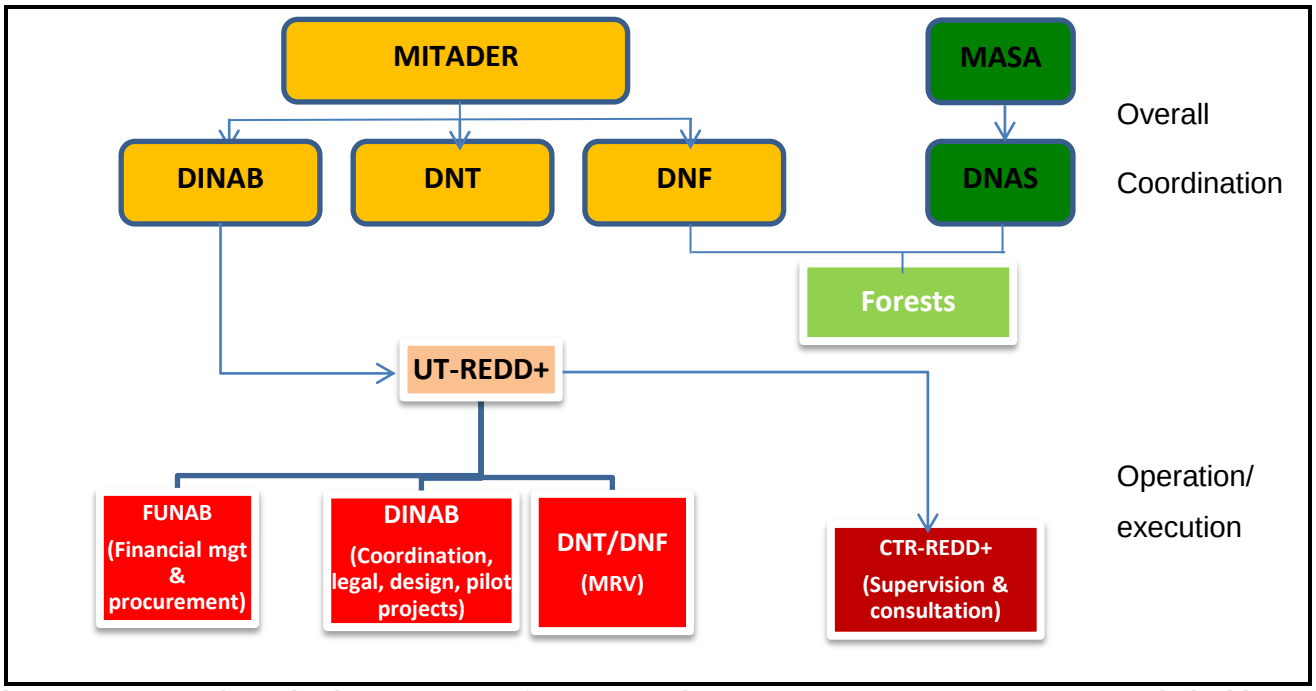

Figure 2 Proposed monitoring structure of UT REDD+ (Source: REDD+Strategy, 2014, amended with current names of ministries)

4.2.3 Institutional Gap Analysis

The review of institutional roles in the implementation of REDD+ indicates that at present relevant expertise and responsibility for implementation are primarily confined to the national level, which will constrain the feasibility of implementing REDD+ on the ground. Aside from absence of proper implementation structures, there is a lack of human capacity and resources at the local level to successfully implement REDD+. Positions need to be developed at the provincial level for staff trained in all aspects of REDD+. At the time of developing this ESMF, the institutional structure was an inverted pyramid with skilled contractors (external private expertise which may be used to implement certain aspects of REDD+) and government employees at the national level and no REDD+ trained employees or contractors at the provincial or local level.

The institutional framework study conducted for the SESA identified coordination, training, legal requirements, private sector and community participation as major challenges facing REDD+ implementation in Mozambique. Regarding coordination, there are structures that can be used for the coordination of REDD+ activities from the district level (District Advisory Board) to the Council of Ministers through the Provincial Councils, CONDES, etc., but there are currently no procedures in place for effectively directing the flow of information from national to local level and vice versa. Procedures need to be put in place to direct the flow of information within and between levels of government and the councils responsible for REDD+ implementation so that issues that need to be addressed at different levels of government can be achieved appropriately. Additionally, in order to help ensure

consistency in REDD+ program implementation, consistent use of technicians to cover forest related and environmental issues at the provincial level should be considered.

With the recent changes in government ministries, cartographic mapping by responsible agencies in the country including CENACARTA will now be under the same ministry (MITADER) responsible for land use data, as well as land use planning, environmental impact assessment and resettlement. It would be helpful to initiate a review of these sectors and begin to assimilate data to produce a common data base which is more comprehensive than the existing database. As REDD+ data (including those collected from the Monitoring, Reporting, Validation (MRV) process) is collected it should be undertaken with consideration of consistency in recording and collection procedures, database structure and management, and to the integration of a new, more comprehensive system of cartography.

At the time of writing this ESMF, MITADER is actively undergoing restructuring in the areas related to REDD+ implementation. The program was formerly overseen by the two ministries (MICOA and MADER), and at present there is a tremendous need to define responsibilities within MITADER to:

1. Better ensure adequate dissemination of information pertaining to REDD+ within and between all levels of MITADER;
2. Help reduce the potential for redundancy in the work performed by different staff; and
3. Ensure that staff is adequately trained to implement approved REDD+ procedures.

Similar actions are needed at the provincial level to avoid duplication of resources and personnel. There is also a need to identify the sectors that will routinely monitor REDD+ activities, and to strengthen existing structures where similar activities were already taking place. At present, mandatory training of the provincial and local level technical staff that work with the national officers is not required. A training plan should be developed and implemented to ensure adequate transfer of knowledge to these technicians as they will ultimately be responsible for REDD+ activities at the provincial and local level. A Directive should be prepared, based on an approved REDD+ strategy that defines the structure and functioning of UT-REDD for the national, provincial and local levels and fits within the framework of the newly defined organizational structure of MITADER.

It was observed that private sector involvement in REDD+ initiatives, especially at the national level, is poor. We equally observed very limited knowledge among community members about the REDD+ program. This lack of early engagement has the potential to affect the design and implementation of REDD+ in Mozambique especially on matters such as rights of communities and incentives (fiscal or non-fiscal) for private sector participation.

4.3 Recommended Institutional Structure for Implementing this ESMF for REDD+ Strategy

Implementation of the REDD+ Strategy will require that appropriate and effective institutional structures and management mechanisms are in place at national, regional, provincial and local levels. It is assumed that, wherever possible, existing structures and mechanisms will be harnessed, and strengthened where necessary, but some new ones may also be needed. There may also be a need to amend, harmonize, or even introduce new legislation, policies, rules and regulations to enable effective implementation of the strategy. None of this is yet known given that the REDD+ strategy has not yet been completed. As an interim measure, we have linked our recommendations to the institutional structures indicated in the "The Institutional and Legal Framework for the implementation of REDD+" (Beta & Nemus, 2015).

4.3.1 Technical Unit of REDD + (UT REDD+) and CTR REDD+

The proposed members of the CTR-REDD+ assigned to oversee UT-REDD+ activities, per Article 9 and 10 of the Decree 70/2013, are listed in Table 15. This committee will be co-coordinated by MITADER and MINAG, and in addition to providing oversight the CTR will make suggestions for improvements in their work and check the compliance of activities with national and international law.

Table 15 Positions for CTR REDD+ as per Decree 70/2013*

No.	Position
2	Technicians from MITADER
2	Technicians from Ministry of Agriculture (MINAG) (now Ministry of Agriculture and Food Security (MASA)
2	Technicians from Ministry of Tourism (MITUR) (now MCT (Ministry of Culture and Tourism))
1	Technician from Ministry of Industry and Commerce (MIC)
	Technician from Ministry of Women and Social Affairs (MMAS) (now Ministry of Gender, Children and Social Welfare (MGCAS))
1	Technician from Ministry of Mineral Resources (MIREM) (now Ministry of Mineral Resources and Energy (MIREME)
1	Technician from Ministry of Planning and Development (MPD) (now is joined with Ministry of Finance – Ministry of Economy and Finance (MEF)
1	Technician from Ministry of State Administration (MAE) now Ministry of State Administration and Public Functions (MAEFP)
1	Technician from Ministry of Finance (MF) (Now it is Ministry of Economy and Finance (MEF))
2	Representatives of the private sector (designated by MIC)
3	Representatives of environmental NGOs (appointed by MITADER)
3	Representatives of religious denominations (designated by Ministry of Justice (MJ) (now Ministry of Justice, Constitutional and Religious Affairs (MJACR)
3	Representatives of research institutions (designated by Ministry of Science and Technology MCT) (now Ministry of Science, Technology, Higher and Technical Education (MCTESTP)

*To date, none of these positions have been filled (January 15, 2016).

In February 2015, the new government of Mozambique changed some ministries and merged others, and the CTR REDD+ positions suggested in Table 15, as per the Decree 70/2013, needs to be updated to reflect these changes.

In accordance with the Decree 70/2013, the responsibility of coordination of activities related to REDD+ projects were to be distributed between the National Environmental Management Directorate (formerly of MICOA) and National Directorate of Forests and Wildlife (formerly of MINAG). With the change in government structure, some activities under MINAG have been absorbed by MITADER, and thus this coordination will now be fully undertaken by MITADER.

According to the Presidential Decree No.1/2015 of 16 January, part of the National Land and Forestry Department, CENACARTA, the Training Institute for Land and Cartography Administration (INFATEC) and the National Directorate for the Promotion of Rural Development (former MAE) move to the new MITADER. ANAC, formerly under the Ministry of Tourism also falls under MITADER.

Under the 2015 government restructuring, the National Directorate of Environment (DINAB) is responsible for environmental and social issues of REDD+ projects, whilst the National Directorate of Forests (DNF) and the National Directorates of Land (DNT) are responsible for the scientific and technical aspects of the projects, including the inventory of land and forest, allocation of these resources to those needing land, and registering lands and forests in the National Register.

Within MITADER, in addition to the DINAB, for proper implementation of REDD+ there is a need for intersectoral coordination between the Department of Environmental Impact Assessment (DAIA), National Directorate of Land Ordinance and Resettlement (DNOTR) and the Department of Environmental Education (DEA). The DAIA is responsible for oversight of environmental impact assessments (EIA) undertaken for all new projects; DNOTR is responsible for permission for planning; and DEA is responsible for environmental awareness and dissemination of environmental information.

Within the Forestry Directorate (DNF) of MITADER, in addition to Directorate of Agriculture and Silviculture (DNAS) in MASA, for proper implementation of REDD+ there is need for coordination with the Department of Natural Resources, National Centre for Cartography and Remote Sensing (CENACARTA) and the National Land Directorate. DNF among others is responsible for the collection, compilation and management of information on natural resources. CENACARTA is responsible for mapping and coverage of land use. The Land Directorate is responsible for the allocation of land for different uses and users, and for issuing land tenure title (DUAT) to the private sector as well as for local communities.

Article 7 of Decree 70/2013, authorizes MASA and MITADER to establish the structure and

responsibilities of the UT-REDD+ body by ministerial diploma. As of the time of writing the ESMF, this has not yet been developed. As such, the current structures of UT REDD+ do not differ much from what was proposed in the draft REDD+ strategy (Figure 3).

Table 16 presents the possible institutional arrangements and responsibilities for ESMF implementation.

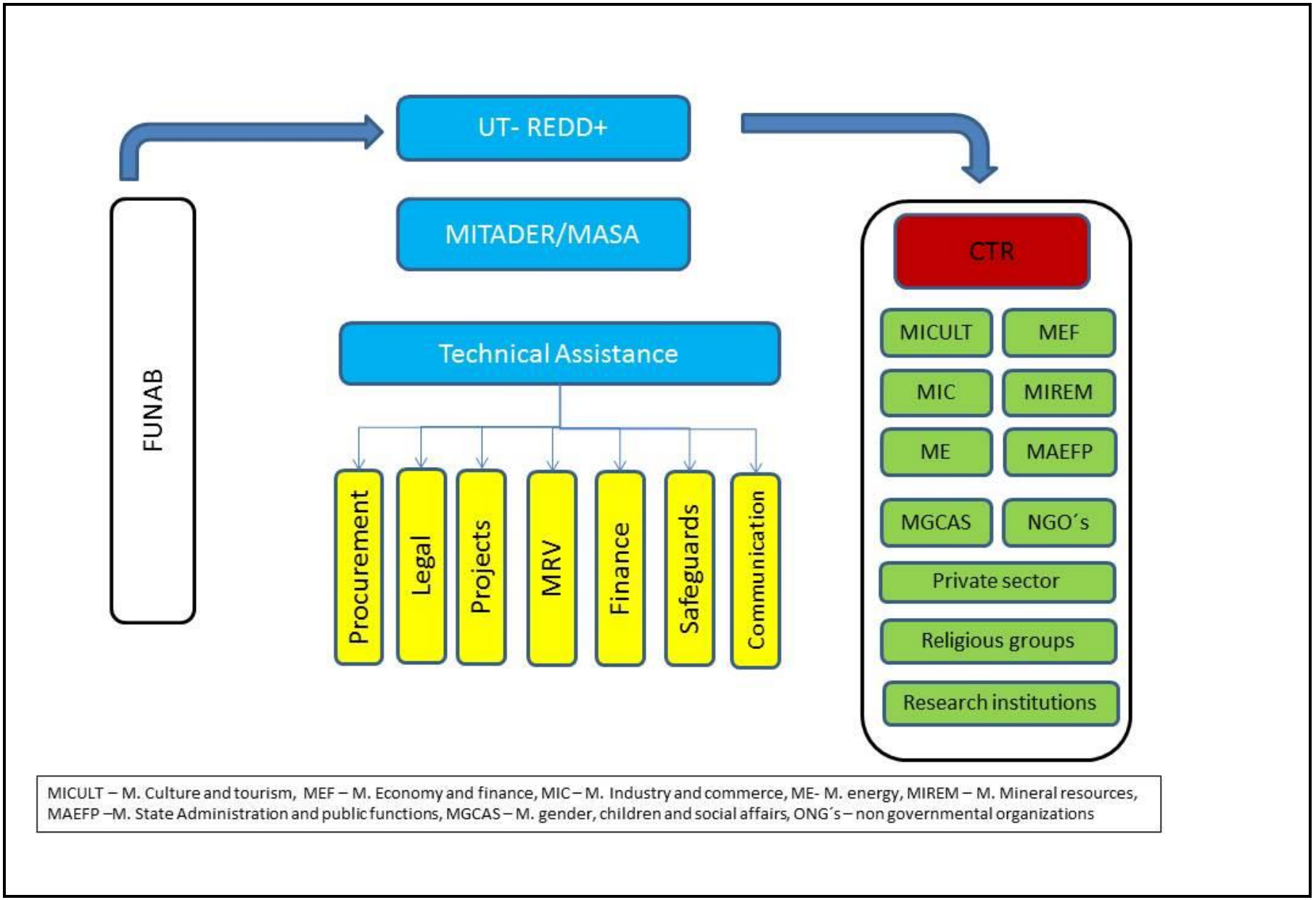

Figure 3 Existing Structure of UT-REDD+ (January 2016)

Table 16 Institutional arrangements and responsibilities for ESMF implementation

Level	Institution	Responsibilities
National level	UT REDD+ and CTR REDD +	• Screening of REDD+ activities at national level • Liaison with MITADER, DINAMB, DNOTR, DEA for ESIA procedure • Liaison with other relevant ministry and institutions for RAP, VCDP, GAP. • Monitoring and evaluation • Act as Member Secretary to a Grievance Redressal Mechanism for national/regional REDD+ projects/activities, and facilitate the tabling of grievances by affected parties. • Information management system • Capacity building • Coordinating mechanism – to align work on environmental and social issues related to REDD+ implementation. • Overseeing the Assessment & Monitoring Advisory Group • Coordination with REDD+ Working Group (through REDD+ Coord, Div)
Provincial level	Environmental and social section within Provincial REDD+ Program Management Unit (PRPMU)	• Screening of sub-projects at Provincial and local level • Capacity building of local stakeholders • Support/facilitate stakeholders • Monitoring and evaluation • Act as Member Secretary to a Grievance Redressal Mechanism for Provincial and local REDD+ projects/activities, and facilitate the tabling of grievances by affected parties. • Reporting to MRV unit • Liaison with Provincial REDD+ Working Group
Local level	COGEP (Conselho Participativo de Gestao de recursos naturais) Participative Council for Natural Resource Management) District Consultative Council	• Informing people about REDD+ programs • Motivating local communities to develop projects • Helping in proposal writing, including completing required environment and social screening information • Assisting and facilitating environmental and social assessment, when required; • Monitoring of REDD+ projects • Facilitate tabling grievances to the Provincial-level grievance redressal mechanism

It is assumed that overall REDD+ Strategy implementation will include the establishing of an overall ***Information Management System***. It is further assumed that this system will also incorporate a Safeguards Information System (SIS) requested under UNFCCC agreements.

Liaison will also be necessary with all relevant ***stakeholders*** (through UT-REDD+). Consideration will need to be given to the membership of this body to ensure that it adequately reflects all relevant stakeholders – from government, private sector and civil society.

There may be merit in establishing an ***Assessment and Monitoring Advisory Group*** to provide advice/guidance to the MRV unit, and help with training – particularly in the first 2-3 years of its operation. Such a Group would include professional experts with experience of environmental and social assessment and monitoring in Mozambique.

4.3.2 Provincial Level REDD+ Projects

It is assumed that the majority of proposals for project-level activities to implement REDD+ will be solicited at the Provincial level. These will need to be screened: for their suitability to receive REDD+ financial support; for their compliance with REDD+ strategy objectives and focus areas; and particularly for their likely environmental and social impacts (both positive and negative). Given the complexity and diversity of environmental and socio-cultural conditions in Mozambique, and the likely high volume of proposals that may be forthcoming, it would make sense for such screening (at least preliminary screening) to be carried out at Provincial level, even if final approval is given at national level.

During the consultations with Provincial authorities and stakeholders, it became clear that an independent, inclusive Joint REDD+ Consultative Body needs to be established consisting of experts, officials and others from: (a) Provincial level related government line agencies, (b) MITADER, DINAB, DNF, DNT, etc., and (c) civil society, media, and, civil organisations including women's groups. Such a group could meet regularly (e.g., quarterly) to discuss REDD+ implementation progress, proposals in the pipeline, progress and outcomes. These bodies could be linked as a national network to facilitate communication and learning and build on the experience of the existing REDD+ network of REDD pilots.

In this ESMF, it is recommended that, in order to carry out environmental and social screening of proposed REDD+ activities, each Provincial REDD+ Program Management Unit will need strengthening with two staff: one with environmental and another with social technical expertise. Recommendations for their training are discussed in Section 4.3.

Provincial Management Plans should be prepared so that they support REDD+ and incorporate planned REDD+ projects.

4.3.3 Local Level Redd+ Projects

At the local level, Village Development Committees (VDCs) can play an important role in monitoring the implementation and outcomes of individual REDD+ projects, but working in an integrated manner. Their roles would be:

- Informing people of REDD+ programs and motivating local communities to develop projects – helping in proposal writing, including completing required environment and social screening information;
- Assisting and facilitating the subsequent process of environmental and social assessment, when required;
- Undertaking environmental and social monitoring of REDD+ projects and verifying self-monitoring undertaken by project implementers.

In addition, the VDC can facilitate tabling grievances to the Provincial-level grievance redressal mechanism.

5 Environmental and Social Baseline

5.1 Environmental Baseline

5.1.1 Biodiversity

The Republic of Mozambique is situated between 10° 27' and 27° 00'S latitude and 30° 12' and 40° 51'E longitude. It is bounded on one side by the Channel of Mozambique for a length of 1,965 km and on the land side by six countries, from south to north: South Africa, Swaziland, Zimbabwe, Zambia, Malawi and Tanzania. The greatest width is about 1,130 km and the total area is 799,380 km^2.

Although the northern area of Mozambique has undulating terrain ranging from 500 to 2,701 m, about 94% of the country is below 1000 m altitude, and south of the Save River, roughly 90% of the terrain is below 200 m. Approximately 40% of the area in Cabo Delgado and Zambézia Provinces and 60% of the area in Manica and Sofala Provinces are also below 200 m altitude. The zone of 200-500 m altitude, which is more or less undulating, occurs mainly over northern parts of the country. Altitudes of 500-1000 m occupy only 25% of the country with the largest proportion occurring in the north.

The geology of Mozambique is comprised mainly of ancient crystalline rocks in the north and young, Tertiary and Quaternary sediments and volcanic rocks in the south

Mozambique has a tropical climate with two seasons, a wet season from October to March and a dry season from April to September. Climatic conditions vary depending on altitude. Rainfall is heavy along the coast and high lands and decreases in the south. Precipitation varies from 350 to 1,400mm depending on the region, with an average of 800 mm (Mafalacusser, 2013).

Seasonal variations in temperature are around 5˚ Celsius (C) between the coolest months (June, July and August) and the warmest months (December, January and February). Geographically, temperatures are warmer near the coast, and in the southern lowland regions compared with the inland regions of higher elevation. Average temperatures in the lowland areas are around 25-27˚C in the summer and 20-25˚C in winter. Average temperatures in the highlands range from 20-25˚C in the summer and 15-20˚C in winter.

There is fairly significant climate variation between the provinces that are the focus of the SESA for REDD+, and these are summarised below:

- Cabo Delgado has a tropical climate with much less rain falling in winter than in summer. The climate here is classified as Tropical savanna (Aw) by the Köppen-Geiger system. Namaua is the wettest region of Cabo Delgado province, with an average of 1,148 mm

rain per year, and an average temperature of 23.1°C. Chefe Bacar's is the driest region of Cabo Delgado, with less than 815 mm of rain per year, and an average temperature of 25.6°C.

- Zambézia has a tropical climate with much less rain falling in winter than in summer. The climate here is classified as Tropical savanna (Aw) by the Köppen-Geiger system. Gurue is the wettest region of Zambézia province, with an average of 1,857 mm rain per year, and an average temperature of 22.2 °C. Biyar is the driest region of Zambézia, with less than 955 mm of rain per year, and an average temperature of 24.7 °C.
- According to the Köppen-Geiger system, Gaza province has three different climate zones, but is dominated Tropical savanna (Aw). Gaza province also has a hot summer Mediterranean climate (Csa), and a hot semi-arid climate (BSh). Praia de Bilene is the wettest region of Gaza province, with an average of 916 mm rain per year, and an average temperature of 22.6 °C. Praia de Bilene is classified as Tropical savanna. In contrast, the prevailing climate in Makandezulo A is known as a local steppe climate (Bsh). There is little rainfall throughout the year, with an average of only 448 mm. The temperature here averages 22.7 °C.

Wind studies conducted by the Ministry of Energy, Mozambique in 2008, utilized 30 years of data from the United States National Weather Service's (NWS) National Center for Environmental Prediction (NCEP) and National Centre for Atmospheric Research (NCAR). Although there is annual and seasonal variations in wind direction and speed, wind studies indicate prevailing winds are always from an easterly direction. The island of Madagascar clearly breaks up the wind blowing from across the Indian Ocean to the continent, and effects the direction and strength of the winds that reach the coast of Mozambique. As such, the coast of Mozambique lies in the rain shadow of Madagascar. Prevailing summer winds are from the northeast, whereas winds in all other seasons are predominately from the southeast and east. This shift in wind directions reflects the movement of the Intertropical Convergence Zone, which brings tropical rains to the region during the summer. Destructive cyclones also occur during the summer season.

Most of the rivers in Mozambique flow in a W-E direction, draining the water of the central African high plateau into the Indian Ocean. Mozambique has 104 identified rivers basins, considering only catchments of rivers that flow into the Indian Ocean. The coastal zone is considered as one catchment (Tauacale, 2002). With the exception of the small rivers draining the coastal zones, the majority of the rivers have a torrential regime, with high waters during 3-4 months and low flows for the remainder of the year corresponding to the marked wet and dry seasons.

The Zambezi (140,000 km^2) and Rovuma (101,200 km^2) river basins each occupy over 100,000 km^2 of Mozambique. Eleven other river basins cover more than 10,000 km^2, including the: Limpopo (79,600 km^2) Lúrio (60,800 km^2) Púnguè (28,000 km^2) Licungo (27,700 km^2) Búzi (25,600 km^2) Messalo (24,000 km^2) Ligonha (16,300 km^2) Incomáti (14,900 km^2) Gorongoza (13,200 km^2), Inharrime (11,900 km^2), Govuro (11,200 km^2) (Tauacala, 2002). River basins of less than 10,000 km^2, but important to the country include: Maputo, Umbelúzi, Save, Monapo and the Montepuez basin. In total, these 18 river basins cover approximately 572,500 km^2 (75%) of the total area of Mozambique.

There are four lakes in Mozambique -- Lake Niassa, Lake Chiuta, Lake Cahora Bassa and Lake Chirwa, all in the north. The country shares the borders of Lakes Nyasa, Chiuta, and Chilwa with Malawi. The Chora Bassa Lake is created by the country's hydroelectric dam network —particularly the extensive system created by the Cahora Bassa Dam at Songo on the Zambezi River.

Mozambique has five phytogeographical areas with Miombo, Mopane, undifferentiated woodland and vast coastal mosaic. The most important biodiversity areas include the Gorongoza Mountains, Great Isenberg Archipelago of Quirimbas and the Chimanimani Massif. There are three biodiversity hotspots-Coastal Forests of Eastern Africa, the Maputaland-Pondolannd-Albany and the Eastern Afrontomane. Additionally, there is the Zambezian Coastal Flooded Savannah, which is an eco-region unique to Mozambique.

The 2,470 km of coastline contains several marine and costal habitats; the coral reefs, mangrove and sea grass meadows are very important to Mozambique. Coral reefs cover an area of 1,860 km^2; while mangrove covers approximately 400,000 hectares.

Although there are a variety of ecotones in Mozambique, ranging from bushland, grassland and savannah to forest the below discussion emphasizes forests for the SESA for REDD+. This is undertaken so that key biodiversity features requiring special consideration can be identified and addressed in future project specific environmental assessments to help protect these key biodiversity features. There are coastal, inland and upland forests in Mozambique. The structure of the forests are effected by the proximity to the ocean, geology and soils, elevation, humidity, temperature, precipitation and these variables in turn effect the type of wildlife found in the forest, as well as human uses of the forests.

The country has a rich and variety of ecological systems and endemic species, which are protected under the conservation areas. These areas are made of parks, national reserves and hunting reserves. These areas are clearly demarcated under state jurisdiction and representative of the natural national heritage. The conservation areas aim to preserve the biodiversity and fragile ecosystems or certain species of fauna and flora. Decree 10/99 7th of July establishes the Forestry and Wildlife Department to secure a participative management of forestry and wildlife resources while promoting community

sustainable development. Presently the conservation system covers approximately 15% of the surface of the country, consisting of 6 parks, 6 reserves and 12 official hunting reserves.

Table 17 National Parks and Reserves of Mozambique

Category	Protected area	Area (km^2)	Location	Year
	Quirimbas National Park	7,500	Cabo Delgado	2002
	Mágoè National Park	3,745	Tete	2013
	Gorongoza National Park	4,086	Sofala province	1960
	Zinave National park	4,000	Inhambane province	1973
	Bazaruto National Park	1,435	Inhambane province	1971
	Banhine National Park	7,250	Gaza province	1973
	Limpopo National park	11,233	Gaza province	2001
	Malhazine Ecological Park	5.68	Maputo City	2012
National Reserves				
	Niassa Reserve	478	Niassa province	1960
	Niassa Lake Reserve	42,000		
	Gilé National Reserve	2,861	Zambézia province	1932
	Primeiras e Segundas Environmental Protected Area	10,409	Nampula province	2012
	Marromeu Buffalo reserve	1,500	Sofala	
	Chimanimani National Reserve	655	Manica province	1999
	Pomene Reserve	200	Inhambane province	1964
	Ponta d'Ouro Part. Marine Reserve	678	Maputo province	2009
	Maputo Special reserve	1,040	Maputo province	1994

The Gorongoza Mountain- Rift Valley Complex is one of the most important conservation areas in the country. The complex covers an enormous diversity of habitats from mountain forest and grasslands to mangrove (Tinley, 1977), not found in such proximity elsewhere on the continent. The complex encompasses the isolated Gorongoza Mountain which rises to 1,863 m and the southern-most, Mozambican sector, of the African Rift Valley. It is an isolated montane block 160 km inland from the sea. The mountain supports tropical to montane rainforest on its summits with heath grasslands. Several endemic and near-endemic plants and animals occur within the mountain's habitats.

The mountain is also the origin of streams and rivers that feed the Urema Lake and the floodplains of the Gorongoza National Park (GNP). Gorongosa mountain is in a unique and precarious situation and recently the mountain above 700 m of altitude was decreed part of the GNP in an effort of the GoM to

revert the degradation of the Mountain and floodplains. Consequently, further agricultural development should consider this environmental issue and the ongoing conservation/rehabilitation efforts.

The Cheringoma Plateau, clothed in miombo woodland and dry forest containing many unusual species, rises up on the other side and then gently descends to the extensive grasslands of the Marromeu Complex, coastal dunes and mangrove swamps. Over this large area not only can viable populations of a multitude species survive, but the ecological processes that sustain such a landscape can continue to operate. A variety of wetland habitats occur in the Marromeu Complex including rivers, lakes, temporary pans, reed swamps, floodplain grassland and palm savanna. The diversity of habitats in this area makes it one of the finest wildlife grazing ecosystems in Africa as reflected by the spectacular wildlife that inhabited the Valley prior to the armed conflict in Mozambique. The complex presents a cluster of conservation areas comprising several categories protected areas, see table below.

Table 18 Protected areas within Gorongoza Mountain - Rift Valley Complex

Protected area	Current area (km^2)
Wildlife Hunting areas (Coutadas 10,11,12 and 14)	6,438
Gorongosa National Park	7,850*
Marromeu Special Reserve	1,538
Nhampacue Forest Reserve	26
Inhamitanga Forest Reserve	19
Total protected area	15,871

In December 2004 the GoM designated the 688,000 ha Marromeu Complex a RAMSAR site (Mozambique ratified the International Convention for Conservation on Wetlands in 2004), which includes 80% of the Marromeu District. Only 20% of the district's area is allowed for community development and private investment.

The Chimanimani Massif forms part of the Great Eastern escarpment along the Mozambique-Zimbabwe frontier. The Massif, although relatively small in area, has an exceptionally high diversity of habitats and species. Nearly 1,000 vascular plant species have been recorded for the area, of which 45 are endemic (Dutton and Dutton, 1975).

5.1.2 Forest Resources

Mozambique has a total forest area of approximately 40.6 million hectares and 14.7 million hectares of other wooded areas (DNTF, 2007). Productive forests (forest areas demarcated for the production and exploitation of wood) cover about 26.9 million hectares, while 13 million hectares have been defined as areas not suitable for the production of wood, where most of the National Parks and Forest Reserves are situated. The forests that have some sort of legal protection or conservation status cover some 22% of the total forest cover of Mozambique.

Miombo Forests are the most extensive forest type, occupying approximately two thirds of the country.

Mopane Forests are the second most extensive forest type found in the country, occurring especially in the Limpopo--Save area and upper Zambezi Valley. Mopane Forests are characterized by a mix of trees and bushes.

The Forest Reserve Network of Mozambique was established during the late fifties. Apart from a few of the reserves that were established for protection of water catchments, most of them were established as timber production areas. Forest reserves are one of the categories of conservation areas, together with National Parks and Game Reserves, covering an area of about 73,000 Km^2 (approximately 11.5% of the country's surface). The Forest Reserve Network was abandoned during the armed conflict, turning some of the forest reserves as refuge for local communities or hideaways for the guerrilla fighters. As a consequence, the population pressure within the forest reserves increased in most of the cases. However, it is important to note that there are some of the reserves that did not experience any human settlement, therefore, maintaining their conservation status.

In Mozambique, there are thirteen Forest Reserves, which are administered by the National Directorate of Forest and Wildlife (DNFFB) within the Ministry of Agriculture. Other protected areas, including National Parks and Trans Frontier Conservation Areas, are the responsibility of the Ministry of Tourism. The Forest Reserves were essentially created to safeguard timber reserves from advancing agriculture for future sustainable utilization. The possibility that these Reserves can make a significant contribution towards biodiversity conservation has been recognized. However the DNFFB itself has expressed interest in maintaining an appropriate and effective management of these areas. There is limited information about the state of the vegetation and ecosystem condition within these Reserves. The survey conducted by Mueller et al. (2005) was designed to characterize the condition of forest reserves that they visited, and these are summarized in the SESA addition to forest summaries provided by others (WRM Bulletin, 2008; Timberlake et al. 2011, Kanj et al. nd,).

The coastal forests are subdivided into two phytogeographical regions:

- The Zanzibar- Inhambane regional mosaic extending from the mouth of the Limpopo River (latitude 250S) to the Rovuma River (and northwards).
- The Tongaland- Pondoland regional mosaic (TPRM) extending southwards from the Limpopo River.

These two phytochoria differ floristically, but both comprise a complex matrix of forests (Sand Forests (Miombo woodlands, Evergreen forests, Riverine forests, Dune forests, wooded grassland, Secondary grassland, seasonally flooded edaphic grasslands, and Mangroves communities). In northern Mozambique, the width of the coastal belt mosaic varies considerably, as it penetrates further inland along broad river valleys. Mangrove forests are floristically well developed in the northern and central sectors of the coast and less so long the southern part. They are seldom very extensive between their landward and seaward faces (except at the Zambezi River delta) and are semi-continuous along the coast. The mangrove forests are classified separately from other natural wood vegetation because they are distinctive by their location along the coast in the river mouths.

Dune vegetation is the most fragile forest type of Coastal Forest system. Species: Due to the long history of anthropogenic land use along the coast, much of this landscape today comprises a mosaic of agricultural fields, with grassy follow and the orchards of exotic trees species, such as coconut (*Coco nucifera*), cashew nut (*Anacardium occidentale*) and mango (Mangifera *indica*). In general, a more or less continuous cover of dune forest occurs between Ponta do Ouro in the south and Bazaruto in the north. Following the dune forest there are, grasslands, wooded grassland, swamp forests (in the South), and woodland.

Miombo Woodlands occur in broad extent in the Northern Provinces (Cabo Delgado, Niassa, Nampula and Zambézia) and confined in smaller scattered areas in the Southern Provinces and in the center of the country where the association of *Trichilia emetica* and *Sclerocary birrea* becomes sometimes dominant. Dry deciduous tropical forests are part of the extensive Miombo woodland vegetation located in Nangade and Mueda districts of Cabo Delgado.

Sand Forests have a poorly developed understory, and is characterized by the presence of the following tree species: *Dialium schlechteri*, *Afzelia quanzensis*, *Balamites maughamii* (precious), *Newtonia hilldebranddtii*, *Pteleopsis myrtifolia*, *Drypetes arguta*, *Hyperacanthus microphyllu*, and *Erythrophleum lasianthum*). These forests have a distinctive boundary (1-2 m) of almost bare soil protecting it from the effects of annual fires. The Sand Forest rarely burns and fires usually stop at the border, creating a unique environment for itself. The more open, mixed woodland forest is characterized by common, woody savanna species such as *Acacia burkei, Albizia veriscolor*, *Afzelia quanzensis*, and *Albizia adianthifolia, and* has a well-developed grass understory represented by *Aristida*, *Ponarthria* and *Perotis* species.

5.1.2.1 Anthropogenic uses of forests

The majority of Mozambicans live in rural areas, and rely on natural resources for their daily livelihoods. Subsistence agriculture is practiced by the majority of the rural poor, and commercialization of products only takes place when there is surplus production. The collection of firewood and the production of charcoal for cooking and heating represent 85% of the total energy consumption in the country. People in rural areas collect various products for subsistence from the forest, including timber and non-timber forest products.

The timber products collected from forests include:

- **Fuel wood and charcoal:** More than 80% of the energy requirements in rural areas in Mozambique are met on fuel wood. The high level of wood biomass requirement in both rural and urban areas means that there is a great pressure on the forest resources to provide the energy needs firewood.
- **Construction material:** Most of the houses in the rural areas and peri-urban areas are of traditional nature made up of poles and laths for the frame, and grass for roofing. The species *Diasporas rotund folia, Catunaregam spinosa, Apodytes dimitiata* are among the most valuable for poles in southern Mozambique due to their resistance to insects and high durability. All these species are found in coastal forests.
- **Wood for carving:** The carving industry can be divided into two parts. First, the commercial carving and the production of household (which involves selected species such as *Dalbergia melanoxylon* and *Spirostachys Africana Trichilia emetica, olaxdissitiflora, Apodites dimitiata*).

Non timber products derived from forests include:

- **Food plants:** Edible fruits -- Wild fruits from coastal forests such as *Strychnos spinosa*, *S. madagascarienses*, *Trichilia emetica*, *Vangueria infausta*, and *Mimusops caffra* are highly valued by local people Tubers -- tubers supplement carbohydrates, vitamins and minerals to rural communities. Species of *Dioscorea* sp. are the most readily available food reported to be eaten by local communities around the coastal forests in northern Mozambique during the famine periods. Women are known to be the ones who collect edible tubers for the household consumption.
- **Medicinal plants:** About 80% of the people in Mozambique use traditional medicine to treat or cure various ailments. Despite the existence of specialized people involved in the collection and administration of traditional medicine, knowledge about the use of medicinal remedies is widespread. Nowadays, some plant species found in the coastal areas of Matutuine District are

being protected due to their perceived scarcity. *Cladestemon kirkii, cardiogyne africana, and acridocarpus natalensis* are the most sought after species due to their perceived value.

- **Game:** 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 throughout the country. However, hunting of some species for household consumption is granted by the Decree 12/2002 (DNFFB, 2002). These species are found in the coastal forests.

Other products and services derived from forests include:

- **Beekeeping:** Beekeeping has been used to improve the livelihood of the community. In most parts of the country honey is collected from two both underground and the beehives. Same communities use traditional hives made with the bark of the trees and in other with same financial support they were provided with some improved hives and explained the need to conserve the forest for the production of honey.
- **Honey:** has been used for both food and medicinal purposes. The production of honey depends on the availability of flowering plants. The flowers provide the substances (e.g. nectar) for production of the honey.
- **Sacred values:** There are several cultural assets along the Coastal Forests. The Chirindezene and Licuati sacred forests in the south are some of the well-protected sacred groves by local custom and used for ceremonies and cerebrations. In Catuane a forest inventory for a local community identified four cultural areas in the forest, normally used for meeting (Banjas) and other community activities. These local cultural assets are equally important compared with sacred groves. Many local cemeteries are also found in the Coastal Forests and communities treat them as cultural and spiritual values.

There are at least two types of sacred coastal forests in southern Mozambique: the “gwendzelo” and “phahlelo”. The Gwendzelo is made on places on sites where the graves of the ancestors (“régulo”) are located. The local communities use these forests for sacrifice ceremonies. The “phahlelo” are the ceremonies made at the household level for the wellbeing of a restricted family. The family headmen or a traditional medicine practitioner performs the ceremonies. The phahlelo can also be undertaken under a sacred tree. The most common sacred trees in the coastal areas pf southern Mozambique includes *Sclerocarya birrea*, *Garcinia livingstonei* and *Manilkara discolor*. In northern Mozambique, local communities use baobab (*Adansonia digitata*) tree for the ceremonies.

Tourism: The utilization of forests for tourism purposes is taking shape in Mozambique. Communities are establishing an ecotouristic center in Madjadjane area as a livelihood strategy. This initiative is based on the conservation of coastal forest for enhancing better life for the local communities. The

initiative is being funded by IUCN. Similar initiative is emerging in the Quirimbas National Park. The overall idea is to use the conservation of coastal forests as the means to earn income for improvement of standards of living of the local communities. WWF-Mozambique and other counterparties are funding the idea.

5.1.3 Quirimbas National Park (QNP)

This park was established in June 2002. It covers 110 kilometers along the northeast coast of Mozambique, and contains 11 of the Quirimbas islands in the southernmost section. The park has a tropical climate with a rainy season from December to April and a drier but cooler season from May to September, much like the rest of Mozambique in general. The park protects 750,639 hectares of coastal forest, mangroves and coral reefs (WWF). Some of the animals found there include elephants, lions, leopards, crocodiles and wild dog. Habitats include mountains, forests, woodland, savannah, mangroves, beaches, coral reefs and sea grass beds. Marine life found here includes sea turtles, dugongs and at least 375 species of fish, including threatened pipefish and seahorses. (Source Wikipedia, accessed 2015)

5.1.4 Gile National Reserve (GNR)

Gile National Reserve was first declared as a partial hunting reserve in 1932. It is located in the districts of Pebane and Gile in Zambezia Province and covers an area of 2,860 km^2. There is miombo forest, dambos, reforested savannah and riverine vegetation along various rivers and streams. There are also granitic Kopjes' habitats. There are 95 species of mammals, including elephant, lion, leopard, wild dog, spotted hyena, kudu, nyala and waterbuck, together with 114 species of birds.

5.2 Social Baseline

Mozambique is comprised of 11 provinces - Maputo city, Maputo province, Gaza, Inhambane, Sofala, Manica, Zambézia, Tete, Nampula, Niassa and Cabo Delgado. The population includes three main ethnic groups- Tsongas on the south, Shona in center and the Macua-lomue in the northern region. The three groups comprise about 99.66 percent of the total population, followed by Euro-Africans with 0.2 percent; the Indians with 0.08 percent and finally Europeans with 0.06 percent.

The country's population is estimated at 21.8 million (2008), 63% of whom live in rural areas. During the 16 years of civil war that followed the country's independence from Portugal in 1975, much of the large rural population migrated to urban centers and across international borders to escape the violence. Following the declaration of peace in 1992, many returned to their rural homes, relying on

subsistence farming, forest products and the development of cash-cropping for their livelihoods (Hatton et al. 2001; ARD 2002; FAO 2005a). About 52 % of the country's population is female and 45.7 percent are under the age of 15 years. The annual population growth rate of the past two decade stands at 2.7 percent, having the population increased from 6.5 million in 1950s to 7.5 million in 1960, 12.1 million in 1980, 16 million in 1997 and 21 million in 2007.

Infrastructure in Mozambique is generally poor and inadequate, especially in the many areas heavily affected by the civil war. The country has approximately 30,400 km of highways, 5,685 km of which are paved. Large sections of the remaining 24,175 km of highway are virtually impassable during the rainy season. The World Bank is currently implementing an $850 million program to rebuild the road network, along with the coastal port system. In addition to the road network, there is a total of 3,131 km of railway, as well as 170 airports, although only 22 have paved runways (est. 1996). Major rail lines connect to South Africa, Malawi, and Zimbabwe. The latter two countries are dependent upon railway links with Mozambique since they are landlocked and must access Mozambican ports to send exports and receive imports. There are a total of six ports and harbors in Mozambique, with the largest being the port of Beira.

According to USAID (2010), Mozambique has a total land area of 786,380 km^2, comprising three geographic areas: (1) a plateau and highland region running from the northern border to the Zambezi River (27% of total land); (2) a middle plateau region that extends south of the Zambezi River to the Save River (29%); and (3) a low-lying coastal belt running south from the Save River to the southern border (44%). The dominant vegetation is woodland, which covers roughly 78% of total land. About a quarter of the country's woodlands and forests are generally free from cultivation. Average annual deforestation is 0.3%. Protected areas comprise 6% of Mozambique's land area (World Bank 2009a; FAO 2005a; ARD 2002).

Agricultural land makes up 62% of Mozambique's total land area. Cultivated area was estimated at between 3.8 and 5.3 million hectares in 2002, with the large range attributed to inconsistent definitions, use of woodlands for cultivation and lack of data. About 3% of cropland is irrigated. An estimated 90% of producers (three million peasant families) are smallholders cultivating rain-fed land. Most smallholder production (63%) concentrates on staple food crops (maize, pigeon peas, cassava and rice) for household consumption. The balance of production is cash crops such as cotton, tobacco, oil seeds and tea (17%) and vegetables (4%). Tree crops, especially coconut and cashew, are grown by small farmers and are a significant source of income in coastal areas of Inhambane and Gaza provinces north of Maputo. Much of the country's soil is nutrient-poor. Most smallholders have limited inputs, and yields are generally low. Smallholders also raise cattle, pigs, chickens and goats,

although cattle production is limited by the prevalence of the tsetse fly in two-thirds of the country (ARD 2002; World Bank 2009a; FAO 2005a; USDOS 2010; FAO/WFP 2010).

The remaining 10% of producers are commercial farmers producing crops for the national market, agro-industry and export. Major agricultural exports are cotton, cashew nuts, sugarcane, tea and cassava. Large commercial operations cultivate an estimated 100,000 hectares, including about 40,000 hectares of industrial sugarcane plantations (35,000 hectares of which is under irrigation) near sugar mills in the southern Maputo and Sofala provinces (ARD 2002; USDOS 2010; FAO/WFP 2010).

Slash-and-burn (ash-fertilisation) agriculture in particular is widely practised in miombo. The practice appears well adapted to the generally infertile soils of miombo, particularly in the wetter regions where woody plant biomass is high and cut trees regenerate rapidly through resprouting. The plots to be chopped are selected on the amount of wood available for burning (Puzo 1978). By concentrating the brush into large piles, rather than spreading them over a wider area, farmers obtain a deeper ash bed and a greater fertilising effect through the release of plant nutrients and increases in soil pH (Stromgaard 1984; Mapiki 1988; Araki 1992). A deeper ash bed reduces the amount of soil tillage required, an advantage to farmers who have no livestock, while the greater fertility contributes to larger crop yields. This means that the plots to be cultivated can be smaller and more manageable. More brush also means a hotter fire, more complete combustion of the plant material, and the suppression of weeds during the first few years of cultivation. The land is cultivated until the added fertility is exhausted or until the regenerating woody vegetation and weeds make continued cultivation unproductive. The plot is then abandoned to a long fallow period and new fields are opened up (Puzo, 1978).

Various other forms of shifting cultivation occur within the region. On inherently infertile soils, a long fallow period is necessary for replenishment of both the vegetation and soil nutrients. With the ongoing expansion of the human population in the region, leading to a reduction in the area of uncultivated land, fallow periods are becoming shorter and shifting cultivation is gradually being replaced by more permanent agriculture (Lawton 1982; Chidumayo 1987a; Stromgaard 1989). As the duration of the fallow declines, trees are felled rather than lopped to produce sufficient biomass to burn and fertilize the soil, reducing subsequent fallows to a fire-maintained wooded grassland called chipya. Eventually, most of the potentially arable land is cultivated more-or-less permanently. In the absence of more intensive soil fertility management, this is likely to result in a gradual and long-lasting decline in fertility.

Thirty-seven percent of Mozambique's population lives in urban areas. An estimated 75% of urban residents live in unplanned informal settlements, many without access to safe water and sanitation. Most urban residents are engaged in subsistence agriculture at the outskirts of cities or in the informal

labor market. About half the urban population lives on less than US $1.25 a day (UN-Habitat 2009; UN-Habitat 2008; World Bank 2006; Negrão 2004).

Following the civil war, in an effort to rebuild the economy, the state ultimately reoriented economic policy in accordance with plans imposed by the International Monetary Fund, which emphasized decentralization and privatization and provided assistance to family farmers. Although agriculture has been the most widespread economic activity, remittances from migrant labourers in South Africa and revenues from tourism and the country's port and railway sector have been equally important historically as sources of foreign exchange. While all these sectors declined severely during the 1980s and early '90s because of civil unrest, they rebounded after the 1992 peace accord, and the industry sector —specifically, resource exploitation, aluminum smelting, and electricity production—also expanded. By the early 21st century, Mozambique had attained a significant amount of economic growth.

Mozambique's 2008 GDP was US $9.7 billion. Agriculture accounts for 28% of GDP, industry 26% and services 46%. An estimated 54% of Mozambique's population lives below the poverty line (2008). Life expectancy has fallen to 41 years, primarily due to the prevalence of malaria, HIV/AIDS, tuberculosis and waterborne disease. The national adult HIV and AIDS prevalence rate is over 16%, with four provinces registering rates above 20% (World Bank 2009a; UNDP 2009; USDOS 2010a; USDOS 2010b; FAO/WFP 2010).

6 Environmental and Social Impacts and Opportunities of Proposed REDD+ Strategy Options

As identified in Section 3, several actions will be implemented as part of the REDD+ strategies and each of these actions will have associated impacts and opportunities. In summary, the actions for each strategy option, taken from the REDD+ Draft Strategy, April 2016, include:

Strategic Option 1: Agriculture

1. Implement the National Agro-Ecological Zoning (ZAEN) and agricultural policies as a basis for sustainable and integrated use of natural resources;
2. Set the unalienable areas for subsistence farming and trade with deliberate measures to avoid or minimize deforestation
3. Improve the post-harvest management system (storage, preservation and processing) and agricultural marketing;
4. Promote conservation and agroforestry agriculture and soil conservation measures and water;
5. Increase access to technologies to ensure soil productivity and fix itinerant agricultural producers from the family sector (includes access to extension services and plant health care, soil conservation techniques, and security of land tenure);
6. Design and promote technology transfer programs easy adoption and access to markets and finance;
7. Promote access to resources and agricultural inputs (improved seeds, fertilizers, pesticides, irrigation equipment, and mechanization);
8. Establish family or community feed banks and empower producers in animal supplementation materials;
9. Establish a platform of partnerships and agricultural development systems to ensure food safety.

Strategic Option 2: Energy

1. Provide the low-income population with alternatives to access to clean energy produced from sustainable sources, with a focus on urban and suburban areas;
2. Promote the establishment of grants for biomass energy production purposes in order to ensure the sustainable management of the forest;
3. Facilitate the production of woody biomass for energy purposes through economic and tax incentives;
4. Establish efficient production systems of biomass energy with a focus on improved stoves for charcoal making;
5. To promote the efficient use of biomass energy through improved stoves for domestic and collective kitchens;
6. Empower users and promote the use of alternative energy biomass in urban areas
7. Strengthening the system of production supervision, transportation and marketing of charcoal

8. Provide financial and technical support for mass production of improved stoves for both urban and rural areas.

Strategic Option 3: Conservation

1. Strengthen the conservation areas management system including an efficient system of financing;

2. To improve the infrastructure and the conservation areas information system in order to attract both leisure and scientific tourism, scientific research, as well as other forms of compensation for biodiversity and other ecosystem services;

3. Develop mechanisms for income generation in the areas of conservation and sharing of benefits with local communities;

4. To promote and introduce into local communities, activities compatible with conservation, and establish a system of education and training geared to conservation;

5. Resize, reclassifying and restore the current conservation areas and assess the potential to include new conservation areas;

6. Create preferred tourist development zones as incentives to attract investments in the areas of conservation.

Strategic Option 4: Sustainable Forest Management

1. Strengthen forest monitoring including monitoring the implementation of forest management plans, exploitation and timber transport, registration and statistics of wood products sold in domestic and foreign markets;
2. Ensure the improvement and full use and value addition of forest products timber and non-timber and the connection between forest operators and market and finance;
3. Train and enable operators and forest workers in matters of forest operations and processing of forest products (wood and non-wood);
4. Improve the economic integration of dealers and communities and ensure the formalization of public-private-community partnerships in co-management of forest resources;
5. Establish and provide technical and institutional support to forest community management initiatives that generate real benefits;
6. Promote actions aimed at reducing wildfires and environmental conservation;
7. Develop silvicultural activities for the restoration and regeneration of native forests within forest concessions;
8. The government must take the role of inventory of productive areas and develop management plans to ensure the maximum potential is realized and better control of extraction of timber and complementary activities.

Strategic Option 5: Restoration of degraded forests and planting trees: establishing a favorable environment for forest businesses, the restoration of natural forests and planting of trees for various purposes (formerly Forest Plantations)

1. Clarify and simplify the issues of access and security of land for plantations for both large companies and for the public, community and family sector;
2. Create the foundation of knowledge, investment and operation of small and medium enterprises in the establishment, restoration and forest management, including value addition and system of forest products and services markets;
3. Provide appropriate reproductive material for planting trees adapted to the specific site and product markets and / or forestry services;
4. Promote restoration mechanisms and rehabilitation of degraded forests or deforested by natural or assisted regeneration;
5. Promote the planting of trees for various purposes, including tree crops for various purposes;
6. Spread the planting of trees to rural families, and as part of urbanization (parks and streets).

The Opportunities and Risks analysis performed for the REDD+ Strategic Options identified several shared risks and opportunities, as well as some that were unique to individual strategies.

It should be born in mind that actual conditions are very important in determining the level of impact that may occur as a result of any particular REDD+ project. The environmental impact also varies considerably depending nearness to population centers. The projects that may be funded could range in scale from fairly small projects (e.g., local community woodlot for production of fuel wood), with correspondingly smaller scale or minimal environmental and social impacts, to larger scale projects, such as commercial agriculture, commercial wind farms, or building a hydro-electric dam which would have significantly greater environmental and social impacts that would require evaluation. The scale of project will be determined during project screening, and the associated level of environmental assessment determined at that time (See Section 7.1, and Appendix A)

6.1.1 REDD+ Strategy Opportunities

In general, Strategic Option 1: Agriculture, would have multiple benefits for the country and conceivably could be integrated within other agricultural programs being initiated in the country, for example the PROIRRI Sustainable Irrigation Development Project (MADNSA, 2011).

Benefits associated with the agricultural strategy include: a) reducing itinerant agriculture, which can have a direct positive impact on conserving biodiversity, b) reducing erosion and associated sediment loading of rivers and streams, and c) reducing air pollution associated with slash and burn agriculture and charcoal production. In addition to these environmental benefits, the introduction of an agricultural strategy would help create additional secure jobs and increase the cash income for families

participating in large-scale agriculture as well as agro-forestry projects. On a macro-economic scale, the entire country could benefit from the increased production and export of cash crops, and food security could be enhanced in the country's urban areas by growing more food crops using commercial agricultural methods. Other benefits of the agricultural strategy include producing higher quotas of livestock nationally, which will contribute to food security in the country as well as to micro-and macro-scale economies through increased cash income and export, respectively. By developing commercial agriculture in non-forested areas, the country would reduce carbon lost through deforestation associated with itinerant agriculture and contribute to carbon sequestration through the growth of crops.

Similar to the agricultural strategy, Strategy Options 2: Energy; SO3: Improve Conservation Management, SO4: Sustainable Forest Management and SO5: Establish Forestry Plantations, each has the potential to reduce deforestation and degradation and enhance biodiversity conservation in the country. By providing people with viable alternative options for their sources of energy (i.e., efficient cook stoves), timber and non-timber wood sources (i.e., for wood carving, furniture production, etc.), and involving them in sustainable conservation and forestry management, these strategies have the potential to change how rural communities utilize the landscape. Concomitantly, through the implementation of these strategies would result in environmental benefits of improved water quality and air quality in areas formerly affected by itinerant agriculture, charcoal production, and reliance on larger quantities of wood and charcoal for cooking. Improved air quality (reduced wood/charcoal smoke) would be experienced in urban areas, as well as rural areas, and could enhance the respiratory health of those previously affected by charcoal production and cooking over wood/charcoal.

Options SO3 and SO4 could also provide the opportunity for community members to earn a cash income by becoming actively involved in managing the forests, either through patrolling for illegal loggers and working to maintain the health of the forests through controlled burns and clearing undergrowth. SO3, SO4 and SO5 also provide opportunities for community members to participate in eco-tourism to varying degrees (e.g., crafts production and sales, guiding, working in restaurants and retail businesses).

SO2: Energy, provides ample opportunity for growth in emerging energy markets which could draw investors to Mozambique and create job opportunities at multiple levels ranging from project design, financing, planning, implementation and operations. Additionally, jobs could be created along multiple lines from making equipment for different forms of energy projects (e.g., hydro, solar, wind) to construction and maintenance once the projects are built. Job opportunities, of course would be created by all of the other strategy options, but the energy option would likely result in the greatest number of long-term jobs at multiple skill levels (e.g., laborers, engineers, and operators).

Along an environmental and social front, implementation of the strategies would create job opportunities for persons working in the environment and social sectors conducting Environmental Impact Assessments, developing Environmental and Social Management Plans and conducting monitoring and site audits[2]. In addition to growth in the independent contractor/consultancy arena, several jobs would be created within government in order to provide oversight to individual projects. Under capacity building, the policy analysts identified the need for new positions at all levels of government, but especially at a provincial and district level.

All of the strategic options present the opportunity to reduce deforestation and degradation and enhance carbon sequestration in Mozambique, and hence contribute to global climate change mitigation.

6.1.2 REDD+ Strategy Socio-economic Risks and Mitigation Measures

As with opportunities, each of the strategy options presents some risks. Foremost, implementation of REDD+ would require a basic restructuring of many rural community practices which in turn could affect the existing social-psychological, social-cultural framework within individual communities. By eliminating itinerant agriculture and itinerant charcoal production (associated with SO1, SO2, SO3, SO4, and SO5) the strategies would require communities to adjust to new forms of making a living which could impact each community's social hierarchy, individual sense of identity, economic ties (i.e., through elimination of charcoal trade). In rural forested areas, women's roles are traditionally closely tied to charcoal production and it would be critical to ensure their sense of identify and economic security are not threatened by implementation of REDD+. Additionally, by restricting access to forested areas (associated with SO3 and SO4), there is the potential to impact how people relate to traditional cultural properties and/or sacred sites within the forest, and take away the traditionally female role of collecting medicinal plants from the forest. Gathering non-timber products traditionally used for making crafts, furniture, fences and pens for livestock would also be affected by establishing and/or managing conservation areas.

The potential socio-economic impacts identified for each of the strategies are fairly consistent, and include loss of access to forest for subsistence agriculture, charcoal production, wood harvesting for household needs and crafts production, and loss of traditional plant harvesting for medicinal purposes (SO1, SO2, SO4, and SO5), which can result in a loss of food security for farmer families, increased economic and social pressures on families/individuals, health impacts from loss of reliable food source and economic and social stresses. For the conservation strategy (SO3) where traditional access to

[2] Although implementation of the REDD + strategy options is considered programmatic and would be folded into Mozambique's policy and legislation – implementation of REDD+ would result in the development of several public and private projects developed with the intent of contributing to REDD + and capitalizing on carbon sequestration financing. These individual projects would be subject to EIAs, EMPs, etc. (see the Environmental Social Management Framework for details, SWMOZ 2015).

forests is denied, people may lose the ability to visit traditional cultural properties or sacred grounds or waterfalls, which can create social-psychological stress on individuals and communities.

While socio-economic impacts requlting from REDD+ projects can be mitigated by creating alternate job opportunities outside of the forested landscape; creating agricultural co-ops of sustainable cash crops (cashews, peanuts, tobacco, etc) for community members (managed by women); creating shared sustainable gardens for communities; creating alternate sources of protein (e.g. stocked fishing ponds); and provision of food subsidies, and other economic subsidies to accommodate loss of income, food supply, etc., These mitigations in turn can cause changes in social dynamics which may result in stress within communities and families, and potentially lead to increased risk of physical or emotional abuse of women income earners; a reduction in food security within some families, or communities due to failed cash crops, or loss of jobs within commercial agriculture or timber harvesting; physical harm to a family member resulting from human-animal conflicts resulting from wildlife being drawn into the community to eat agricultural crops, cash crops, planted trees, etc., and potentially loss of economic independence and reliance upon government subsidies resulting in various forms of social-psychological stress such increased alcoholosim, community violence, domestic violence, increased health risks associated with a poor diet, etc. (e.g., as observed among First Nations in Canada, and Native Americans, in the USA).

6.1.3 REDD+ Strategy Environmental Risks and Mitigation Measures

In addition to potential social risks, there are several potential environmental risks associated with the strategy options. Table 19 highlights some of the potential environmental impacts associated with the strategy options. Impacts that can be expected include contamination of soils, air, water (including international waterways) from pesticides and fertilizers used in commercial agriculture and forestry plantations. Additionally, energy projects and infrastructure (roads, water etc.) developed to support SO1, SO2, SO4, SO5 or SO6 can result in chemical and hydrocarbon pollution being dispersed to the environment, as well as increased risk of erosion and transport of sedment loads to rivers and other water bodies. All rivers in Mozambique drain to the Indian Ocean, and thus any contaminants dispersed in these waterways have the potential to impact this international water body, including its flora, fauna and consumers of these resources. With the exception of the conservation option (SO3), all of the options have the potential to adversely affect biodiversity, through clearning land for the projects themselves as well as for their associated infrastructure.

Due to the consistency in the impacts identified, the high level mitigation measures proposed are also consistent for each of the strategy options. Project specific mitigation will be required for actions implemented under any of the REDD+ strategy options. Economic mitigation may include creating jobs at timber concessions, or at commercial agricultural developments, establishing concessions or co-ops

where wood products needed for households and craftsmaking can be harvested without harming the forest. Similarly, co-ops can be established for growing other types of sustainable cash crops (e.g., cashews, peanuts, tobacco); co-ops managed by women's groups should be encouraged to ensure women have access to independent income. Projects may also consider creating alternate sources of protein (e.g. stocked fishing ponds), to reduce the need for hunting wildlife. Social mitigation may include providing access to the forest to harvest traditional medicinal plants, and allowing traditional ceremonies at sacred sites within conserved forests, with the provision that these ceremonies do not result in physical harm to the forest (e.g., unprescribed fires, cutting, timber harvesting).

While these types of mitigation measures would minimize adverse project impacts on the social enviornment, some mitigation measures could result in adverse impacts to the bio-physical environment, if not managed well. These impacts include potential dispersal of chemicals via fertilizers and pesticides used for commercial agriculture developed to create alternate jobs and ensure a secure food supply, as well as to grow cash crops, trees grown in wood lots used for community household use, and for timber concessions. In addition to dispersal of pollutants, poorly managed agriculture, cash crops and concessions could result in the spread of pests to areas where these are grown (insects, rats, baboons, monkeys), and increased human animal conflict in cases where elephants are attracted to the trees or crops. While all of these impacts can be mitigated through good management practices, monitoring will be required to ensure these mitigation measures are successful.

6.1.4 Project Level Baseline Studies

In compliance with World Bank Operational Polic 4.01, screening will be conducted for all proposed projects that request carbon credits under REDD+. Based on the results of proect screening, project specific baseline studies may be required. Baseline studies for Category A and B projects will encompass the bio-physical and socio-economic/socio-cultural environment, and will be conducted to determine baseline conditions, assess potential bio-physical and socio-economic, socio-cultural project impacts, and identify mitigation measures to mitigate these impacts. International Finance Corporation (IFC), World Bank Group (WBG), performance standards (PS 1-8) shall be adhered to in all baseline studies undertaken for REDD+ projects (e.g. projects seeking carbon credits under REDD+).

6.1.4.1 Project Environmental Baseline Studies

All bio-physical baseline studies must comply with national laws and regulations, and evaluate pollutants of concern to the World Health Organization (WHO) in air, soil and water (surface and groundwater). WHO or national threshold criteria for these pollutants will apply, depending on which is most stringent. Biodiversity baseline studies will also be undertaken, including terrestrial and aquatic. Key indicator monitoring thresholds can only be established for flora and fauna after baseline studies are completed, because these will identify species presence and abundance.

6.1.4.2 Social Baseline Studies for Projects

All social baseline studies must comply with national laws and regulations, and evaluate potential project impacts on health implementing WHO criteria. Baseline studies shall include consideration of demographics, economics, public infrastructure, health, and heritage resources (tangible and intangible, pursuant to IFC PS 8.). The baseline studies will ensure consideration of gender and vulnerable groups (e.g., elderly, children, persons with disabilities, low income, and disenfranchised minorities).

6.1.5 Project Level Mitigation Measures and Monitoring Plans

Specific environmental and social mitigation and monitoring plans (ESMMPs) must be developed for each project that is proposed as part of the REDD+ strategy (e.g., applies for CO_2 sequestration compensation). It is only during the project stage that project specific impacts can be identified, appropriate mitigation measures developed, and roles and responsibilities for monitoring the success of these mitigation measures assigned. All of these steps must follow World Bank Operational Policy 4.01, and include extensive consultation with stakeholders and members of the community to identify impacts, mitigation measures and determine how the community can be involved in monitoring. Compliance with all related World Bank Policies will be required.

Once environmental baseline conditions are established, an environmental mitigation, monitoring and reporting program (MMRP) shall be developed and implemented to minimize project impacts. Monitoring programs are conducted to determine whether mitigation measures are successful, or require adjustment. Criteria pollutants for air, soil, water are measured for each monitoring event and locaton, and compared with the baseline conditions to determine whether mitigation measures are successful. If during monitoring criteria thresholds are excessed in any pollutant of concern, measures will be implemented to identify the source and modify the activity and/or mitigation measures as needed to bring the project into compliance. An MMRP for flora and fauna (terrestrial and aquatic) will be developed and implemented following international best practices.

Once social baseline conditions are established, a social MMRP shall be developed and implemented to minimize project impacts. Monitoring programs are conducted to determine whether mitigation measures are successful, or require adjustment. If monitoring indicates the mitigation measures are not successful, adjustments to the project or associated mitigation measure will be made to bring the project into compliance.

Tables 19 and 20 provide a summary of the types of risks associated with the specific strategic options, and recommends broad level mitigation measures to address these mitigation measures. Table 19 addresses environmental impacts and Table 20 address social impacts. The first column in these tables lists World Bank Operational Policies that are triggered by the Negative environmental or Social Impact,

identified in Column 2. The third column identifies very high level mitigation measures that should be considered to mitigate the adverse impacts identified in Column 2.

Table 19 Potential environmental impacts, high level mitigation measures to address thes impacts, and World Bank Operational Policies triggered by the impacts.

WB OP Triggered	Negative Environmental Impacts	Indicative mitigation measures
Strategic Option1: Agriculture		
WB OP 4.36, on Forestry WB BP 4.04, on Natural Habitats	Forest loss and degradation of biodiversity from agricultural intensification, due to: • Encroachment (intensification may lead to agricultural expansion) • Providing agricultural inputs (e.g. leaf litter, organic mulch, fodder)	• Land use planning at village level • Demarcation of forest boundaries • Reduce demand to encroach by improving marginal cultivated lands - controlling erosion, improving soil fertility • Agroforestry & conservation agriculture • Provide technical advice on sustainable intensification (through agricultural service centers)
WB OP 4.01, Environmental Assessment,& Access to Information Policy	Chemical pollution from agricultural intensification, impacting soils, water, biodiversity. Potential impacts to international waters.	• Require chemical suppliers to clearly label proper use of chemicals, and provide advice and training on use • Regulate imports to ensure banned or expired chemicals do not enter the country • Provide technical advice on chemical use through agricultural service centers • Promote organic farming and compost
Strategic Option 2: Energy		
WB OP 4.36, on Forestry WB BP 4.04, on Natural Habitats	Loss of forest and deforestation by promotion of energy efficiency, loss of biodiversity. Potential impact to international waters due to land disturbance, increased erosion, sediment loading of waterways.	• EPDA and ESIA for hydropower • Compensatory plantation (addressing biodiversity concerns) • Supplement inputs to biogas with inputs other than animal dung (e.g. agric residues, human & household organic waste)
Strategic Options 1 Agriculture, 2 Energy, and 5 Forest Plantations		
WB OP 4.36, on Forestry WB BP 4.04, on Natural Habitats	Forest loss/degradation, loss of biodiversity, increased risks to threatened and endangered species from improved access to forest resulting from developing commercial agriculture, improved infrastructure for energy projects, plantation projects, and these developments attracting migrants for work, resulting in unplanned rural developments. Potential impacts on international waters, due to erosion and potential spread of contaminants associated with adhoc residential developments (chemical and hydrocarbon)	• Forest management plans that identify users/beneficiaries and prescribe sustainable offtake and equitable access • Ensure community, settlement plans are included in development plans for agriculture, energy, and forestry plantations so that forest is not used for unplanned community developments

WB OP Triggered	Negative Environmental Impacts	Indicative mitigation measures
WB OP 4.01, Environmental Assessment,& Access to Information Policy, Par. 1	Slope de-stabilization, soil erosion, landslides due to agricultural intensification and infrastructure development. Potential impacts on international waters, due to erosion and potential spread of contaminants associated with developments (chemical and hydrocarbon)	• Provide technical advice (through agricultural service centers) to support introduction of sloping land agriculture technologies Agroforestry & conservation agriculture • All infrastructure development should require technical & economic feasibility studies, and screening/ESIA – but particularly for small infrastructure supported by VDC and local funds – with more stringent regulation • & monitoring • Awareness-raising and training for environmentally-friendly infrastructure construction
WB OP 4.01, Environmental Assessment, WB OP 4.36, on Forestry WB BP 4.04, on Natural Habitats	Habitat fragmentation by infrastructure development	• Spatial mapping of sensitive habitats and identification of migration routes, breeding areas (should be incorporated in revised National Biodiversity Strategy) to facilitate spatial planning to better locate new infrastructure. • Maintain important habitats & forest corridors through forest conservation and restoration (in-filling)
Strategic Option 4 Sustainable Forest Management and Option 5 Forest Plantations		
WB OP 4.01, Environmental Assessment,& Access to Information Policy, Par. 1, WB OP 4.36, on Forestry	Solid waste and waste water from tourism industries. Potential contamination of international waters.	• Waste management plans • Regulation/guidelines for waste disposal and enforcement of controls on carriage of non- degradable containers (in protected areas) • Promote environmentally- friendly toilets in remote tourist destinations
Strategic Option 5: Forest Plantations		
WB OP 4.36, on Forestry WB BP 4.04, on Natural Habitats	Decline of biodiversity in compensatory plantations	• Plantation should include mixed species with preference to indigenous species
Strategic Option 1: Agriculture, 3 Conservation, and Option 5 Forest Plantations		
WB OP 4.01, Environmental Assessment,& Access to Information Policy, Par. 1, WB OP 4.36, on Forestry	Loss of ecosystem services	• Valuation of ecosystem services (e.g. national accounts, full environmental cost accounting in infrastructure projects) • Promote and formalize positive ecosystem service to incentivize conservation and sustainable management

Table 20 highlights potential impacts of the strategy options to the social, economic and cultural environment. As with Table 19, Column 2 identifies the potential impact, Column 3 the proposed mitigation measure, and Column 1 identifies the World Bank Operational Policy triggered by the impact listed in Column 2. While Table 13 breaks down potential environmental impacts by strategy option, Table 20 identifies all potential negative social impact with each strategy option to ensure these risks are thoroughly evaluated and mitigated on all REDD+ projects (e.g., projects applying for carbon sequestration compensation).

Table 20 Potential Social, Economic and Cultural impacts, high level mitigation measures to address thes impacts, and World Bank Operational Policies triggered by the impacts.

WB OP	Potential Negative Social Impacts	Indicative mitigation measures
Social Exclusion and Displacement, Loss of Cultural Resources		
WB OP 4.01, Environmental Assessment,& Access to Information Policy, Par. 1, BP 4.04 Natural Habitats, Par 10, & OP 4.12 on Involuntary Resettlement, Par 2 and 7, WB OP 4.36, on Forestry	Exclusion of landless, poor & marginalized, eviction, loss of land/property	• Social & poverty mapping, with in-built gender analysis, leading to support development of RAPs. GAPs and VCDPs • Mandatory representation of landless, poor and marginalized in planning, decision-making, project implementation & monitoring • Access to grievance redressal mechanisms for socially excluded groups (SEG) • Prioritization and incentives for socially inclusive projects
WB OP 4.01, Environmental Assessment,& Access to Information Policy, Par. 1 BP 4.04 Natural Habitats, Par 10, & OP 4.12 on Involuntary Resettlement, Par 2 **and 7** ***WB OP 4.36, on Forestry***	Social exclusion	• Mandatory representation of socially excluded groups (SEG) • Access to grievance redressal mechanisms for SEG
WB OP 4.01, Environmental Assessment WB OP 4.36, on Forestry	Exclusion/devaluation of women	• Mandatory gender sensitization at all levels • Project GAPs (where required)
WB OP 4.01, Environmental Assessment & WB OP 4.11 Physical Cultural Resources	Loss of physical cultural resources, such as heritage sites and monuments, locally important sites	
WB OP 4.01, Environmental Assessment	Exclusion/elimination of cultural / spiritual values & traditional practices	• Take into account in ESIA/ESMP

WB OP	Potential Negative Social Impacts	Indicative mitigation measures
WB OP 4.01, Environmental Assessment	Ignoring/displacing traditional knowledge	• Raise awareness of project proponents and others stakeholders about the value/importance of traditional knowledge and incorporate this in project design and operation
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Small farmers & local enterprises out- competed, displaced	• Support the development of development of cooperatives and associations of small farmers/enterprises to be financially and technically competitive; and support product promotion
Actions Leading to Inequity		
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Inequity in benefit-sharing (loss of)	• Development of legal provisions to ensure benefits are equitably available to landless disenfranchised minorities and women
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Elite capture (of resources, benefits, access, etc.)	• Mandatory representation of landless, poor and marginalized in planning, decision-making, project implementation & monitoring
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Inequitable/loss of access to forest resources/ products	• Marginalized people are represented in preparation, implementation and monitoring of forest management plans • Forest management plans that incorporate religious, cultural, and occupational needs of forest dependent communities
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Increased costs (transaction, labor, time), e.g. • women who lack money and available time cannot pursue grievance mechanism • poor & marginalized cannot afford technologies or to invest in intensive agriculture	• Procedures for grievance redressal that can be easily accessed by marginalized people without fear, or risk of reprisal • Provide subsidies to marginalized people to have access to alternative energy technologies & agricultural inputs
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Land grabbing (of public land)	• VDCs/municipalities undertake inventories of public lands in their territories to enable monitoring of land grabbing and reclamation of such land.

WB OP	Potential Negative Social Impacts	Indicative mitigation measures
	Loss of Livelihood	
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Reduced food production due to conversion of agricultural lands to timber production	• Implement land use policy which aims to prevent such conversion
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Loss of/ limited access to, employment, due to • conversion of agricultural land to timber production • marginalized people being uninformed of new employment opportunities	• Encourage private plantation owners to employ former agricultural laborers in plantation/nursery work • Training of agricultural laborers in forestry plantation & nursery work • VDCs provide information on opportunities & facilitate local communities to pursue them
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Loss of livelihoods, income, economic opportunities, due to: • Ineffective participatory models in protected area management & ecotourism • Communities being prevented from extracting forest resources in degraded areas • Poor illegal traders being prevented from pursuing those activities	• Protected area management plans that ensure marginalized people participation in PA management and ecotourism development • Promoting alternative sources of forest resources, e.g. using Napier grass as substitute fodder • Agroforestry • Promote alternative legal employment
	Loss of authority/autonomy and induced risk of dependency	
WB OP 4.01, Environmental Assessment,& WB OP 4.36, on Forestry	Loss of user/traditional rights, or access to forest products & resources	•Forest management plans that ensure traditional users rights of forest-dependent communities

WB OP	Potential Negative Social Impacts	Indicative mitigation measures
WB OP 4.01, Environmental Assessment	Health risks, due to: • Dietary change – due to loss of access to traditional food sources • unsanitary latrines and open defecation by tourists • chemical fertilizers • indoor pollution (smoke) • increased consumption of processed food	• Ensure traditional user rights • Promote *low flow* toilets in remote tourist destinations • Require chemical suppliers to clearly label proper use of chemicals, and provide advice and training on use • Regulate imports to ensure banned or expired chemicals do not enter the country • Provide technical advice on chemical use through agricultural service centers • Promote organic farming and compost • Promote improved cooking stoves, clean energy • Raise awareness of dangers of unhealthy junk food
WB OP 4.01, Environmental Assessment Access to Information policy, Par 1	Lack of awareness / information amongst women and marginalized groups about: • real value of forest products and services • employment & enterprise training opportunities	• Mandatory application of the gender and inclusion in REDD+ programs. • Mandatory gender awareness training for personnel at all levels - from policy-making, to programme formulation, implementation, monitoring and evaluation.
WB OP 4.01, Environmental Assessment, WB OP 4.36, on Forestry	Not accessible to poor, marginalized (can't afford), and dependence on external inputs needed for agricultural intensification	• Promotion of pro-poor financing (credit, • subsidies, etc.) coupled with on-going support (training, marketing skills, information, etc.) • Ensure protection of indigenous crop varieties (maintaining agro-biodiversity & traditional form of multi-cropping) • Encourage use of organic and compost fertilizers
WB OP 4.01, Environmental Assessment, Access to Information policy, Par 1	Monopolies setting prices (e.g. timber)	• The government should consider regulation of prices and market for timber

WB OP	Potential Negative Social Impacts	Indicative mitigation measures
WB OP 4.01, Environmental Assessment, WB OP 4.36, on Forestry	Token inclusion of women	• Sensitize project implementers about gender discrimination & social exclusion • Prioritize projects which ensure gender sensitivity and social inclusion
WB OP 4.01, Environmental Assessment, Access to Information policy, Par 1	Politicization of community decisions leading to elite capture of access to forests and their benefits	• Ensure effective local grievance redressal mechanisms • Mandatory representation of landless, poor and marginalized in planning, decision-making, project implementation &monitoring
Social Conflict and Violence		
WB OP 4.01, Environmental Assessment,	Violence against women	• Prepare GAPs, • Promote gender-responsive grievance redressal mechanism • Ensure severe punishment of perpetrators
WB OP 4.01, Environmental Assessment, WP OP 4.36, Forestry	Social conflict, due to: • tying of carbon rights to land and forest ownership • increased access to forests by marginalized groups • raised expectations of community groups • allocating subsidies only to small farmers • differential interest in and access to alternative energy technologies	• Clearly define carbon rights and how benefits will be shared • Forest management plans that incorporate religious, cultural, and occupational needs of forest dependent communities • Open, transparent communication • Free prior &informed consent • Conflict resolution mechanism • Conflict resolution mechanism • Promotion of alternative energy technologies must consider needs of different user groups

WB OP	Potential Negative Social Impacts	Indicative mitigation measures
WB OP 4.01, Environmental Assessment	Human-wildlife conflict	• Create buffer zones where they don't exist around protected areas • Promote community-based wildlife management • Compensation for human life and crop lost • Problem animal control • Fencing

6.1.6 Summary of Potential Impacts and Proposed Mitigations

For the specific strategy options, the various actions associated with SO1: Agriculture, could result in resistance from community members who have an attachment to traditional agriculture practices and do not want to adopt conservation agriculture (CA). Community consultation conducted for the SESA revealed that many community members do not understand how CA works and how it could benefit them, and are hesitant to let go of the agricultural system they know. They also did not understand the rules for compensation based on carbon credits for planted perennial crops. Additionally, the implementation of this option might result in:

- Commercial agriculture forcing communities to grow crops they are not interested in (e.g. local communities showed preference for growing fruit trees);
- Changes in social structure due to a need to participate in commercial agriculture, rather than subsistence agriculture;
- A lack of equitable participation of both genders in livestock distribution and commercial agriculture.

If the agriculture option is developed in areas where there is currently good biodiversity, this option would pose a threat to reducing biodiversity in the country. If chemical fertilizers and pesticides are used inappropriately, these pollutants could spread to nearby rivers and streams and be dispersed to soils beyond the field. The introduction of new chemical pollutants in the water and soils would enter the food chain, and could adversely impact the health of wildlife (endangered, threatened species) as well as people.

Risks associated with SO2: Energy, include, at a very general level, a lack of adequate funding and insufficient capacity/knowledge to develop alternative energy technology could result in the potential failure of future proposed energy projects. Additionally, limited participation of the national private sector could undermine the necessary technology transfer and sustainability of the renewable energy sector. There is also recognition of limited institutional capacity for testing the standards of cook stoves to ensure minimum emissions and safety of the stoves adopted for the program. Further, many families in rural areas do not have the resources available to buy fuel efficient cook stoves. Community consultation also found that there was currently a lack of involvement of local women in the promotion of fuel efficient stoves, which could result in fewer families adopting them.

The risks associated with SO3 and SO4 are captured under the general risks described above. The specific risks associated with SO5: Forestry Plantations is primarily associated with the risk of reducing

biodiversity by emphasizing planting mono-culture crops, especially if native vegetation is cleared to develop the plantations. This option should also encourage communities to develop community woodlots that they can use as a source of wood for everyday needs: poles for fencing, livestock pens, building furniture, crafts production so that they are less reliant on natural forests for these resources.

For SO1: Agriculture, it will be important to develop policies that facilitate the development of commercial agriculture in general as well as CA. Communities will require technology transfer relating to the practices of CA, which also needs to be adjusted to suit the local context. The inclusion of young men and women in CA projects is vital to reducing the current levels of deforestation and degradation as these two demographic groups are most active in illegal logging and charcoal production, respectively. To succeed, these activities should be developed in consultation with representatives of women's groups and youth groups, to help ensure that the social and economic incentives provided by the new CA activities are sufficient for the women and young men to stop charcoal production and illegal logging.

- Responsibility – MASA/MITADER/MGCSA/CGRN

For CA, also provide training for farmers in methods of tilling and caring for the soil that minimize erosion and provide information and training on the benefits of growing subsistence crops in combination with cash crops. Introduction of CA crops should be carefully negotiated with local communities in order to match local values, livelihood needs, and not pose a threat/risk to communities by attracting elephants. Species suitable for the local agro-ecological conditions should be used to enhance the potential for growth and minimize risk of loss to diseases.

- Responsibility - MASA

To minimize the threat of broad scale erosion associated with poorly managed commercial agriculture, laws could be established and implemented that require commercial agricultural developments to obtain permits for irrigation plans, flood control plans, erosion control plans, as well as farming plans that are adopted to local soils, topography, and climate. For example, hilly areas may adopt contour farming or terracing to reduce erosion, and require flood control mechanisms built into their irrigation systems. Incentive programs could be established to encourage adoption of farming techniques that include: conservation cover; conservation cropping; conservation tillage; and crop residue use.

- Responsibility – MASA, MITADER

To minimize the risk of chemical pollutants entering water systems or being dispersed to nearby soils, it will be important to encourage use of non-toxic, biodegradable fertilizers and pesticides. Extremely toxic pesticides materials should be illegal to use in the country, and use of these materials should draw

heavy fines and possibly imprisonment[3]. Laws in place to protect communities and the environment from toxic chemicals should be fully enforced for all commercial agriculture developments.

- Responsibility – MASA/MITADER

Implementation of good irrigation and flood control techniques will help minimize the potential to spread chemical fertilizers and pesticides downstream. Commercial farmers may also consider planting shrubs on the borders of their field to help absorb chemical residue and contain it within their agricultural development.

- Responsibility – MASA/MITADER

For the commercial agriculture developments it will also be important to provide a balance between community involvement in out grower schemes and the ability of families to produce food for their own consumption.

- Responsibility - MASA

For agro-forestry projects, it will be important to develop clear project designs and establish agreements under which compensation is made as a result for caring the trees (as part of carbon sequestration) Additionally, policies should be put in place to provide incentives to grow native trees, to provide suitable habitat for endemic species. Good fire management techniques are included in Appendix D.

- Responsibility – MITADER/UT-REDD

Capacity building will be an important initiative within the government's CA and agro-forestry programs, to provide technicians who can assist with training local farmers in CA and agro-forestry techniques.

- Responsibility – MASA/MITADER

For communities which are required to abandon traditional agricultural practices, and develop and implement an alternative livelihood program for forest dependent communities. Improve alternative livelihood skills training for farmers (both men and women) and inputs.

- Responsibility - MASA

For livestock farming, provide training to farmers to show the value of growing indigenous forage that meets the dietary requirements of cattle as a food supplement. A program should also be developed that teaches farmers the signs of overgrazing that lead to erosion. In consultation with community members, establish some form of livestock grazing rotation in the adjacent area that reduces the potential for overgrazing.

[3] For example, dichlorodiphenyltrichloroethane (DDT)

- Responsibility MASA/MITADER

A training program should be established that encourages getting women involved in re-stocking livestock in communities. The program should address both genders and elders as well as youth, in order to increase the possibility of women being accepted more widely in this role.

- Responsibility - MGCSA

For Strategic Option 2: Energy, and specifically the development of plantations to grow wood/charcoal for sale to urban areas, it will be important to provide training in good practices management to ensure sustainable harvesting of wood products from the plantations.

For the introduction of fuel efficient cook stoves, a program should be devised that uses women to help promote the use of these stoves – ranging from television and radio commercials, and advertisements in newspapers and magazines, to involving local women in speaking to local communities in a public outreach program. The country's educational system should ensure information on the benefits of using fuel efficient cook stoves over is incorporated into class curriculum, at the appropriate level for each grade.

- Responsibility – ME, MITADER, MGCSA

Nationally, measures will need to be taken to ensure the cook stoves sold in Mozambique meet safety and emissions requirements. Potentially by working with NGOs and donors, the government can provide discounts for families who do not have a sufficient income to buy a fuel efficient stove. Alternatively, tax discounts could be provided on imports of raw materials and other equipment used to make the cookstoves, and the cost saving passed on to consumers.

- Responsibility - MIC

For SO3 and SO4, it will be important to increase community awareness on conservation of natural resources and sustainable forest management and to tailor conservation measures with the needs and beliefs of communities and regulate access the sacred areas and exploitation of NTFPs in a sustainable way.

- Responsibility - MITADER

6.2 Environmental and Social Mitigation and Monitoring Key Performance Indicators

Specific environmental and social mitigation and monitoring plans (ESMMPs) should be developed for each project, as it is only during the project stage that project specific impacts can be identified, appropriate mitigation measures developed, and roles and responsibilities for monitoring the success of these mitigation measures assigned. All of these steps must follow World Bank Operational Policy 4.01, and include extensive consultation with stakeholders and members of the community to identify impacts, mitigation measures and determine how the community can be involved in monitoring. Compliance with all related World Bank Policies will be required.

For this ESMF, very high level mitigation measures have been proposed for each of the strategy options (Tables 13 and 14). The potential impacts identified for each of the strategies are fairly consistent, and include loss of access to forest for subsistence agriculture, charcoal production, wood harvesting for household needs and crafts production, and loss of traditional plant harvesting for medicinal purposes (SO1, SO2, SO4, and SO5), which can result in a loss of food security for farmer families, increased economic and social pressures on families/individuals, health impacts from loss of reliable food source and economic and social stresses. For the conservation strategy (SO6) where traditional access to forests is denied, people may lose the ability to visit traditional cultural properties or sacred grounds or waterfalls—which can create social-psychological stress on individuals and communities.

Due to the consistency in the impacts identified, the high level mitigation measures proposed are also consistent for each of the strategy options. Again, project specific mitigation will be required for actions implemented under any of the REDD+ strategy options. Economic mitigation may include creating jobs at timber concessions, or at commercial agricultural developments, establishing concessions or co-ops where wood products needed for households and craftsmaking can be harvested without harming the forest. Similarly, co-ops can be established for growing other types of sustainable cash crops (e.g., cashews, peanuts, tobacco); co-ops managed by women's groups should be encouraged to ensure women have access to independent income. Projects may also consider creating alternate sources of protein (e.g. stocked fishing ponds), to reduce the need for hunting wildlife. Social mitigation may include providing access to the forest to harvest traditional medicinal plants, and allowing traditional ceremonies at sacred sites within conserved forests, with the provision that these ceremonies do not result in physical harm to the forest (e.g., unprescribed fires, cutting, timber harvesting).

While the proposed mitigation measures are designed to minimize adverse project impacts, some mitigation measures could result in adverse impacts to the bio-physical environment, if not managed well. These impacts include potential dispersal of chemicals via fertilizers and pesticides used for commercial agriculture developed to create alternate jobs and ensure a secure food supply, as well as to grow cash crops, trees grown in wood lots used for community household use, and for timber concessions. In addition to dispersal of pollutants, poorly managed agriculture, cash crops and concessions could result in the spread of pests to areas where these are grown (insects, rats, baboons, monkeys), and increased human animal conflict in cases where elephants are attracted to the trees or crops. While all of these impacts can be mitigated through good management practices (refer to the ESMF for this SESA, SWMOZ, 2016), monitoring will be required to ensure these mitigation measures are successful.

As noted above, project specific mitigation and monitoring plans will need to be developed for actions implemented under any of the REDD+ strategy options. This section presens some of the broad level monitoring that may be implemented to help ensure compliance with these mitigation measures.

First, project specific baseline studies will be required at a level to be determined during the project screening process (see Section 6.0). Baseline studies for REDD+ projects will encompass the bio-physical and socio-economic/socio-cultural environment. All bio-physical baseline studies must comply with national laws and regulations, and evaluate pollutants of concern to the World Health Organization (WHO) in air, soil and water (surface and groundwater). WHO or national threshold criteria for these pollutants will apply, depending on which is most stringent. Once baseline conditions are established, a monitoring program can be developed to assess project impacts on the bio-physical environment at agreed upon intervals (e.g., annually, seasonally, post-storm events, etc.). The same criteria pollutants for air, soil, water should be measured for each monitoring event and locaton, and compared with the baseline conditions to determine whether mitigation measures are successful. If during monitoring criteria thresholds are excessed in any pollutant of concern, measures will be implemented to identify the source and modify the activity and/or mitigation measures as needed to bring the project into compliance.

Biodiversity baseline studies will also be undertaken, including terrestrial and aquatic. Key indicator monitoring thresholds can only be established for flora and fauna after baseline studies are completed, because these will identify species presence and abundance.

In addition to bio-physical impacts, social, cultural and economic impacts could occur as a result of the proposed high level mitigation measures: creating alternate job opportunities outside of the forested landscape; creating agricultural co-ops of sustainable cash crops (cashews, peanuts, tobacco, etc) for community members (managed by women); creating shared sustainable gardens for communities; creating alternate sources of protein (e.g. stocked fishing ponds); and provision of food subsidies, and other economic subsidies to accommodate loss of income, food supply, etc., These impacts include changes to social dynamics which may result in stress within communities and families, and potentially lead to increased risk of physical or emotional abuse of women income earners; a reduction in food security within some families, or communities due to failed cash crops, or loss of jobs within commercial agriculture or timber harvesting; physical harm to a family member resulting from human-animal conflicts resulting from wildlife being drawn into the community to eat agricultural crops, cash crops, planted trees, etc., and potentially loss of economic independence and reliance upon government subsidies resulting in various forms of social-psychological stress such increased alcoholosim, community violence, domestic violence, increased health risks associated with a poor diet, etc. (e.g., as observed among First Nations in Canada, and Native Americans, in the USA).

Monitoring for these types of social-economic and health impacts is complex, and monitoring plans for each action implemented for REDD+ will require careful development with social, economic and health experts. At a very high level, monitoring may include annual community surveys to determine whether mitigation measures are succeeding (i.e., quality of life has not diminished, or has improved), reviewing health records to determine if there is an increase in injuries associated with violent acts, reviewing police reports to determine if there is an increase in illegal behaviour (violence, theft, etc), reviewing health records to determine if there is an increase in health issues associated with poor diet and/or alcoholism, etc.

6.2.1 Cumulative Impacts

The cumulative impacts associated with the REDD+ strategy options could include incremental increases in erosion and run-off of sediment, as well as pesticides and fertilizers to water bodies, including interntional waterbodies, associated with commercial agricultural projects, timber concessions. Air quality could also be impacted in air sheds where multiple projects are developed that require land clearing (grading, excavation), and use of heavy equipment (emissions); noise would also be impacted by these activities – and ambient noise levels could also increase as a result of operations of REDD+ projects (e.g., timber harvesting, commercial agricultural equipment). Other cumulative impacts could include a loss of biodiversity,

particularly if habitat for threatened or at risk species is taken for project development, as well as for development of support infrastructure (e.g., roads, sewage lines, water lines). In general, the potential cumulative impacts associated with each REDD+ project shall also be evaluated during the EIA or ESIA process.

6.2.2 Stakeholder Engagement for REDD+

A good stakeholder and community engagement program will be critical for the success of REDD+. Although this SESA, other studies i.e. Drivers of Deforestation (Ceagre/Winrock) and the Legal and Institutional Analysis (Beta & Nemus), and the national Strategy (Sitoe et al., 2015) each entailed stakeholder and community consultation; ongoing consultation is essential to raise awareness of the reasons for implementing REDD+ in Mozambique, and garnering community support for each of the strategy options. If communities fully understand how to become engaged in projects developed under REDD+ (e.g., commercial agricultural initiatives, CA, forestry plantations, etc.) it is likely they will be less resistant to change. Community members should be fully aware of the types of projects that might be developed in their region, and nationally, (e.g., commercial agriculture, solar power, wind power, etc.) and how the implementation of the projects might affect them individually, and the nation as a whole.

Information on alternative energy strategies, the importance of forestry and biodiversity conservation should be woven into educational materials in the country, and included as significant parts of the curriculum. By raising awareness of these programs and issues among the youth, future generations will more readily embrace them.

Awareness raising and training programs should also be held at the community level – to engage all ages and both genders in how CA works, the benefits of fuel efficient fuel stoves, etc., and to thoroughly describe job opportunities associated with each strategy option. Working with community leaders, community members should be invited to participate as trainers – typically, locals are more likely to listen to respected neighbors than a stranger. These programs should ensure that elders, women, men and youth are all involved in relevant aspects of the training – for example, tasks that would be undertaken by women versus men, and old versus young should be identified and persons representative of gender and age should participate in training other community members.

To help mitigate against the risk of losing traditional knowledge and practices, support should be provided for establishing or enhancing community cultural centers, museums, and heritage sites. Videos of current slash and burn agriculture, traditional charcoal production, traditional

crafts making, medicinal plant collection and preparation, etc. could be undertaken to ensure this knowledge is captured for future generations.

To help mitigate against a potential loss of social or psychological identity associated with vast changes in how people use the landscape, local programs should be put in place to support community members during the transition. These programs would need to be developed in consultation with individual communities, and run by NGO volunteers and community members, but might include job training, skills development, and counseling. It would be important to attempt to develop social structures within proposed projects that closely parallel the traditional social structures associated with itinerant agriculture: i.e., involvement of women, youth, and elderly in similar ways to their involvement in traditional agricultural practices.

6.3 Grievance Redress Mechanism for REDD+

Social accountability will need to be strengthened through an effective Grievance Redressal Mechanism. In Mozambique this is an existing mechanism whereby anyone with any grievances can raise them at first to the village chief (regulo, traditional leader) or village head (chefe de localidade, government authority); then Head of Post (Chefe do Poste); Consultative Council (Conselho Consultivo), District Administrator (Administrador Distrital) and finally to court (Tribunal). If communities feel their grievances are not adequately addressed, they have the option to go up to Provincial level or still further, national level.

Given the complexity and sensitivities involved in resettlement, there is often complaints and disputes during implementation. Typically, complaints have to do with the countervailing duties (if the affected property or their owners or users have been properly identified or evaluated, etc.), but may also reflect concerns inherent to the process or transparency in its implementation (eg. if families were duly consulted on resettlement options, or have equitable access to advocacy programs).

As such, it is essential that the project incorporating a complaints mechanism - should be accessible, free, easy to understand, transparent, fast and effective without restricting access to official means of complaints (such as courts), and that does not cause fear of negative consequences for users who rely so.

REDD+ projects should consider the design and implementation of a local communication strategy stressing awareness-raising activities about the sub-project(s) and resettlement procedures and entitlements.

6.3.1 Grievance Resolution Process

The following redress mechanism shall be followed to ensure grievances of persons affected by REDD+ projects are considered and addressed equitably, and without fear of repercussions.

- Step Zero: The complaint will be presented to the Secretary of the village (or Regulus) by filling out a standard form that will be sent to UT REDD+ to be placed in the Complaint Register. If the applicant wants assistance, he / she can refer a friend or neighbour to join him / her to register the complaint. The Regulus will also help in filling out the above form. If it appears that the PAP does not understand the process or the right to eligibility, the Regulus should explain and play the key role of facilitator;
- Step One: The complaint is examined by the Resettlement Committee. The Committee may choose to accept or reject the complaint. If accepted, the Committee will propose to its proper resolution. Both in the case of rejection as in the acceptance of the decision, the Committee shall communicate the PAP within 7 days after its decision. If the solution proposed by the comity is accepted by the PAP, this must sign the complaint form as a sign of agreement and the grievance registration will also be updated to reflect the conclusion of the matter, otherwise, Step 2 will be followed on appeal;
- Step Two: The intention to appeal shall be communicated by the Village Secretary (or Regulo) and will appear in the Complaints Register. The Regulo will refer the case to the Chief of the post (chefe do posto) with all the details attached and notify the applicant of the place, date and time of the hearing in order to resolve the complaint. If a solution is reached in the hearing and accepted by the PAP, it will sign the complaint form as a sign of agreement and the registration will also be updated to reflect conclusion of the matter;
- Step Three: If there is no solution, the PAP will spend a notice of intent to appeal through the Village Secretary (or Regulo) and will appear in the Complaints Register. The Regulo will forward the appeal to the Advisory Board with all the details attached and notify the applicant of the place, date and time of the hearing in order to resolve the complaint. If a solution is reached in the hearing and accepted by the PAP, it will sign the complaint form as a sign of agreement and the registration will also be updated to reflect conclusion of the matter;
- Step Four: If there is no solution, the PAP will spend a notice of intent to appeal through the Village Secretary (or Regulo) and will appear in the Complaints Register. The Regulo forward the appeal to the District Administrator with all the details attached and shall

notify the applicant of the place, date and time of the hearing in order to resolve the complaint. If a resolution is reached in the hearing and accepted by the PAP, it will sign the complaint form as a sign of agreement and the registration will also be updated to reflect conclusion of the matter;

The option of Judicial Organs

- Step Five: If there is no agreement, applicants will be informed of the possibility of going to court if the dispute involves a conflict of interest. However, applicants will also be informed that this will be done on their own, unless the courts determine compensation for damages for the benefit of the applicant.

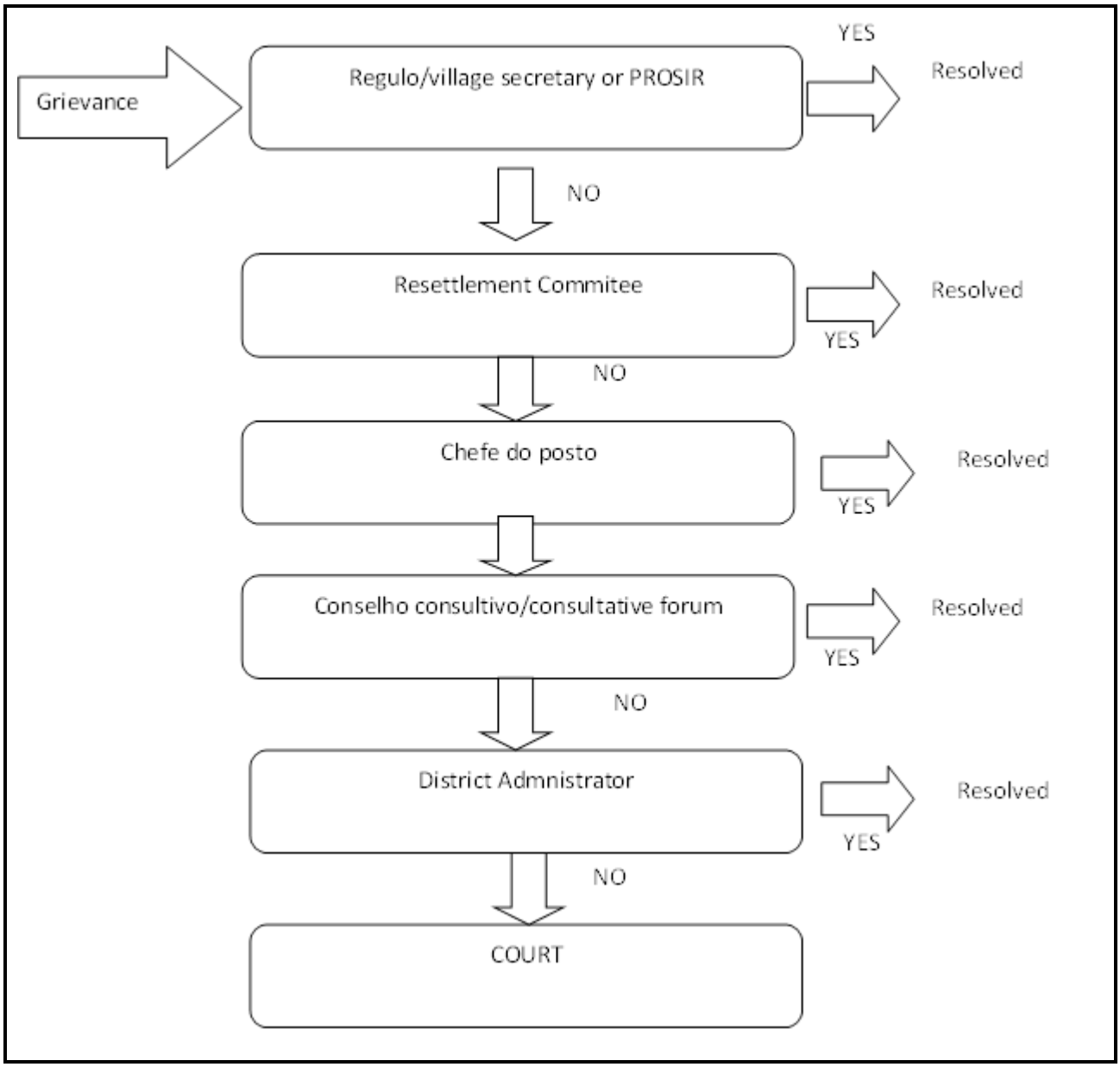

Figure 4 Grievance redress mechanism in Mozambique

7 Guidelines for Implementation of ESMF

All REDD+ projects shall be subjected to a review and screening process in order to determine the level of required environmental and social assessment. During this phase, the assessment shall bear in mind the main objectives of REDD+, which are to reduce deforestation and degradation in the country, contribute to global reductions in GHGs, improve biodiversity conservation, and enhance economic growth and improve livelihoods.

For the purposes of this ESMF, PROGRAM refers to the pilot projects being evaluated by the REDD+ SESA including an evaluation of how changes in the country's institutional framework (needed to successfully implement REDD+ in Mozambique) may affect the bio-physical and social, economic and cultural environment. PROJECT refers to potential REDD+ projects that may be developed in Mozambique. Whilst it is difficult to project all of the potential outcomes of modifying the country's institutional framework to promote sustainable conservation projects, including REDD+ projects, we have identified basic bio-physical, social, economic and cultural issues that should be evaluated prior to implementing changes in the country's policies, laws and legislation.

Pilot projects that are implemented by MITADER and the WB as part of an evaluation of potential REDD+ impacts in Mozambique should be subjected to the same environmental evaluation process as any project undertaken in the country (see Figure 1: ESMF Process). This ESMF describes the process for ensuring that environmental and social concerns are adequately addressed through the institutional arrangements and procedures used for managing the identification, preparation, approval and implementation of pilot projects, or proposed REDD+ projects.

All REDD+ projects will be undertaken under the direction and guidance of UT-REDD, with oversight of the multi-ministerial committee for REDD (CTR-REDD), headed by MITADER, MINAG and MASA. All REDD+ projects shall comply with the OP 4.01 and national legal requirements on environmental and social management (Decree 54/2015 of 31 December).

UT-REDD+ will oversee all ESIA or EA processes for REDD+ pilot projects, and proposed REDD+ projects. Environmental and social specialists will provide assistance to UT-REDD during the screening of REDD+ projects, preparation of ToRs for EIA studies, facilitation, coordination, and review of EIA studies and Environmental and Social Management Plans

(ESMPs) prior to their submission to WB and MITADER for approval. Environmental and social specialists will also assist with the monitoring and evaluation of all the projects. UT-REDD+ and CTR REDD+ will ultimately be responsible for verifying that all work performed by the specialists comply with the OP 4.01 and national legal requirements on environmental and social management (Decree 54/2015 of 31 December).

7.1 Screening Phase

Screening of proposed projects/activities will need to be undertaken at several levels: national, regional and Provincial. Table 21 summarizes recommendations for where primary responsibility for screening should lie at different levels.

Table 21 Recommendations for where primary responsibility for screening should lie at different levels.

Level	Type of initiative	Implementation by	Overall responsibility for screening	Possible assessment action required
National	National-level Initiatives of government (e.g. a large scale project covering more than one province, like the Portucel project)	UT REDD+ Coordination Division, line agencies	Monitoring, Reporting and Verification Unit (MRV) (in UT REDD Coordinating Division of MITADER)	EPDA or ESIA/ESMP, RAP, VCDP or GAP
Regional	Landscape and protected area initiatives/projects	International and National NGOs, community groups	MRV unit (in REDD+ Coordinating Division of MITADER) in coordination with Regional/Provincial REDD+ Focal Desk	
Provincial	Provincial-level activities (e.g.Nhambita Envirotrade project)	DDC, I/NGOs, community groups	Provincial REDD+ Program Management Unit (PRPMU)	
Local	Small-scale local and sub-projects	Local organisations, investors etc.,	PRPMU	

Screening of REDD+ pilot projects and proposed REDD+ projects will commence at the project inception phase, as soon as the specific project details are known including: nature, scope, and proposed location, among other parameters.

In order to comply with legal requirements and the WB guidelines, this ESMF includes two screening forms - Environmental and Social Screening Forms (Annexure A), as well as the Preliminary Environmental Information Sheet[4] (Annexure C) - part of the Decree nr.54/2015. The screening forms and information sheets must be completed for each proposed REDD+ project.

The Preliminary Environmental Information Sheet includes:

- Project name
- Site land use zoning category
- Identification of local communities
- Identification of land and forestry conservation activities occurring in the area
- Identification of agricultural management activities occurring in the area
- Provision of REDD Project Description
- Site location and environmental setting
- Site environmental, social and cultural sensitivity
- Identification of potential environmental and social impacts (based on Annexure A)
- Mitigation measures already included (based on Annexure A)

These forms, when correctly completed, will facilitate the:

- Identification of potential environmental and social impacts and the identification of health and safety risks;
- Assignment of the appropriate environmental category; and
- Determination of the need to conduct an ESIA/ESMP, a SES/ESMP and/or to prepare Resettlement Action Plans (RAPs), Vulnerable Community Development

[4]Annex IV, Decree nr. 45/2004, nr.54/2015

Plans, or Gender Action Plans, where required or determine that no action need to be taken.

Screening and Project Categories: A, B, C and FI (WB OP 4.01)

The screening of proposed projects shall help determine the appropriate extent and type of Environmental Impact Assessment (EIA) or Environmental Social Impact Assessment (ESIA) required. The World Bank classifies proposed projects into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

- Category A: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. EA for a Category A project examines the project's potential negative and positive environmental 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 performance. For a Category A project, the borrower is responsible for preparing an Environmental Impact Assessment (EIA) (or a suitably comprehensive regional or sectoral EA) that includes, as necessary, elements of the other instruments referred to in paragraph 7 of Operational Policy 4.01.
- Category B: A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A EA. Like Category A EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.

- Category C: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.
- Category FI: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

The stages of the environmental social impact assessment (ESIA) process are presented below.

7.2 ESIA Process

7.2.1 Categorisation of projects under amended EIA Regulation (Decree No. 54/2015 of 31 December)

Activities to determine which type of ESIA to undertake are categorized as follows:

a) Category A+ - activities described in Annex I and assessed as category A+, which is subject to completion of an Environmental Impact Assessment (EIA) and supervision by independent experts Reviewers with proven experience;
b) Category A - activities described in Annex II and assessed as category A, which is subject to completion of an EIA;
c) Category B - activities described in Annex III and assessed as category B, which is subject to completion of a Simplified Environmental Study (EAS);
d) Category C - the activities described in Annex IV and assessed as category C, which are subject to presentation of best Environmental Management Practices Procedures to be prepared by the project proponent and approved by the entity that oversees the Environmental Impact Assessment process.

7.2.2 Preparation of Terms of Reference (ToR)

If the activity is classified as a Category A or B project it requires the preparation of the ToR for hiring a consultant to carry out the ESIA and the specific ESMP and conduct the public participation process (see Annex C and D). According to the EIA Regulations 54/2015 chapter V -only consultants registered with the Environmental Assessment Authority (MITADER) are allowed to carry out environmental

assessment studies in Mozambique. Consultants must present a valid register certification issued by MITADER.

The ToR could consider potential impacts identified in the SESA, if deemed relevant for the project; as well as other potential specific impacts of the site where the activity will be executed.

The structure and content of the EIA must follow the stipulations found in the Regulation of EIAP (Decree Nr.54/15).

The Public Participation Process shall follow the General Directive of the Public Participation Process in the Process of Environmental Impact Assessment.

The ToR must be sent to the World Bank's Environmental and Social Safeguard specialist for no-objection and then to MITADER, for approval.

7.2.3 The Consultant

The consultant team retained for the proposed project must present a valid register certification issued by MITADER, and have the required expertise in environmental sciences, sociology, economics, health, safety and security, cultural resources, and project management. For Category A and B projects, the team should include a Team Leader with a comprehensive understanding on international best practices, and World Bank performance standards; knowledge of Mozambique's environmental and social issues and opportunities would also be beneficial. Local experts would be required in the environmental sciences and social disciplines, including someone with solid experience conducting stakeholder engagement and community consultation.

The proponent should request separate technical and financial proposals (submitted in a sealed envelope) and proposal evaluation should be weighed on technical approach and expertise independent of an evaluation of costs. The financial proposals should only be evaluated for consultant teams that are short listed based on the technical proposals.

7.2.4 Stakeholder Engagement and the Public Participation Process

The ESIA would be prepared by the consultant hired by UT-REDD+. The environmental and social specialists would serve as focal points for the project and establish communication with the local community and other stakeholders, and be involved in the process of public participation. A stakeholder action plan (SAP) and

stakeholder engagement plan (SEP) should be prepared early in the project and reviewed and approved by UT-REDD+. 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 REDD+ project and the results of the environmental and social studies. The Public Participation Process grants an open channel of communication between the public, the consultants, UT-REDD+ and MITADER, which will be of extreme importance in managing potential conflicts.

Although PR AIA (Reparticao Provincial for MITADER) does not consider the public consultation activities for Category B as a compulsory action, this will be required by the present ESMF, according to the OP.4.01.

UT-REDD+ shall be actively involved in the public participation process from an early stage in the Project, and shall support the local communities' involvement in the process. This will include the District Consultative Councils, any Natural Resources Management Committees (CGRN) working in the area, representatives from village councils or committees, representatives of women's groups, as well as other interested parties (e.g., private enterprise, such as mining and gas, or logging industry), and environmental and development NGOs. With this in mind, the creation of local committees consisting of representatives of different participants, consultants and contractors as well as the parties directly affected by the proposed project, is encouraged.

The report of the public participation process should be included in the environmental assessment report and / or in the activity file folder.

7.2.5 Compilation of Environmental and Social Requirements for Tender Documents

UT-REDD+ environmental and social specialist will make a compilation of environmental and social requirements to be met by the REDD+ project proponents. This compilation will be based in the Environmental and Social Management Plan (ESMP) approved by MITADER (for Category A and B activities).

The environmental and social requirements will be included in the Tender Documents of the proposed REDD+ projects, and may include preparation and implementation of a resettlement action plan (RAP), for involuntary resettlement. A gender action plan (GAP) or Vulnerable Community Development Plan (VCDP) will be developed as needed to address social, economic and cultural issues as they affect these groups.

The Tender Documents shall indicate that before initiating a REDD+ project on the ground the Contractor shall obtain all permits necessary for carrying out the work under the contract.

The Tender Documents shall also require that for all developed lands being claimed for a REDD+ project must carry out all the necessary works for rehabilitation of the developed site. If the development or industrial activity currently operating on the land does not have a permit that requires complete rehabilitation of the project site upon abandonment, the REDD+ project proponent shall take responsibility for the rehabilitation. 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 or Proponent 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 approved by the Ministry of Agriculture and Forestry (MINAG); and (iv) protect the remaining dangerous works (wells, open ditches, slopes, projections, rehabilitate quarries, etc.). After the removal of all equipment, a report on the rehabilitation of the site must be prepared and attached to the minutes of the reception of the works. The rehabilitated land will be inspected by representatives of the MITADER, MINAG and MASA to ensure the rehabilitation work is suitable for REDD + activities to commence.

The potential cumulative impacts associated with each REDD+ project shall also be evaluated during the EIA or ESIA process, andwill be included in the tender documents (Terms of Reference) for the project.

7.2.6 Consultation and Disclosure

The preparation of the ESIA and ESMP will include a consultation process with key stakeholders, including NGOs directly supporting communities on community development in conservation areas, as well government environmental authorities (at national, provincial and district levels), community groups, including women's groups. Consultation must comply with WB OP 4.10 (Indigenous Peoples), WB stakeholder consultation guidelines, and national requirements for stakeholder consultation.

7.2.7 Review and Approval

The UT REDD+ environmental and social specialists will review the ESIA prior to submission to the Provincial Directorate of Land, Environment and Rural Development (DPTADER). The DPTADER will always be responsible for the review and final approval of environmental assessment studies and environmental and social management plans and the accompanying environmental licensing.

7.3 Capacity Building

Successful implementation of a REDD+ Project will depend among others on the effective implementation of the environmental and social management measures outlined in the ESMPs, RAPs, GAPs, and VCDPs. Training and capacity building will be necessary for the key stakeholders in order to ensure effective implementation of the ESMF.

Capacity building should be viewed as more than training. It is human resource development and includes the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively. Therefore it should include awareness-raising and sensitization to issues, as an addition to technical training.

Awareness-raising for stakeholders who need to appreciate the significance/ relevance of environmental and social issues throughout the project life cycle.

Sensitization for stakeholders that need to be familiar enough with the issues that they can make informed and specific requests for technical assistance.

Technical training for stakeholders who will need to use the ESMF tools, analyze potentially adverse environmental and social impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans.

Technical training for District Administrators shall be focused on:

- Environmental and Social Impact Assessment Process in Mozambique;
- World Bank's Social and Environmental Safeguard Policies;
- Legal and institutional environment and social framework in Mozambique;
- Potential environmental and social impacts of REDD+ projects, mitigation and monitoring measures;
- Training on the use of REDD+ ESMF screening and checklist forms for mitigation measures;
- Training on the preparation of Terms of Reference (ToR) for the hiring of consultants to conduct environmental and social studies for projects classified as Category B
- Stakeholder engagement, consultation and partnerships
- Reporting, monitoring and follow-up of ESMF

Technical training for practitioners should be identified in the National Strategy for REDD+, and will be included in the ESMF, although this was not in the current version of the Draft Strategy (April 2016).

Table 22 summarizes additional institutional capacity building and training for ESMF implementation. It is suggested, aside from an overall picture of the ESMF, in terms of further detail, that the trainings should include the following topics:

- How to prepare TORs for ESIAs
- How to classify projects in relation to ESIA requirements
- Monitoring and oversight of implementation of the ESIAs/ESMPs
- How the grievance mechanism and compensation mechanisms work
- How to revise ESIAs/prepare comments.

Table 22 Additional institutional capacity building and training for ESMF implementation

Institution	Required capacity enhancement	Training needs
Ministry of Land, Environment and Rural Development (MITADER)		
National Directorate for Forest and National Directorate for Land (Direcção Nacional de Florestas (DNF) e Direcção Nacional de Terras (DNT))		
Socioeconomics	Ensure appointment of staff dedicated to addressing social aspects of ESMF implementation (including gender issues, cultural resource issues, social-psychological issues, and economic and political issues)	• Existing Directorate staff needs technical training to play their role in implementing the ESMF.
	Several staff within both Directorates has been trained in agricultural and forest management policies and procedures, but it is unknown how many of these have been trained in REDD+ policies and/or strategies. Training is needed at the national and provincial level to adequately implement the program. In addition to increasing the number of staff within these agencies, training in specialized subjects such as resource assessment, strategic planning is needed.	• The Training Unit in DNF should co-ordinate directly with DINAMB for all REDD+ related training activities (through training-of-trainers) – on proposal development under strategy options, impact assessment and how the ESMF system will work.
National Directorate of Territory Ordinance and Resettlement (DNOTR)		
	Staff has a physical planning background. Some have responsibility for environment-related work such as IESE and ESIA, and they will need allocated budget and time to support implementation of the ESMF	• Technical training to support implementation of the ESMF. • Training on emerging social and gender related issues.
National Directorate of Environment (Direcção Nacional do Ambiente) DINAMB		

Department of Environmental Management (DGA) ***Department of Environmental Impact Assessment (DAIA)*** ***Department of Environmental Education (DEA)***	• Several staff within DGA have been trained in agricultural and forest management policies and procedures, but it is unknown how many of these have been trained in REDD + policies and/or strategies. Training is needed at the national and provincial level to adequately implement the program. In addition to increasing the number of staff within these agencies, training in specialized subjects such as carbon assessment, and strategic planning is needed. • A section with responsibility for social concerns is needed within MITADER to support implementation of ESMF, particularly to work on the issues related to gender, and poor, disadvantaged and marginalized groups and communities. • Staff is qualified to support the implementation of the environmental aspects of ESMF at national, regional and district levels. But they will require a budget allocation for such work and time to be made available in the work schedules. • The directorate currently lacks skills on social issues. The establishment of a section with such responsibilities would help	• Training on the specifics and modalities of the ESMF • At least one member of staff (preferably more) will need to be trained on emerging social and gender related issues linked to the environment, and to REDD+ • Existing DINAMB staff needs technical training to play their role in implementing the ESMF. • The Training Unit in all departments should co-ordinate directly with DNTF for all REDD+ related training activities (through training-of-trainers) – on proposal development under strategy options, impact assessment and how the ESMF system will work.

Proposed MRV unit	• Establish a formal unit within the REDD+ Coordinating Division to coordinate all environmental and social assessment and monitoring process related to REDD+. • The Head of the MRV unit should be appointed at Under Secretary level, and have a technical background (preferably either an environmental or social qualification) • There should be 4 other positions covering: environment, social & gender (both with an impact assessment background) and forestry • Additional temporary positions can be filled when activities arising for particular sectors arise (e.g. agriculture, infrastructure, energy, etc.) so that the MRV unit is taken seriously when liaising with line agencies. • An independent Review Committee could support the work of the MRV unit	• MRV officers should receive training on: (a) International and national obligations of REDD+; (b) environmental and social benefits/risks of REDD+; (c) preparation and review of screening reports, and making recommendations for appropriate studies; (d) process and procedures of environmental and social assessments – ESIA, IESE, GAP, RAP, VCDP etc.; (e) monitoring and evaluation of REDD+ • Liaison with MASA Training Unit to coordinate all ESMF-related training • The MRV unit will need to prepare training manuals for particular procedures for ESMF activities
Other		
National Administration of Conservation Areas (ANAC)	• A social Development Officer will need to be appointed to deal with social aspects of REDD+.	• Officers working on environment and social issues should receive training on the implementation modalities of ESMF.
Ministry of Agriculture & Food Security (MASA)		
Directorate of Agriculture and Silviculture (DNAS)		

Directorate of Agriculture and Silviculture (DNAS)	• An officer should be appointed with an environmental qualification and background, and knowledge on emerging environmental issues associated with agro-forestry • An officer with responsibility for social concerns is needed to support implementation of ESMF, particularly to work on the issues related to gender, and poor, disadvantaged and marginalized groups and communities. • DNAS will require a budget allocation for implementing the ESMF and time needs to be made available in work schedules.	• Training on the specifics and modalities of the ESMF • At least one member of staff (preferably more) will need to be trained on emerging social and gender related issues linked to the environment, and to REDD+
Ministry of Energy (MoE)		
Environment Section	• An environment officer and a social development officer should be appointed in with responsibility to coordinate support and inputs to implementing the ESMF, and a budget allocation made. • Consideration should be given to integrating a social section within this section.	• Technical training on ESMF implementation
Ministry of State Administration and Public Affairs		
Environment & Social Section	• An Environmental and Social Section needs to be established	• Technical training to engage in and support ESMF implementation
District level		

District Services of Economic Activities (SDAE)	• SDAE officers are focused mainly on other activities, including environment, e.g. land planning, economic activities, agriculture etc., but not as yet promotion of alternatives to forest use. • All SDAE will need at least one Environment Officer to handle ESMF requirements. • Whilst Social Development Sections of SDAE are fully occupied in implementing their own internal programs, they could handle the social issues related to REDD+. But staff of both sections will require budget allocations and time being dedicated for such activities, particularly the screening and monitoring ESMF- REDD+ projects/activities. As part of the SDAE (the apex body within the district), these Sections can provide coordination as regards REDD+ projects/activities with other government offices at district level	• Staff of SDAE will need technical training on the ESMF
Provincial REDD+ Program Management Unit (PRPMU) (proposed in the Strategy)	• Each PRPMU needs 2 dedicated staff: one with an environmental background/qualification; one with a social background/qualification	• Technical training on SESA and ESMF
Agriculture Extension Officers	• The coverage by these officers is inadequate. • SDAE can contribute to the ESMF with minimal added skills. But the officers have heavy workloads and limited time	• Technical training on ESMF
Local level		
Others		

Private sector	• General awareness-raising on REDD+, and specifically on environmental and social issues related to REDD+ will be required.	• Need motivating to engage in REDD+ related activities, and sensitizing to environmental and social dimensions
NGOs/CBOs	• Engaged in social mobilization	• Training on how to engage in ESMF procedures – outreach work, and doing independent monitoring of projects, and to mobilize communities to undertake self- monitoring).

7.4 Supervision and Monitoring

The UTREDD+ environmental specialist and their environmental and social consultants shall monitor the practitioners (e.g., Contractors, or Project Proponents) who implement the ESMP and/or Resettlement Action Plan (RAP) and/or other mitigation measures to ensure the practitioners comply with the ESMP. From here-on, this position is referred to as a Quality Assurance Monitor (QAM). Compliance monitoring comprises on-site inspection of activities to verify that measures identified in the ESMP and/or RAP is being implemented satisfactorily.

If the QAM identifies any default by the Contractor or project Proponent, the default shall be immediately reported to the UT-REDD+, MITADER and MINAG. These REDD+ coordinating agencies will bilaterally discuss the actions to ensure the default does not occur in the future. Conversely, if the QAM identifies any environmental or social damage, he/she shall consult the UT-REDD+ environmental and social specialist to identify the applicable remediation measures.

On all REDD+ projects the UT-REDD+ environmental and social specialists or their QAM should undertake regular inspections to verify the nature and magnitude of the expected impacts, verify the effectiveness of the implementation of proposed mitigation measures, and determine the need for further mitigation measures or changes in the existing ones.

7.5 Reporting

The process of implementation for this ESMF should be properly documented and filed for future reference in the audit stage. This includes Pre-Environmental Assessment Sheets, correspondence with the MITADER, reports produced by consultants, records of public consultations or complaints received and, where appropriate, the environmental permit.

The environmental and social specialists will submit quarterly monitoring reports of all active investments under implementation to the UT-REDD+ who will then submit these reports to the World Bank. It will report the activities carried out under the ESMF, indicating the whole process carried out for each and every subproject undertaken, and conducting an assessment of the level of performance achieved, the difficulties encountered and the solutions found or proposed.

The annual report must also describe the training activities carried out, indicating its content, duration and participants.

7.6 General considerations on REDD+ and climate change challenges

Global climate change may impose constraints to the successful implementation of some REDD+ strategic options, including those that require irrigated water for commercial agriculture (food and non-food crops), managing indigenous and exotic tree plantations (especially during the initial establishment of the trees), and establishing trees for wind breaks and supplemental wood needed by communities (i.e., poles).

Mozambique is located at the downstream end of several major river basins in southern Africa-Zambezi, Púngoè and Búzi – all of which are projected to have diminishing runoff of 25- 40% (Arnell, 1999) over the next 100 years. Additionally, the dry season (June-August) is projected to get drier across Mozambique in the future (IPCC, 2007, 2012). At the same time cyclone activity in the Indian Ocean is expected to increase as a result of increased sea surface temperatures (Lal, 2001; McDonald et al., 2005), which tend to result in widespread flooding in northern Mozambique. As a result of changing temperature and precipitation patterns, Mozambique ranks high in the climate change index based on annual and seasonal indicators of temperature and precipitation (Abetting et al., 2007). REDD+ target areas, are vulnerable to the extreme events such as cyclones and floods. These events may damage irrigation and other hydraulic infrastructures developed to support commercial agriculture and tree plantations, and could easily damage planted trees and crops. Other effects that changing temperatures and precipitation patterns might bring to the whole area are: increased wildfire frequency, modification of pests and diseases patterns, and crop failure from drought, among others.

While the existing and projected effects of climate change are clear at a larger scale, there are still uncertainties with regards to the specific impacts in the REDD+ project areas. This is due to a combination of factors including limited information on natural resources and the unpredictable nature of climatic change.

Recommendations

UT-REDD has to be prepared to deal with uncertainty and risk associated with climate change and work with other ministries and programs within the GoM to ensure coordinated efforts establishing flood control infrastructure, irrigation schemes and agro-forestry infrastructure to help deal with the unpredictable nature of climate change. It is also recommended to: (i) develop crop patterns suitable to climate change, (ii) reserve and store local crop varieties and establish a crop-seed bank, (iii) enhance the use of

technological options to manage climate variability associated risks (e.g., improved crop cultivars), and (iv) promote public awareness.

To deal with this uncertainty and risk, it is important to put efforts on training and capacity building and also environmental monitoring and auditing. With regards to the former, the focus should be on basics of climate change, its effects and associated risks and alternatives. For systematic environmental monitoring UT-REDD should liaise with a strong service provider that will conduct participatory monitoring. The objectives of that are two-fold: (i) suggest modifications to project's activities and (ii) train villagers and farmers in simple monitoring techniques.

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Annexure A

PROJECT LEVEL REDD+ SCREENING TOOLS

Screening Checklist.

The below screening checklist would be used and completed by the sub-project applicants, with assistance and guidance provided by the Implementing agency (SBF2 Fund Manager) to capture the relevant activities planned, their E&S impacts, and determine the resulting instruments and management approaches. It is intended as a supporting tool for the screening list presented in Annex C.

Format 1.0: **SCREENING CHECKLIST (Filled and prepared by environmental and social consultants thereafter, once capacity is build, staff from MERD will take up this function)**

SCORE Project: Select relevant project

Project Investment name [type here]
Location [type here]
Estimated cost (USD) [type here]

TYPE OF PROJECT OR ACTIVITY

Sub Project Type

- Subsistence and commercial farming
- Conservation agriculture
- Introduction of perennial crops
- Promotion and adoption of other sources of renewable energy
- Hydro-electricity projects
- Wind projects
- Solar projects
- Sustainable use of biomass
- Improved and efficient cookstoves
- Planting trees in urban centers
- Developing New Conservation Areas
- Modifying management of existing Conservation Areas
- Sustainable Forest Management
- Timber concessions
- Non-Timber Forest Products
- Commercial Plantation Forestry
- Small scale woodlots for poles and fuelwood

Please give more details: [type here]

- For all projects, an Environmental and Social Management Plan (ESMP) will be required. In addition, the following studies may be required:

Will the project require land for its development, and therefore displace individuals, families or businesses from land that is currently occupied, or restrict people's access to crops, pasture, fisheries or forests, even, whether on a permanent or temporary basis. If yes, a Resettlement Action Plan will be required		
Will the Project:	**Yes**	**No**
If Answer is YES, For Every Question Classify Magnitude of Impact on Scale 1-5 (with 1 being insignificant, and 5 being severe)		
Adversely affect natural habitats nearby, including forests, rivers or wetlands?		
Require large volumes of construction materials (e.g. gravel, stone, water, timber, firewood)?		
Use water during or after construction, which will reduce the local availability of groundwater and surface water?		

Affect the quantity or quality of surface waters (e.g. rivers, streams, wetlands), or groundwater (e.g. wells, reservoirs)?	
Be located within or nearby environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species?	
Lead to soil degradation, soil erosion in the area?	
Create waste that could adversely affect local soils, vegetation, rivers and streams or groundwater	
Create pools of water that provide breeding grounds for disease vectors (for example malaria)?	
Involve significant excavations, demolition, and movement of earth, flooding, or other environmental changes?	
Affect historically important or culturally important site nearby?	
Require land for its development, and therefore displace individuals, families or businesses from land that is currently occupied, or restrict people's access to crops, pasture, fisheries, forests or cultural resources, whether on a permanent or temporary basis?	
Result in human health or safety risks during construction or later?	
Involve inward migration of people from outside the area for employment or other purposes?	
Will the Project:	**Yes No**
Result in conflict or disputes among communities?	
Be located in or near an area where there is an important historical, archaeological or cultural heritage site?	
Result in a significant change/loss in livelihood of individuals?	
Adversely affect the livelihoods and /or the rights of women?	
If you have answered Yes to any of the above, please describe the measures that the project will take to avoid or mitigate environmental and social impacts **[type here]**	
What measures will the project take to ensure that it is technically and financially sustainable? **[type here]**	

If the answer to any of questions "Yes", please use the indicated sections(s) of the ESMF for guidance on how to avoid or minimize typical impacts and risks.

Impact Magnitude Rating

Insignificant	1
Minor	2
Moderate	3
High	4
Severe	5

CONCLUSION

Which course of action do you recommend?

FULL ESIA ESMP

OTHER ENVIRONMENTAL/SOCIAL PLANS

There are no environmental or social risks

[Type here]

Format 2.0: **SCREENING CHECKLIST REVIEW FORM (Prepared by external consultants until requisite capacity within UT REDD is attained)**

	Yes	No
Based on the location and the type of investment, please explain whether the Proponent's responses are satisfactory.		
Their description of the compliance of the investment with relevant planning Documents		
If 'No', please explain: **[type here]**		
Their responses to the questions on environmental and social impacts		
If 'No', please explain: **[type here]**		
Their proposed mitigation measures		
If 'No', please explain: **[type here]**		
Their proposed measures to ensure sustainability		
If 'No', please explain: **[type here]**		

REVIEWER'S CONCLUSION

Which course of action do you recommend?

FULL ESIA ESMP;

There are no environmental or social risks

[Type here]

Preparation of a project Report, based on field appraisal, is required to investigate further, specifically to investigate:

[Type here]

Reject

Review form completed by: [type here]
Name: [type here]
Position / Community: [type here]

OPERATIONAL POSITIVE / NEGATIVE LIST

Project screeners should refer to the World Bank “Environmental and Social Management Framework for World Bank Projects with Multiple Small-Scale Subprojects: A Toolkit (February 2008)” in their assessments of project scale. It should be born in mind that actual conditions are very important in determining a rating. Rural areas of Mozambique are a relatively sparsely populated in which some issues loom relatively large (e.g. air pollution from burning, charcoal production) and other relatively small (e.g. noise). The environmental impact also varies considerably depending nearness to population centers. The enterprises that may be funded could range in scale from fairly small projects (e.g., local woodlot for fule wood) and with correspondingly smaller scale of environmental and social impacts, to larger scale projects, such as commercial agriculture, constructing commercial wind farms which would have significantly greater potential environmental and social impacts,.

The importance of local conditions- both country wide and in micro locations make a case by case approach highly advisable, rather than a blanket score. There are also general conditions like health and safety at work that apply to all categories and are only scored in the table for especially at-risk cases. In addition poor housekeeping or maintenance can create hazards in all activities. These possibilities and others relating to poor management (e.g. illnesses contracted through poor food handling) are not included in the table. In general service activities are less likely to be hazardous than production activites. The below table represents a variety of possible off-shoot projects that may be developed in association with a REDD+ project – for example developing wood or furniture manufacturing businesses, transport of these goods, and retail sale of these goods associated with a timber plantation.

Environment Assessment – Project Scoring

Subsector	Within population center	Peri-Urban/ rural	Outside populated area	Source/type of potential hazard
Rating: A = hazard, B = potential hazard; C1 potential hazard in specific cases; C2 not hazardous				
A -Agriculture, forestry and fishing				
Crop/animal production	N/A	B	B or C1	Within population centers ongoing animal production (not temporary markets) has potential for disease, odor etc. Commercial crop production potential for water overuse/ fertilizer/ pesticide runoff.
Forestry and logging	N/A	B	B	Existing forest area small; preservation of residual forest is an issue
Fishing / aquaculture	N/A	N/A	C1	Potential overfishing not yet problematic at small scale in coastal waters
•B - Mining and quarrying				
metal ores	A	B	C1	Chemical runoff; air pollution; noise.
• Other mining and quarrying	A	B	C1	Air and noise pollution from Mining/ quarrying affects population centers. Possible chemical runoff from refining etc
•Mining support service	C2	C2	C2	
•C – Manufacturing				
•tobacco products	A			Excluded?
wood products	B	C1	C1	Possible noise; deforestation
Manufacture of paper and	B	B	C1	Possible noise; possible chemical
Printing and reproduction	C2	C2	C2	
Non-metallic mineral products (cement, clay, glass, etc)	B	C1	C1	Possible noise, air pollution, safety at work hazards
Fabricated metal products	B	C1	C1	Possible noise; safety at work hazards

Manufacture of furniture	C1	C2	C2	Possible chemical product spillage (e,g, paint)
•Other manufacturing				
Electricity, gas	C1	C2	C2	Possible Noise
•D - Water supply; sewerage, waste management	**B**	**B**	**C1**	**Possible effluent; contamination; air pollution**
•Water collection, treatment and supply	C1	C1	C1	Possible contamination
Sewerage	C1	C1	N/A	Possible spillage, contamination
•E – Construction				
•Construction of buildings	B	C1	C1	Possible noise, air pollution, safety at work issues
Civil engineering services	C2	C2	C2	Possible noise, air pollution, safety at work issues
•Trade and repair of motor vehicles and motorcycles	C1	C1	C1	Possible noise; chemical spills
•F - Transportation and storage				
Land / pipeline transport	C1	C1	C1	Possible leakage/ spills
Warehousing and support	C2	C2	C2	
Hotels, food service				
Accommodation, hotels	C2	C2	C2	
Food and beverage service	C2	C2	C2	
•H – Information, communication, business services				
•Publishing activities	C2	C2	C2	
Movie, video, TV,	C2	C2	C2	
•Telecommunications	C2	C2	C2	
Computer programming,	C2	C2	C2	
Information service	C2	C2	C2	
Finance, insurance, real	C2	C2	C2	
Scientific research and	C2	C2	C2	
Administrative, security	C2	C2	C2	
Office administrative, office	C2	C2	C2	
Educational establishments,	C2	C2	C2	
Human health care activities	C1	C1	C1	Possible contamination (e.g. medical testing labs)

TEMPLATE FOR CHECKLIST ESMP

Project, Country:
Client:

Environmental and Social Management Plan (ESMP) Checklist for Civil Works

General Guidelines for use of ESMP checklist:

For construction projects that have low and clearly defined environmental and social risks, such as the cleanup and demolition of the remains of the Marche Central, a streamlined approach is applied to mainstream the World Bank's environmental safeguards requirements, as well as general good international practice into projects.

The ESMP checklist-type format covers typical key mitigation measures to civil works contracts with small, localized impacts or of a simple, low risk nature. This format provides the key elements of an Environmental Management Plan (EMP) to meet the minimum World Bank Environmental Assessment requirements for Category B projects under OP 4.01. The intention of this checklist is that it offers practical, concrete and implementable guidance to Contractors and supervising Engineers for simple civil works contracts. It should be completed during the final design phase and, either freestanding or in combination with any environmental documentation produced under national law (e.g. EIA reports), constitute an integral part of the bidding documents and eventually the works contracts.

The checklist ESMP has the following sections:

Part A includes a descriptive part that characterizes the project, specifies institutional and regulatory aspects, describes technical project content, outlines any potential need for capacity building and briefly characterizes the public consultation process. This section should indicatively be up to two pages long. Attachments for additional information may be supplemented as needed.

Part B includes a screening checklist of potential environmental and social impacts, where activities and potential environmental issues can be checked in a simple Yes/No format. If any given activity/issue is triggered by checking "yes", a reference to the appropriate section in the table in the subsequent Part C can be followed, which contains clearly formulated environmental and social management and mitigation measures.

Part C represents the environmental monitoring plan to follow up proper implementation of the measures triggered under Part B. It has the same format as required for MPs produced under standard safeguards requirements for Category B projects.

Part D contains a simple monitoring plan to enable both the Contractor as well as authorities and the World Bank specialists to monitoring due implementation of environmental management and protection measures and detect deviations and shortcomings in a timely manner.

Part B and C have been structured in a way to provide concrete and enforceable environmental and social measures, which are understandable to non-specialists (such as Contractor's site managers) and are easy to check and enforce. The ESMP should be included in the BoQ (bill of quantities) and the implementation priced by the bidders. Part D has also been designed intentionally simple to enable monitoring of key parameters with simple means and non-specialist staff.

CONTENTS

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country	**Country**			
Project title	**Project Name**			
Scope of project and activity	Very brief description (max 1 paragraph)			
Institutional arrangements (Name and contacts)	WB (Project Team Leader)	Project Management	Local Counterpart and/or Recipient	
Implementation arrangements (Name and contacts)	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contactor
SITE DESCRIPTION				
Name of site				
Describe site location			Attachment 1: Site Map [ ]Y [ ] N	
Who owns the land?				
Description of geographic, physical, biological, geological, hydrographic and socio-economic context				
Locations and distance for material sourcing, especially aggregates, water, stones?				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building?	[ ] N or [ ]Y if Yes, Attachment 2 includes the capacity building program			

PART B: SAFEGUARDS SCREENING AND TRIGGERS

ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS			
	Activity/Issue	**Status**	**Triggered Actions**
Will the site activity include/involve any of the following??	A. Roads rehabilitation	[ ] Yes [ ] No	If "Yes", see Section **A** below
	B. New construction of small traffic infrastructure	[ ] Yes [ ] No	If "Yes", see Section **A** below
	C. Impacts on surface drainage system	[ ] Yes [ ] No	If "Yes", see Section **B** below
	D. Historic building(s) and districts	[ ] Yes [ ] No	If "Yes", see Section **C** below
	E. Acquisition of land[6]	[ ] Yes [ ] No	If "Yes", see Section **D** below
	F. Hazardous or toxic materials[7]	[ ] Yes [ ] No	If "Yes", see Section **E** below
	G. Impacts on forests and/or protected areas	[ ] Yes [ ] No	If "Yes", see Section **F** below
	H. Risk of unexploded ordinance (UXO)	[ ] Yes [ ] No	If "Yes", see Section **G** below
	I. Traffic and Pedestrian Safety	[ ] Yes [ ] No	If "Yes", see Section **H** below

[6] Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

[7] Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

Screening Questions for an EIA or ESIA

Screening questions should address the questions listed in Table A-1. These questions will help to determine what may need to be addressed by proponents in an ESIA and when preparing a Resettlement Action Plan (RAP), Vulnerable Community Development Plan (VCDP), or Gender Action Plan (GAP) that has been signaled as necessary.

Scoping questions to assess risk for national, regional and district proposals

Notes: 1: The square brackets indicate when a RAP, VCDP or GAP may be triggered; 2: Where questions ask what 'affect' a project may have, this relates to both within the project boundaries and near/around the location of the project.

To what extent (quantify where possible, or provide a qualitative measure) will the proposal:

Environmental

- Lead to deforestation or forest degradation?
- Promote encroachment into forest areas?
- Stimulate over-harvesting or illegal off-take of forest products or other natural resources, or unsustainable use of forests?
- Increase methane release?
- Change the management regime of, or affect, protected areas and their ecological, landscape, cultural or other values and functions?
- Threaten particular species of fauna or flora?
- Cause the loss or fragmentation of ecosystems, habitats, biodiversity or affect ecologically sensitive areas (e.g. wetlands, watercourses or other water bodies, mountains, forests, woodlands)
- Stimulate land use and land cover changes?
- Cause water scarcity?
- Stimulate increased use, storage, transport, handling or production of harmful substances (e.g. chemicals)?
- Involve signification construction of infrastructure?

- Use fertilizers or pesticides? Or generate or cause the release/disposal of hazardous, toxic or noxious substances that may cause pollution (of air, rivers, surface waters or groundwater)?
- Increase the risk of slope destabilization, subsidence, landslides, erosion, or flooding?
- Have agricultural impacts (e.g. reducing agricultural productivity, soil quality, potential for crops, or reduce crop diversity – such as by eliminating indigenous crop varieties)?

Social

- Result in conflicts (elite capture, between people or ethnic groups, rich-poor, people-wildlife, etc.)?
- Result in any risks of accidents?
- Pose risks to human health, or affect health services/facilities?
- Result in social changes, e.g. in demography, traditional lifestyles, employment/income generation? [VCDP]
- Lead to small farmers or local enterprises being out-competed or displaced, or their access (e.g. to forests resources) being limited?
- Increase dependence on external inputs that leads to further marginalization of poor people? [VCDP]
- Limit opportunities for the poor and marginalized?
- Affect any areas or features of historic, archaeological or cultural importance?
- Cause physical and/or economic displacement of people (e.g. eviction of squatters/ encroachers)? [VCDP]
- Impact on the poor, vulnerable or disadvantaged people? [VCDP]
- Lead to loss of user/traditional rights, or access to forest products & resources? Or ignore/displace traditional knowledge or cultural/spiritual values? [VCDP]
- Exclusion/elimination of cultural / spiritual values & traditional practices?
- Result in inequity in benefit-sharing? [GAP, VCDP]
- Lead to significant land acquisition? [RAP]
- Cause social exclusion or exclusion of women/.children? (GAP, VCDP]
- Affect women (including violence against women) and/or children, or women -headed

households?, and how will the proposed project address existing violence against women [GAP]

- Lead to an increase in women's workload? If yes, how will the proposed project address the existing, and the potential increase in, women's workload? [GAP]
- Increased costs (in terms of labor or time)?
- Affect the livelihoods of communities (in general) or particular people or groups of people (e.g. due to loss of shelter and housing structure, loss of income source, loss of grazing field/ social network/ family bondage etc.)? [VCDP]
- Promote a significant increase in investment, commercial activities and enterprises (e.g. plantations, value-adding micro industries, etc.)?
- Reduce food production/security or affect market value of forest products or crops?
- Affect common property resources?
- Affect access to schools, education and communications?

Other considerations for scoping - will the project:

- Be located within or adjacent to a protected area (e.g. national park, wildlife reserves, conservation area or hunting reserve)?
- Cause any physical changes, e.g. to topography, land use, changes in water bodies?
- Use natural resources such as land, water, forests, minerals or energy, especially any resources that are non-renewable?
- Involve the use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment (e.g. chemicals) or raise concerns about actual or perceived risks to human health?
- Produce solid wastes during any construction work, operating or decommissioning?
- Release pollutants or any hazardous, toxic or noxious substances to air?
- Lead to risks of contamination of land or water from releases of pollutants onto the ground or into rivers, surface waters or groundwater?
- Affect areas which are already subject to pollution or environmental damage (e.g. where existing legal standards are exceeded)?

- Result in any risks of accidents during any construction or operation of the project which could affect human health or the environment?
- Affect any areas which are protected under international or national legislation for their ecological, landscape, cultural or other value?
- Affect any other areas which are ecologically important or sensitive, e.g. wetlands, watercourses or other water bodies, mountains, forests, woodlands, which could be affected by the project?
- Affect any areas which are used by protected, important or sensitive species of fauna or flora, e.g. for breeding, nesting, foraging, resting, overwintering, migration?
- Affect any underground water?
- Affect any areas or features of high landscape or scenic value?
- Be in a location where is likely to be highly visible to many people?
- Affect any routes which are used by the public or visitors/tourists for access to recreation or other facilities?
- Affect any transport routes which are susceptible to congestion or which cause environmental problems?
- Affect any areas or features of historic, archaeological, cultural or religious importance?
- Be located in a previously undeveloped area where there will be loss of natural habitats?
- Affect any existing land uses (e.g., agriculture, forestry, tourism, mining or quarrying)?
- Affect private and public property (homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities)?
- Affect any areas which are densely populated or built up?
- Affect any areas around the project location which are occupied by sensitive services (e.g. hospitals, schools, places of worship, community facilities) which could be affected by the project?
- Affect any areas which contain important, high quality or scarce resources, e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project
- Be located in an area susceptible to earthquakes, subsidence, landslides, erosion, flooding or

extreme or adverse climatic conditions, e.g. temperature inversions, fogs, severe winds, which could undermine the feasibility of the project?

- Affect any plans for future land uses
- Involve or affect squatters/encroachers residing in the project area? How will they be affected? [VCDP, RAP]
- Affect poor, vulnerable or disadvantaged people (specify) [VCDP]
- Lead to land acquisition? [RAP]
- Cause the physical and/or economic displacement of people? [RAP, VCDP],
- Affect women and/or children, or women-headed households? (How?) [GAP]
- Affect the livelihoods of communities (in general) or particular people or groups of people (e.g. due to loss of shelter and housing structure, loss of income source, loss of grazing field/ social network/ family bondage etc.)? [VCDP]
- Affect any social or commercial tree plantations or fruit trees,
- Affect land productivity, type and quantity of crops?
- Affect the market value of land?
- Affect common property resource?
- Affect access to health facilities/services?
- Affect access to schools, education and communications?
- Affect income generation opportunities?

Figure A1 Scoping questions to assess risk for national, regional and district proposals

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
General Conditions	Notification and Worker Safety	(a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	(a) During excavation works dust control measures shall be employed, e.g. by spraying and moistening the ground (b) Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling or breaking of pavement and foundations dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (d) The surrounding environment (side walks, roads) shall be kept free of soil and debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) All machinery will comply with Polish emission regulations, shall well maintained and serviced and there will be no excessive idling of construction vehicles at sites
	Noise	(a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in canalization and nearby streams and rivers
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from excavation, demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible Contractor will reuse and recycle appropriate and viable materials (except when containing asbestos)
B. Impacts on surface drainage system	Water Quality	(a) There will be no unregulated extraction of groundwater, nor uncontrolled discharge of process waters, cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers; the Contractor will obtain all necessary licenses and permits for water extraction and regulated discharge into the public wastewater system. (b) There will be proper storm water drainage systems installed and care taken not to silt, pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes by construction activities (c) Procedures in place for prevention of / response to accidental spills of fuels, lubricants, other toxic or noxious substances (d) Construction vehicles / machinery washed only in designated areas where runoff will not pollute natural water bodies

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
C. Historic building(s)	Cultural Heritage	(a) If construction works take place close to a designated historic structure, or are located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation. (b) It shall be ensured that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.
D. Acquisition of land	Land Acquisition Plan/Framework	(c) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank's Task Team Leader shall be immediately consulted. (d) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented
E. Toxic materials	Asbestos management	(a) If asbestos is located on the project site, it shall be marked clearly as hazardous material (b) When possible the asbestos will be appropriately contained and sealed to minimize exposure (c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust (d) Asbestos will be handled and disposed by skilled & experienced professionals (e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site. (f) The removed asbestos will not be reused
	Toxic / hazardous waste management	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage (c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used
F. Affected forests, wetlands and/or protected areas	Ecosystem protection	(a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided (c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences (d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.
G. Risk of unexploded ordinance (UXO)	Hazard to human health and safety	(a) Before start of any excavation works the Contractor will verify that the construction area has been checked and cleared regarding UXO by the appropriate authorities
H Traffic and pedestrian safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(b) In compliance with national regulations the Contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ If required, active traffic management by trained and visible staff at the site for safe passage for the public ▪ Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction

PART D: MONITORING PLAN (EXAMPLE, TO BE EXPANDED AS NEEDED)

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During activity preparation	site access traffic management availability of waste disposal facilities hazardous waste inventory (asbestos) construction material quality control (eg. paints / solvents)	at the site at the site in site vicinity on site Contractor's store / building yard	check if design and project planning foresee diligent procedures visual / analytical if in doubt visual / research in toxic materials databases	before launch of construction before start of rehabilitation works before approval to use materials	safety of general public, timely detection of waste disposal bottlenecks public and workplace health and safety	marginal, within budget marginal, within budget; (prepare special account for analyses))	Contractor, Engineer
During activity **supervision**	dust generation noise emissions waste and wastewater types, quality and volumes surface drainage soundness	on site and in immediate neighborhood, close to potential impacted residents at discharge points or in storage facilities	visual consultation of locals visual, analytical if suspicious count of waste transports off site, check flow rates and runoff routes for wastewater	daily daily daily / continuous daily / continuous	avoidance of public nuisance avoidance of negative impacts on ground/ surface waters ensuring proper waste management and disposal	marginal, within budget	Contractor, Engineer

Internal monitoring (conducted as part of REDD+ implementation) should be applied to various aspects of the ESMF including:

- the project screening process (to ensure it is working effectively and efficiently),
- environmental and social monitoring of REDD+ project/activity implementation in terms of
  - changes to baseline conditions,
  - compliance with required protection and compensatory measures, and with

- recommendations made by environmental and social studies carried out for the
- project such as IESE, ESIA, RAP, GAP, VCDP etc.
- environmental or social impacts, particularly to ensure that they do not exceed expected limits,

- ensuring that necessary safeguard measures have been duly implemented and the efficacy of mitigation measures, and suggesting further mitigation measure to control impacts, where needed;
- implementation of training and capacity building.

External monitoring undertaken would also be helpful, undertaken as an independent process on a periodic basis (say every 5 years) as part of a periodic review of progress of the overall REDD+ process in Nepal.

Monitoring is also required to enable the GoM to meet its international commitments. For example, the Warsaw REDD+ Framework, agreed in November 201 at the UNFCCC COP, requires countries to report not only on emissions reduction but also on safeguards. The UT REDD+ and CTR REDD+ could establish an independent expert committee to ensure compliance is verified even before such submissions are formally made to the COPs and its subsidiary bodies.

Countries are also to establish MRV to track effectiveness in reducing emissions and co-benefits. Other than creating multiple structures, the monitoring of environmental and social aspects of the REDD+ strategy should be linked and integrated, as appropriate, with the information management system for MRV; transparency is a key word repeated in the Warsaw decisions – public availability of information on impacts, etc. will enhance the capacity of the country to comply with that decision.

Monitoring REDD+ Projects

The overall sustainability of a project depends on how well environmental and social issues are managed during its implementation, and this requires effective monitoring. In this regard the Assessment and Monitoring Unit (AMU) and UT REDD+ and CTR REDD+ will need to develop a detailed set of monitoring and reporting guidelines.

The environmental and social performance of the REDD+ strategy and activities/ projects arising from its implementation have to be monitored. The monitoring is proposed to be carried out at both a national and provincial level.

Responsibilities for monitoring, evaluation and reporting

The overall responsibility of environmental and social monitoring of the REDD+ activities should be with the UT REDD+. In order to keep track of the environmental and social performance of the REDD+ strategy, the UT REDD+ will have to:

- regularly monitor national and regional projects/ activities in coordination with the Regional REDD+ Focal Desk and project developers/implementing agencies,
- coordinate regularly with PRPMUs that are monitoring provincial and local level projects/activities,
- report the findings of monitoring to the REDD+ Working Group, and
- recommend necessary actions to improve and/or enhance environmental and social performance of the REDD+ strategy.

The PRPMU should be responsible for monitoring the environmental and social aspects of REDD+ projects/activities carried out in districts as well as at local levels, and coordinating with project developers/ implementing agencies. Each PRPMU will have to regularly coordinate with VDC officials to regularly monitor the projects/activities carried out at VDC and local levels. The PMU should be responsible to:

- prepare environmental and social monitoring reports on REDD+ activities/ projects carried out in their respective district,
- report the findings to the UT REDD+ and the REDD Working Group (if necessary), and
- suggest necessary actions to improve and/or enhance environmental and social performance of REDD+ at the district and local levels.

While most of the monitoring oversight will need to be conducted by the UT REDD+ officials, if necessary, the services of competent third party monitors can be engaged to provide periodic and objective assessments of progress, shortfalls and challenges in the implementation of specific project components/sub-components, especially those related to field projects.

For those projects subjected to an Environmental and Social Impact Assessment (ESIA) procedure, monitoring will need to be carried out in accordance with the requirement in Environmental Auditing (*Auditoria Ambiental* - AA) which is a mechanism to manage existing and ongoing activities that may result in environmental damage. (Environment Law, Article 18, paragraph 1 and Environmental Impact Assessment Regulation, Article 24, paragraph 2). AAs are therefore undertaken after an activity has received its environmental license.

The AA is a management tool designed to ensure ongoing legal compliance and compliance with the environmental management plan submitted as part of the EIA or EAS. The AA also seeks to identify areas for improvement. The purpose of the AA is to organize and interpret environmental monitoring data, to verify that monitoring is legally compliant, to compare actual impacts with those predicted in the EIA or EAS and management plan, evaluate the

environmental management system in place and determine whether or not mitigation measures in use are satisfactory. The outcomes of the AA should be regular review of the environmental management plan and optimized environmental protection based on up to date information about best practice.

Types of Monitoring

Three types of monitoring are proposed for monitoring the environmental and social performance of the REDD+ activities: baseline monitoring, compliance monitoring and impact monitoring.

Baseline Monitoring - needed to collect data on environmental resources and social setting of the project area prior to the implementation of the project. Such data are usually collected to provide the basis for undertaking environmental and social studies such as EPDA, ESIA, RAP, and GAP. During baseline monitoring, these data are further verified and updated. Baseline monitoring will provide an overall description of the environmental and social setting of the project area. Some of the required monitoring activities include:

- Physical aspect: monitoring of river water quality, drinking water quality, air quality, water discharge of the rivers and streams, land stability and erosion, etc.
- Biological aspect: monitoring of forest composition, biomass, wildlife diversity and population, population status of threatened and rare species, etc.
- Socio-economic aspect: population size of settlements, ethnic composition, economic status of the communities and their living standards, status of social and economic services available to communities, land holdings and property, status of women, indigenous people, dalits, and other marginal groups, etc.

Compliance Monitoring - to ensure that environment and social protection and compensatory measures are complied with, focusing on:

- environmental protection measures to be incorporated into the project implementation framework and contract documents;
- allocation of funding for protection measures, compensation for land and property etc.;
- for infrastructure projects, the construction of works including excavation, transportation, dumping and stockpiling of construction materials, operation of quarry sites, storage of explosives and toxic materials; etc. shall be monitored and supervised;
- supervision of encroachment in forests and wildlife;
- provisions of health and sanitation facilities and control of communicable diseases;

- compensatory plantation, land acquisition and compensation;
- skill training and public awareness activities.

Impact Monitoring - focusing on each predicted impact and the effectiveness of proposed mitigation measures which may include slope stability, watershed condition, spoil disposal area, forest condition and compensatory plantation etc.

Impact monitoring will examine the effectiveness of the mitigation measures, identify emerging impacts due to project activities or natural processes, and assist the identification of necessary remedial actions. It should focus on key indicators (that should be proposed by ESIAs) to assess whether the impacts have been accurately predicted, and whether the mitigation measures are sufficient and effective.

Both compliance and impact monitoring must be carried out during project implementation.

Monitoring Key Performance Indicators

Specific monitoring criteria and key performance indicators will need to be developed by UT REDD + after the national strategy for REDD + is completed.

Stakeholder engagement and monitoring and evaluation

Free prior and informed consent (FPIC) need to be included in the design and implementation of REDD+ projects. Detailed information about the project and potential impacts should be provided to potentially affected communities. The information should be in a language that is accessible to the different target groups to allow informed discussions and decisions thereafter. Ample time (possibly three months) should be allocated to ensure that affected groups can have internal consultations and seek advice to better understand what is at stake.

Upon consent for REDD+ projects to be implemented, there is also need to establish a timeline for monitoring the implementation of the agreement and to monitor the impacts that would have been jointly identified. So FPIC needs to be incorporated not as a one off event, but as a continuous process of engagement, negotiation and adaptation of the plans for mitigating negative impacts.

A social accounting mechanism should be promoted within the environmental and social monitoring framework of the REDD+ strategy. This system will benefit REDD+ implementation in two ways: it will engage stakeholders and the public in the REDD+ process improving participation, and enhance social acceptance of the REDD+ approach. However, REDD+ implementing agencies will need to consider the possible threats that might arise from inadequate transparency, over-expectation and misunderstanding of REDD+ programs, as well

as from poor integration of stakeholders in the process. Therefore, proper protocol and procedures will need to be defined for this process.

A key approach will be to enable feedback from stakeholders. The participatory processes are proposed to guide either one of (a) social audit, (b) citizen score card and (c) report card or combination of these (as needed). Feedback acquired from these processes should be used to evaluate performance of projects and activities under REDD+ and also record citizens' recommendations for improvement. The participatory process needs to be linked with existing systems of local self-governance.

There should be a joint monitoring framework for local groups that provides specified criteria and indicators. Monitoring should aim to ensure equality and equity.

Safeguard Monitoring

The GoM will need to establish a Safeguard Information System (SIS) which will need to include identifying and continuously monitoring key indicators (e.g. on governance, benefit-sharing, participation of marginalized groups in decision-making). This can only be done when the content of REDD+ strategy is known. A set of such core ESMF indicators should be monitored independently of project monitoring and should be adaptable to enable unforeseen issues to be added. Experience from community forestry has been that some key problems were not anticipated in advance (e.g. exclusion of marginalized groups).

Annexure B. Programmatic Screening Tool

This tool would be used in the event of Mozambique developing other national strategies that would support implementation of REDD+, with the express intention of supporting REDD+ implementation. This would include such strategies as Mozambique's agricultural strategy and biodiversity management strategy (MozBio). The tool is basically to ensure agencies reflect on potential environmental and social outcomes of strategies they hope to implement in the country, and determine the best level of EA to be prepared in conjunction with development of the strategy (e.g., SESA, ESMF, RPF).

							Potential Impacts at Programmatic Level					
Modify Mozambique Legislation to Enhance Carbon Stock/ Reduce and Modify Traditional Land Use Practices	**Loss of cultural sites**	**loss of access to cultural sites**	**move graves**	**loss of easy visitation of graves**	**traditional land use rights**	**to traditional flora/fauna resources**	**loss of access to forest resources**	**loss of access to medicinal plants**	**of foreigners -- effect on language, cultural values**	**Increased potential for poaching wildlife**	**traditional agriculture on community**	**traditional agriculture on family social**
Law on the Protection of Cultural Heritage (Law No. 10/88 of December 22, 1988)	x	x										
Burial Regulations (Decree No. 42/90)			x	x								
Land Law (No. 19/97)	x	x			x	x	x	x				
Environment Law (1997)												
Forest Law and Wildlife Law (Law No. 10/99)	x	x			x	x	x	x				
Tourism Law (Law nr. 4/2004)					x	x	x	x	x	x		
Territorial Planning Law (17/2007) (if imposed to enhance carbon values at expense of traditional land use/settlement etc.)	x	x	x	x	x	x	x	x	x	x	x	x
Law on Spatial Planning (2007) (if imposed to enhance carbon values at expense of traditional land use/settlement etc.)	x	x	x	x	x	x	x	x	x	x	x	x
Biodiversity Cons. Strategy (2003-2010)		x		x	x	x	x	x				
Agriculture and Natural Resources Strategy (2010)					x						x	x
New Mining Law (14/2002, and 20/2014) (prioritise mining over traditional land use)	x	x	x	x	x	x	x	x	x	x		
National Adaptation Strategy on Climate Change Mitigation (2012)	x	x	x	x	x	x	x	x			x	x
Protection, Conservation and Sustainable use of Biological Diversity (Law no. 16/2014)												
Other Activities												
Introduce new crops											x	x
Introduce new farming methods											x	x
Discourage livestock browsing in forests					x						x	x
Introduce foreign tree species for commercial harvest												

							not meet MDGs	
Modify Mozambique Legislation to Enhance Carbon Stock/ Reduce and Modify Traditional Land Use Practices	**Introduce new sources of income -- effect social structure**	**Resettlement**	**Separation extended family/friends**	**Attract wildlife conflicts (e.g. elephants in Quirimbas Natl. Park)**	**loss of biodiversity**	**threaten endemic species**	**Refrain from building good road network to keep forests**	**Refrain from building water control structures to keep natural water balance**
Law on the Protection of Cultural Heritage (Law No. 10/88 of December 22, 1988)								
Burial Regulations (Decree No. 42/90)								
Land Law (No. 19/97)								
Environment Law (1997)								
Forest Law and Wildlife Law (Law No. 10/99)								
Tourism Law (Law nr. 4/2004)								
Territorial Planning Law (17/2007) (if imposed to enhance carbon values at expense of traditional land use/settlement etc.)	x	x	x		x	x	x	x
Law on Spatial Planning (2007) (if imposed to enhance carbon values at expense of traditional land use/settlement etc.)	x	x	x		x	x	x	x
Biodiversity Cons. Strategy (2003-2010)								
Agriculture and Natural Resources Strategy (2010)	x	x	x					
New Mining Law (14/2002, and 20/2014) (prioritise mining over traditional land use)	x	x	x		x	x		
National Adaptation Strategy on Climate Change Mitigation (2012)	x	x	x		x		x	x
Protection, Conservation and Sustainable use of Biological Diversity (Law no. 16/2014)								
Other Activities								
Introduce new crops	x			x				
Introduce new farming methods	x							
Discourage livestock browsing in forests								
Introduce foreign tree species for commercial harvest	x			x	x	x		

Annex C: Preliminary Environmental Information Form (Annex VI, Decree 54/2015) and Annex VII - Application Form For The Evaluation Process Of Environmental Impact Assessment

ANEXO VI

FICHA DE INFORMAÇÃO AMBIENTAL PRELIMINAR

1. **Nome da actividade:**
   _____
   _____
   _____
   _____
2. **Tipo de actividadde**

a) Turístic☐ Industrial☐ Agro-Pecuária☐ Energética ☐ Serviços☐ Outra ☐

(especifique) _____
_____
_____
_____

b) Nova ☐ Reabilitação ☐ Expansão ☐

Outro ☐ Especifique

3. **Identificação do(s) proponente(s):**
   _____
   _____
   _____
   _____
4. **Endereço/contacto**

Av. /Rua:

_____
_____
_____

Telefone Fixo:_____; Fax: _____

Celular:_____/_____/_____

Email _____

5. **Localização da actividade**

5.1 Localização Administrativa

Bairro:_____Vila_____
Cidade_____
Localidade_____Distrito_____
Província_____

Coordenadas geográficas:

1. _____, 2. _____

1. _____, 4. _____

5.2 Meio de inserção:

Urbano ☐ Rural ☐ Periurbano ☐

6. Enquadramento no Instrumento de Ordenamento Territorial

Espaço habitacional ☐ Industrial ☐ Serviços ☐ Outro ☐ (especifique)

7. Descrição da actividade:

7.1 Infra-estruturas da actividade, suas dimensões e capacidade instalada (juntar sempre que possível as peças desenhadas e descritas 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 quantidade de matéria-prima e sua proveniência:

_____

_____

_____

_____

_____

_____

7.7. produtos químicos citados cientificamente a serem usados: (caso a lista seja longa dever-se-á 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:

_____

_____

_____

_____

_____

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

_____

_____

_____

_____

_____

9.Alternativas de localização da actividade: (motivo da escolha do local de implantação da actividade e indicando pelo menos dois locais alternativos).

_____

_____

_____

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

_____

_____

_____

_____

10.1Características físicas do local de implantação da actividade:

Planície ☐ **Planalto** ☐ Vale ☐ Montanha ☐

10.2. Ecossistemas predominantes:

Fluvial ☐ Lacustre ☐ Marinho ☐ Terrestre ☐

10.3. Zona de localização:

Costeira ☐ Interior ☐ Ilha ☐

10.4. Tipo de vegetação predominante:

Floresta ☐ Savana ☐ Outros ☐

(especifique) _____

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

Agro-pecuário ☐ Habitacional ☐ Industrial ☐ Protecção ☐

Outro ☐ (especifique):

_____

_____

_____

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

_____

_____

_____
_____

11.Informação complementar através de mapas

- Mapa de localização (a escala conveniente)
- Mapa de enquadramento da actividade na zona de localização (a escala conveniente)
- Outra informação que julgar relevante.

12.Valor total de investimento:

_____
_____
_____

ANEXO VII

MODELO DE REQUERIMENTO PARA A INSTRUÇÃO DO PROCESSO DE AVALIAÇÃO DE IMPACTO AMBIENTAL

Exmo Senhor: _____

Nome_____ de nacionalidade _____,
NUIT _____, Portador do BI/Passaporte/Dire nº _____, emitido em _____, aos _____/_____/_____, vem por este meio submeter a proposta da actividade com a designação de _____, para Avaliação do Impacto Ambiental. A mesma localiza-se no Posto Administrativo de _____, Distrito de _____, Província de _____, Talhão/Parcela nº _____, nas coordenadas geográficas:
1. _____, 2. _____, 3. _____,
4. _____, cuja área de actividade é de_____, com valor de investimento de _____, requer à V.Excia, se digne autorizar .

Pede deferimento

……, aos …….de ……..de 20

Assinatura

……

Annex D: Good practices on Fire management to promote Sustainable forest management according to each forest goal

Good practices on Fire management to promote Sustainable forest management according to each forest goal

African rural society is familiar with and deliberately use fire for several thousand years as a landscape management tool. Fire is deeply embedded in their agro-pastoral and hunter-gatherer cultures to manage pastures (also for hunting), to clear land of vegetation and to prepare fields through slash-and-burn practices. They accept fire as normal and desirable, and perceive wildfire as both a benefit and a threat and treat it with respect rather than a fear. By strong contrast the Eurocentric perceptions and views of fire as a threat, a danger and driver of degradation come from their European and North American thinking. The latter has had a strong effect on policies of fire suppression and associated management practices adopted in many parts of Africa. Recently fire management philosophies changed from mainly fire prevention and suppression to the active use of fire as a tool for achieving desired outcomes cost effectively. This developed from a growing recognition that fire management should (a) complement the ecology of African ecosystems that are adapted to fire, (b) use traditional knowledge of fire, and (c) be appropriate to African landscapes and land use priorities.

The Zambezian woodlands of southern Africa in Mozambique are dominated by Miombo woodland, Undifferentiated woodland, and Mopane woodland. Such areas have significant prolonged dry periods each year, and experience fire every 1-4 years, principally in the form of low- to medium-intensity surface fires that consume the grass and litter layers. The woodlands are characterized by their exceptional ability to tolerate fire and to recover following intense disturbance events. Within intact woodlands, grass accumulation is generally suppressed by the presence of a canopy and herbivory, resulting in relatively low fuel loads (4-6 t/ha) and low-intensity fires. Disturbance of woodlands and especially the opening of the canopy, for example, through deforestation or a succession of late-season high-intensity burns, results in an increase in grass production, larger fuel loads and often high-intensity fires that may open up woodlands further and keep them in an open state. The pattern may be reversed through the short-term suppression of fire or the implementation of relatively cool, early season burns that allow resprouting tree shoots to grow beyond the ‘fire-trap’ and start to naturally suppress grass growth.

Fire impacts on the woody component of the woodlands vary. It has very little effect on the survival of established, tall trees in fire-prone African vegetation. Many typical woodland species have evolved thicker, fire-resistant bark that increases survival through low-intensity fire events as well as the ability to rapidly resprout following more intense fires. They are leafless in the dry season, and have low flammability. Where these defenses are breached, such as by scars from injury by bark harvesting (medicine, fiber and bee hives) or animals (elephant, porcupine, etc.), mature trees do eventually succumb to repeated fires. Even then, the fire may not kill them, as some trees re-sprout from the stem or roots. However, while woody perennial plants are short in stature – either newly established seedlings or re-sprouts from old rootstocks – they are susceptible to fires in the grass layer. These fires kill the aboveground parts of the plants and force them to start again from ground level (Figure #). If the plants can grow through the flame zone before the next fire, they eventually suppress grass growth around them, reducing their fire risk, and the whole system eventually becomes tree dominated. This is

why some open savannas can become densely wooded within a decade or two if fires are excluded or reduced in intensity.

Figure #: *Sprouting of Miombo woodland tree (a, top left) and herbaceous (b, top right) species after a fire. Note in bottom photo (c) how tree regeneration over 2 m tall was reduced to ground level by fire.*

Fire as a natural disturbance factor in the dynamics of natural vegetation is characterized by its regime, i.e. how different fires in the particular landscape or large area behave over a long period. Typical components of a fire regime are: (i) Fire frequency or return time that can be annual or every 2-5 years in grassland or wooded grassland, or longer intervals in woodland, or long intervals in evergreen forest. It is often said that Miombo woodlands burn every year, but in reality only about 30% burn per year, with some areas burning every year and other parts burn at longer intervals. Natural barriers to fire movement such as rivers or scarps, and human-created features such as roads, fields, houses and firebreaks, all influence fire frequency. (ii) Fire intensity, such as cool or hot fires, is controlled by fuel load, fuel moisture, air temperature and wind speed (rate of spread), and varies through the day and year. It strongly influences the ecological and human impacts, and the ease of control. (iii) Seasonality of a fire in Africa is mostly controlled by rainfall rather than temperature, and the effect is related to ecosystem rhythm (vegetation phenology) rather than the human calendar. This relates to terms such as early-wet to late-wet, or early-dry to late-dry fire seasons. In general people change the fire season towards cooler fires. Traditionally Africans light 'cool' fires early in the dry season (as soon as the grass will ignite) or early evening before dew sets in, and continue to do so until a mosaic of burned patches has developed to support the grazing needs of their livestock. (iv) Type of fire refers to crown, ground and underground fires. Almost all African fires are ground fires and it is then more useful to know whether they are burning with (fore fire) or against (back fire) the wind. In general, the fuel load in the moister woodlands is generally 1000-5000 kg dry matter per ha, and a burn may cover 30-80% of an

area, with a medium to high intensity and >90% completeness of burn. In a study in northern Namibian woodlands, annual burns over a 12-year period showed marked seasonal effects (Geldenhuys, 1977). The late dry season fires at high intensity caused a grass understory, whereas the cool early dry season fires, or fire exclusion, caused the development of a woody understory of trees and shrubs.

Fuel load is the most important environmental factor to be considered in fire management and control. It is determined by climate (rainfall intensity and seasonality, temperature and air humidity) and substrate (topography, soil depth and nutrient-status). A dry season following a wet year will have a larger area burned than following a drought year. Barriers to fire spread in relation to wind movement during the fire season is another important factor. This can be seen in the distribution of vegetation communities in the landscape, such as wooded grassland on one side of a ridge or stream, and closed woodland on the other side of the same ridge or stream in natural landscapes. Dense human settlement typically only occurs in landscapes with enough rain and suitable soil to permit agriculture. These typically have a network of roads, fields, settlements and rivers, which impede the fire paths through the landscape. Thus, while the number of ignitions may go up with human population density, the individual fire size goes down. Suppression of fires leads to the excessive build up of plant fuels. The combination of high temperatures, low humidity and strong winds with substantial fuel loads across landscapes can lead to intense, runaway fires that are exceptionally difficult to control. Fundamentally suppression does not suit the ecology of the seasonally dry African woodland ecosystems. In the end, fire suppression cannot practically and effectively be maintained as a policy.

These woodlands are home to many people directly or indirectly dependent on the woodlands for their livelihoods and a rich suite of ecosystem services. These areas are also the target for growing local and international demand for forest products and land for commercial agriculture, and hence also for REDD+ programs aimed at reducing further degradation and managing landscapes in a sustainable manner, including the management of fire.

Common reasons for burning the woodlands include: (i) Improvement of livestock and wildlife production by removing moribund grass, stimulating new shoots, providing grazing for domestic livestock and attracting wildlife species to certain areas (as for hunting – see Geldenhuys 2005). Fire is also a useful tool to manage ticks and other pests. Burning is implemented in a patchwork manner at different intervals through the dry season to ensure constant availability of new growth. (ii) Preparation of cropland during the practice of slash-and-burn traditional agriculture to prepare and fertilize fields through released ash. Trees and other biomass are felled, burned and turned into the soil to increase its organic and nutrient content. This practice is repeated every 1-3 years to maintain production in croplands. (iii) Improvement of wood production within communal areas and timber concessions, using early season fires to remove grass fuel loads before more intense fires present a risk to mature woodland or saplings and resprouting stems in recovering stands. The germination and establishment of several species, including the commercially important *Pterocarpus angolensis*, is dependent on moderate exposure to fire to reduce grass competition. Exposure to intense fires may result in the mortality of seeds. The use of local spot fires (cool surface fires) around stands of young regeneration of commercial species, as for attracting wildlife for hunting (Geldenhuys, 2005), may be crucial to the recruitment of the commercial timber species. (iv) Management of biodiversity and risk in national parks

and forest reserves uses fire to stimulate new growth, to create a mosaic of different forest types and stages of succession to maintain variation in biodiversity at a landscape scale, to reduce the spread of external fires into the parks, and to reduce the risk to management and tourist facilities. There is a gradual move back towards traditional patch-mosaic burning, especially to manage pasture. There is however, growing awareness of the opportunity to further use fire as a tool to improve the productive ability of indigenous woodlands and to manage fire risk at broad landscape scales.

An integrated fire management approach at landscape level is required through bottom-up interaction, including interaction between local farmers, traditional authorities, government officials and commercial enterprises, to allow parties to communicate specific needs and concerns. A mosaic of different land-use types, with significantly different fire management priorities ranging from complete fire suppression and the protection of high-value assets, to the active use of high intensity fires to clear bush-encroachment or alien invasive vegetation. This is important to create a sense of ownership, to ensure that fire management in one part of the mosaic does not present a threat to other areas, and that the actions remain sustainable over the long-term. In addition, practical fire management at farm level has to be integrated with other daily farming activities, and based on the farmer knowledge of fire behavior and impact in different parts of the local landscape. Traditional community-based approaches to fire management may be ecologically, socially and financially appropriate across vast indigenous and subsistence farming areas. The key is how to incorporate such knowledge into large prescribed burns, especially in remote and mountainous locations of national parks and forest reserves. Proactive fire management in the woodlands should be a means of rejuvenating and managing woodland ecosystems. Appropriate annual burning strategies would need a good knowledge and understanding of the condition of the grass component, the level of current tree regeneration, and the extent of undesirable bush-encroachment (including alien plant infestations).