Agriculture and Natural Resource Landscape Management Project (SUSTENTA)
# LIST OF ACRONYMS

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ANE</td>
<td>National Roads Administration</td>
</tr>
<tr>
<td>ANRLMP</td>
<td>Agriculture and Natural Resources Landscape Management Project</td>
</tr>
<tr>
<td>CBNRM</td>
<td>Community-Based Natural Resource Management</td>
</tr>
<tr>
<td>CESMP</td>
<td>Contractor’s Environmental and Social Management Plan</td>
</tr>
<tr>
<td>CDC</td>
<td>Certificado de Delimitação Comunitário (Community Delimitation Certificate)</td>
</tr>
<tr>
<td>CEPAGRI</td>
<td>Centro de Promoção da Agricultura (Center for the Promotion of Agriculture)</td>
</tr>
<tr>
<td>DA</td>
<td>District Administration</td>
</tr>
<tr>
<td>DCC</td>
<td>District Consultative Council</td>
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<tr>
<td>DLA</td>
<td>Department of Environmental Licensing</td>
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<tr>
<td>DNA</td>
<td>National Directorate of Environment</td>
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<tr>
<td>DNE</td>
<td>National Directorate for Energy</td>
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<tr>
<td>DNOTR</td>
<td>National Directorate of Land Planning and Resettlement</td>
</tr>
<tr>
<td>DPASA</td>
<td>Provincial Directorate of Agriculture and Food Security</td>
</tr>
<tr>
<td>DPOPHRH</td>
<td>Provincial Directorate of Public Works, Housing and Water Resources</td>
</tr>
<tr>
<td>DUAT</td>
<td>Direito de Uso e Aproveitamento da Terra (Land Use and Benefit Right)</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EDM</td>
<td>Electricidade de Moçambique/Electricity Company</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>EMP</td>
<td>Environmental Management Plan</td>
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<tr>
<td>ESIA</td>
<td>Environmental and Social Impact Assessment</td>
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<tr>
<td>ESMF</td>
<td>Environmental and Social Management Framework</td>
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<tr>
<td>ESMP</td>
<td>Environmental and Social Management Plan</td>
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<td>ESSF</td>
<td>Environmental and Social Screening Form</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<tr>
<td>FNDS</td>
<td>National Fund for Sustainable Development</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GOM</td>
<td>Government of Mozambique</td>
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<td>IDA</td>
<td>International Development Association</td>
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<tr>
<td>IDCFC</td>
<td>Innovation and Demonstration Catalytic Fund</td>
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<tr>
<td>IRRIGA</td>
<td>Smallholder Irrigated Agriculture and Market Access Project</td>
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<tr>
<td>MEF</td>
<td>Ministry of Economics and Finance</td>
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<tr>
<td>MDP</td>
<td>Municipal Development Project</td>
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<tr>
<td>MICOA</td>
<td>Ministry for the Coordination of Environmental Affairs</td>
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<tr>
<td>MASA</td>
<td>Ministry of Agriculture and Food Security</td>
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<tr>
<td>MISAU</td>
<td>Ministry of Health</td>
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<tr>
<td>MITADER</td>
<td>Ministry of Land, Environment and Rural Development</td>
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<tr>
<td>MOPHRH</td>
<td>Ministry of Public Works, Housing and Water Resources</td>
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<tr>
<td>MozBIO</td>
<td>Conservation Areas for Biodiversity and Development Project</td>
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<td>MozFIP</td>
<td>Mozambique Forest Project</td>
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<tr>
<td>MSME</td>
<td>Micro Small and Medium Enterprises</td>
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<td>MZM</td>
<td>Mozambique Metical (national currency)</td>
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<td>NCSD</td>
<td>National Commission for Sustainable Development</td>
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<tr>
<td>NEMP</td>
<td>National Environmental Management Program</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>PA</td>
<td>Agricultural Farmer</td>
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<tr>
<td>PACE</td>
<td>Produtor Agrícola Comercial Emergente/Emerging Commercial Agricultural Farmer</td>
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<tr>
<td>PARPA</td>
<td>Action Plan for the Reduction of Absolute Poverty</td>
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<tr>
<td>PEDSA</td>
<td>Strategic Plan for Agricultural Development</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>PCU</td>
<td>Project Coordination Unit</td>
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<tr>
<td>PDD</td>
<td>District Development Plans (Plano Distrital de Desenvolvimento)</td>
</tr>
<tr>
<td>PDPF</td>
<td>Provincial Directorate of Planning and Finance</td>
</tr>
<tr>
<td>PDUT</td>
<td>District Land Use Plan</td>
</tr>
<tr>
<td>PEPA</td>
<td>Environmental Quality Standards of Mozambique Projects</td>
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<tr>
<td>PLPP</td>
<td>Provincial level project personnel (with monitoring responsibilities)</td>
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<td>PNI</td>
<td>National Irrigation Program</td>
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<tr>
<td>PNISA</td>
<td>National Agriculture Investment Plan</td>
</tr>
<tr>
<td>PP</td>
<td>Urban Detailed Plan/Plano de Pormenor</td>
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<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>PPU</td>
<td>Provincial Project Unit</td>
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<tr>
<td>PPU</td>
<td>Partial Urban Plan/Plano Parcial de Urbanização</td>
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<tr>
<td>PROIRRI</td>
<td>Sustainable Irrigation Development Project</td>
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<tr>
<td>PRS</td>
<td>Poverty Reduction Strategy</td>
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<tr>
<td>RAP</td>
<td>Resettlement Action Plan</td>
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<tr>
<td>RPF</td>
<td>Resettlement Policy Framework</td>
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<tr>
<td>SDAE</td>
<td>District Services of Economic Activities</td>
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<td>SDMAS</td>
<td>District Services of Women, Social Affairs and Health</td>
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<td>SDPI</td>
<td>District Services of Planning and Infrastructure</td>
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<tr>
<td>TOR</td>
<td>Terms of Reference</td>
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<tr>
<td>UCA</td>
<td>Coordination and Support Unit</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
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<tr>
<td>USD</td>
<td>United States of America Dollar</td>
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<td>WB</td>
<td>World Bank</td>
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<td>WBG</td>
<td>World Bank Group</td>
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<td>WHO</td>
<td>World Health Organization</td>
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EXECUTIVE SUMMARY

Introduction

This document updates the Environmental and Social Management Framework (ESMF) prepared and approved in 2016 for the Agriculture and Natural Resources Landscape Management Project (SUSTENTA) (the Project), which has been under implementation by the Government of Mozambique (GOM) with the World Bank Assistance, since 2017. The Updated Version is justified by the Additional Financing (AF) that was approved in 2018 to scale up the original project by (mainly) extending its geographical coverage in provinces of Nampula, Zambezia and adding Manica e Sofala and reaching out to a larger number of beneficiaries”.

SUSTENTA’s objective is to promote integrated sustainable rural development while setting out a model for interventions in integrated rural development in Mozambique in a way that is responsive to the country’s current aspirations and vision. The project is aimed at “contributing to integrate rural households into sustainable agriculture and forest-based value chains in the project area with a strong component of land use planning including land registration and secured land tenure rights.

The project's physical interventions will be in the form of sustainable agriculture and forest development, feeder road upgrade and maintenance, rural bridges, small and medium scale irrigation schemes (which will now be funded and placed under the direct management of another WB supported project for irrigation, i.e. IRRIGA), storage facilities, and other types of priority infrastructure, as well as land delimitation and restoration of habitats. The proposed AF will scale up a well-performing investment operation by expanding geographically its coverage areas, and raising its target outputs to further increase its development impact. The PDO and the project components will not change with respect to the original project. The proposed key design changes are: (i) geographical coverage will include additional districts in the provinces of Zambézia, Nampula, Manica and Sofala; (ii) the number of business plans to be financed and implemented will increase; (iii) beneficiary eligibility criteria, funding windows, and operations will be upgraded; (iv) the degraded area targeted for restoration will be increased to 2000ha; (v) target values for small road infrastructure will be increased to 750 km, while irrigation infrastructure will no longer be funded directly under this project; and (vi) the closing date of the project would be extended by three years (i.e. from 2021 to 2023) to accommodate the increase in activities and targets. These changes are fully consistent with and aligned to government priorities and World Bank CPF.

The updated version of the Environmental and Social Management Framework (ESMF) are meant to be a guide to the screening, assessment and management of impacts and risks of the proposed Project interventions (sub-projects). The ESMF outlines several principles, which include:

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

The ESMF basic principles and requirements have been and will be applied throughout the entire Project life cycle and in line with the lessons learned during the first two years of SUSTENTA implementation as well as those from other related projects (e.g. MozBIO and MozFIP) while continuing to systematically incorporate new lessons.

Project Components

As described in the PAD of the AF, the project will consider four components:

Component 1: Agriculture and Forest-Based Value Chain Development (Original amount: US$21.0 million, Additional amounts: US$28.0 million IDA, US$9.0 million CRW, Total US$58 million). This component will be scaled up to increase the number of business plans for SECFs and SMEs, and investments in infrastructure in the expanded geographic area. CRW resources will be targeted to support SMEs, SECFs and Smallholder Farmers (SFs) in the cyclone affected areas (US$ 4.0 million) and to rehabilitate damaged rural infrastructure (US$ 5.0 million). Resources from the IDA AF will be used in additional districts of Nampula and Zambesia Province as well as in Sofala and Manica, to provide additional resources to the cyclone-affected areas and support SUSTENTA’s transition into a national program. Under the AF the number of SME’s business plans will increase from 25 (original) to 50 (new) and the number of SECF’s
business plans will increase from 100 (original) to 250 (new). Funding modalities will include special windows to attract young farmers (junior SECFs, under 35 years old), and startups and business led by local communities (community-based organizations, such as associations, cooperatives, etc.). Business plans would be submitted following periodic calls for proposals, and their screening would be against transparent criteria of innovation, viability, additionality and impact, spelled out in the Project Implementation Manual and communicated to potential beneficiaries. Financing and support will prioritize value chains along revised thematic areas while allowing for greater flexibility for potential business opportunities. Special calls for proposal will target Idai’s affected areas. The business plans financial flow and procurement modalities have been revised to empower beneficiaries in their capacity to manage funds and carry out procurement directly, with support from the implementing agency. Investment in spot improvements for road infrastructure would be scaled up from a target of 260 Km (original) to 1,050 Km rehabilitated, of which 550 Km in the cyclone’s affected areas. Investment in irrigation infrastructure will be discontinued and current feasibility studies passed to the recently approved IRRIGA (P164431) for their implementation in the same Project’s area.

**Component 2: Securing Land Tenure Rights and Increasing Natural Resources Resilience.** (Original amount: US$14.0 million, Additional amount: US$8.0 million IDA). This component will be scaled up to achieve an additional 400 ha (original 1,600 ha, new target 2,000 ha) of restored land under revised methodology and principles: (i) areas to be restored and geographical coverage of the business plans would need to match to allow for maximum synergy; and (ii) restoration plans would have to be ready prior to starting implementation of the business plans. The amount and activities for securing land tenure rights remains the same, to allow the finalization of ongoing land tenure regularization activities. Land tenure regularization activities will be scaled up through the recently approved MOZLAND (P164551), also implemented by the same FNDS, and part of the overall landscape approach adopted by MITADER.

**Component 3: Project Coordination and Management** (Original amount: US$5.0 million, Additional amount: US$4.0 million IDA, US$1.0 million CRW). The AF will provide incremental resources to oversee implementation in the original Project area and in the affected areas, comprising support for project coordination and management, fiduciary and safeguards management, monitoring and evaluation (M&E), and communications. While fund are broadly earmarked to the implementation of the project, they also support overall FNDS capacity strengthening, with impact on the overall portfolio of projects financed by the Bank.

**Component 4: Contingency Emergency Response** (Original amount: US$0.0 million, Additional amount: US$ 10.0 million CRW). The component was triggered as per the original project in case of a potential disaster-recovery need providing immediate response to an eligible crisis or emergency. The amount of USD 10 million was used for immediate relief response to the cyclone activities through FAO.

**Proposed allocation of AF resources per component**

<table>
<thead>
<tr>
<th>Components</th>
<th>Original Allocation</th>
<th>Additional Financing (IDA US$ Million)</th>
<th>Additional Financing (CRW US$ Million)</th>
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<tbody>
<tr>
<td>IDA Credit 5855-MZ/ Grant D1190-MZ (US$ Million)</td>
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3
1. Agriculture and Forest-Based Value Chain Development | 21.00 | 28.00 | 9.00
2. Securing land tenure rights and increasing natural resources resilience | 14.00 | 8.00 | 0.00
3. Coordination and project management | 5.00 | 4.00 | 1.00
4. Contingency Emergency Response | 0.00 | 0.00 | 10.00
Total | 40.00 | 40.00 | 20.00

Project activities have been designed to offer specific opportunities for women and address existing gaps: (i) Under component 1 the guidelines of the selection process for investments on value chains development provides for higher priority to proposals which have women as main beneficiaries. To this aim applicants are requested to include estimated gender disaggregated data of their expected beneficiaries in their proposal; (ii) some complementary interventions that promote climate-smart agriculture practices specifically aimed at women; and (iii) intensive awareness campaigns on associated benefits to ensure that women’s participation is promoted and documented.

The implementation of project activities, notably those from Component 1, in the first two years has been associated with clearance of vegetation; exposure to dust emissions, noise and vibration; contamination from pesticides and fertilizers. These are further compounded by the prevalence of knowledge, attitudes and practices that are detrimental to the sustainable use of water, soil, forests, vegetation and fauna among the community members and project beneficiaries. Components 1 and 2 have also been associated with some forms of land acquisition affecting mainly portions of land, trees and crops that belong to local people and other entities. Under the AF these impacts are expected to remain unchanged and be incremental within the project itself and in combination with other interventions from other projects and development initiatives.

These are being addressed and will continue to be addressed by the updated project’s safeguards instruments.

**Project Formulation and Implementation Arrangements**

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

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

From the onset project preparation and launching already incorporated the importance of knowledge and informed decision making. Focus is in areas such as (i) **Agriculture value chains analysis**; (ii) **Forest value chain analysis**; (iii) **Land Administration and Community-Based Land and Natural Resources Management**, which were done in order to establish readiness for project implementation. In the course of the first years of project implementation this approach has been systematically maintained and will continue under the AF.
SUSTENTA played a catalytic role in the establishment of the Fundo Nacional de Desenvolvimento Sustentavel (FNDS), which has contributed to strengthen MITADER’s ability to manage the complex institutional processes involved in promoting adequate land, environment and rural development processes that now go beyond managing SUSTENTA and cover other related developments including establishment of solid relationships with other sectors and subsectors. FNDS has become a capable implementing agency in its day-to-day coordination across several Government and non-government institutions at central, provincial, and district levels. It has grown from 15 employees in 2016 to 172 today (2019).

In addition to planning, budgeting, procurement, accounting, financial reporting, treasury management, and external audit to ensure adequate implementation of the environmental and social Safeguards requirements and applicable national regulations FNDS has established an Environmental and Social Safeguards & Community Development Unit. The Unit is responsible for the crucial environmental and social management and communication aspects of rural development and MITADER projects. The Safeguard team comprises five areas of specialization (Land, Value Chain, Infrastructures, Forests and Community Development) who assist specific projects in dealing with issues around these thematic areas. The team consists of a coordinator and 3 specialists at central level and technical assistants at landscape levels, 1 for each landscape and relies on the collaboration of local government at provincial, district and community level. The institutional development and implementation arrangements played a crucial role in drawing lessons from all the activities that were undertaken. Both the lessons learned and the institutional developments of the past two years will benefit the consistent adherence to sound environmental and social management of the project as espoused by the Project’s safeguards instruments prepared in 2016, namely (i) Environmental and Social Management Framework (ESMF), (ii) Integrated Pest Management Plan (IPMP) and (iii) Resettlement Policy Framework (RPF), including this updated version and that of the RPF.

The lessons learned from the implementation of the program during the early years, are evidenced in the Medium-Term Review MTR (May 2018). The main lessons include: (i) Challenges in regularization of land tenure that although achieving good results require attention by the safeguards team. A land protocol (Annex 7) has been developed that contributes to technical assistance in the event of possible land conflicts. This initiative, as well as capacity building for land management institutions, can benefit from the synergies with the MozLand project implemented by the FNDS and financed by the WB (ii) The lack of awareness of the ESMF requirements by procurement personnel, as well as by the infrastructure and value chain specialists, presented additional constraints resulting in tender documents being issued without any environmental and social clauses, limiting the ESMF’s purpose. The FNDS’s Safeguards team, with support from the WB Safeguards team (both through technical workshops and a coaching approach), has sought to improve the ESMF procedures by reorganizing the team (enhancing support between all the FNDS safeguard specialists) as well as by developing new templates for screening, monitoring and good practices’ manual to agriculture and agroforest systems as well as a protocol (Annex 6) to prevent the conversion of critical habitats (See the link: http://www.fnds.gov.mz/index.php/pt/documentos/publicacoes).

This ESMF reflects improvements aimed at assisting teams in promoting compliance with the principles and processes contained in the ESMF.

In addition to other forms of data collation, the preparation of this ESMF includes the contribution of public consultations held in Nampula and Zambezia involving the key
stakeholders (local authorities, beneficiaries/smallholder emergent farmers; provincial and district government), amongst others.

World Bank Safeguards Policies and GOM Regulations

The objective of the ESMF is to ensure that relevant World Bank Safeguards Policies and GOM environmental and social regulations are strictly adhered to. Although the guide to the new safeguard Environment ans Social Framework (ESF) is in use, additional funding does not apply this. The Project has triggered six of the World Bank’s 10+2 Safeguards Policies, namely, Environmental Assessment (OP/BP 4.01), Pest Management (OP 4.09), Involuntary Resettlement (OP/BP 4.12), Natural Habitats (OP/BP 4.04), Forests OP/BP 4.36, Safety of Dams (OP/BP 4.37), as well as adhered to the World Bank Group General Environmental, Health and Safety Guidelines (EHS), Tourism and Hospitality Development EHS Guidelines and the applicable Agribusiness/Food Production EHS Guidelines from April 2007. The ESMF has made provision to address potential concerns afferent to OP/BP 4.04 (Natural Habitats), OP/BP 4.36 Forest, OP/BP 4.37 (Safety of Dams) including possible impacts under OP/BP 4.11 (Physical Cultural Resources). A Resettlement Policy Framework (RPF) has been prepared to satisfy the Involuntary Resettlement (OP/BP 4.12) Safeguard Policy requirements and an Integrated Pest Management Plan (IPMP) has been prepared to satisfy OP 4.09 requirements. These two documents have been prepared separately, however they should be used together with this ESMF. Under World Bank Safeguards Policies, the project falls under Category B.

The Project is also implemented in light of the GOM reform in the environmental sector in terms of: (a) adherence to and adoption of a series of international and regional environmental protection and conservation conventions and protocols; (b) approval of a significant set of legislations with direct and indirect implications to environmental and social protection; (c) creation of specific public institutions and/or strengthening of existing institutions dedicated to both environmental and social management in the country. In terms of national laws reference should be made to Decree 54/2015, which regulates the environmental and social impact assessment processes as well as Decree 31/2012 on resettlement and expropriation. Other relevant legal aspects comprise legislation on solid waste management, air emissions, air quality and noise, water resources, water quality, pesticides, coastal management, ownership of land, land use planning, cultural heritage and protected and conservation areas.

SUSTENTA is already playing a positive role in enhancing the various aspects currently at play in the project area. However, if not adequately designed and implemented ongoing subprojects and those too derive from the AF also have the potential of aggravating several problems that have been associated with some of the developments.

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

Subproject Formulation and Selection

As part of the ESMF a social and environmental screening process has been helping to (i) determine which construction or rehabilitation and environmental restoration activities are likely to have potential negative environmental and/or social impacts; (ii) determine the level of environmental and social work required, including whether an ESIA/ESMP
or a site specific ESMP will be required or not; (iii) determine appropriate mitigation measures for addressing adverse impacts; (iv) incorporate mitigation measures into the subprojects financed by SUSTENTA; (v) indicate the need for the preparation of a Resettlement Action Plan (RAP), which would be prepared in line with the Resettlement Policy Framework (RPF), prepared for the Project and updated for the AF; (vi) facilitate the review and approval of the construction and rehabilitation proposals; and (vii) create, enhance or protect the same type of resources at another suitable and acceptable location, compensating for lost resources. This will be continuously improved under the AF to correct any inconsistencies witnessed in the past.

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

Where relevant, site specific Environmental and Social Impacts Assessment (ESIA) with a costed Environmental and Social Management Plan (ESMP) or just an Environmental and Social Management Plans (ESMP) are being prepared so that the Project (i) avoids activities that could result in adverse environmental and social impacts on resources or areas considered as sensitive; (ii) prevents the occurrence of negative environmental and social impacts; (iii) prevents any future actions that might adversely affect environmental and social resources; (iv) limits or reduces the degree, extent, magnitude or duration of adverse impacts by scaling down, relocating, redesigning elements of the project; (v) repairs or enhances affected resources, such as natural habitats or water resources, particularly when previous developments have resulted in significant resource degradation; (vi) restores affected resources to an earlier (and possibly more stable and productive) state, typically ‘background/pristine’ condition; and (vii) creates, enhances or protects the same type of resources at another suitable and acceptable location, compensating for lost resources, including compensating people and other entities for any loss of assets and/or opportunities as defined under WB OP/BP 4.12 on Involuntary Resettlement. The project implications on resettlement have been limited and confined to losses of portions of land, crops and trees, which make it adequate to prepare simple abbreviated resettlement actions plans (A-RAP) or just the adoption of simple and spot compensation measures.

Moreover, the ESMF includes standard Environmental and Social Clauses (ESC) that must be included in all bidding documents and in the various contracts (contractual clauses) for the design, construction and appropriate operation of the interventions to be adopted as subprojects. Contractors will be responsible for the implementation of these Environmental and Social Clauses during construction and will need to recruit qualified staff, responsible for environment/social and health and safety issues, to do this. Contractors for more complex subprojects will need to prepare and implement their own Environmental and Social Impacts Assessment (ESIA) and associated Environmental and Social Management Plan (Contractor ESMP). Contractors will need to employ qualified environmental/social, health and safety specialist(s) for this purpose. In all cases the Supervising Engineers will be required, by contractual arrangements, to supervise the adequate implementation of the Environmental and Social Clauses and the Contractor ESMPs.

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

A separate Pest Management Plan (PMP) and a Resettlement Policy Framework (RPF) have been prepared to be used along with this updated version of the ESMF. The RPF has also been updated.

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

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

Training and Capacity Building

Extensive training and capacity building have been carried out and they will continue to be at the top of the agenda in order to prepare relevant institutions and community at the various levels to plan, implement, monitor and evaluate the different aspects involved in sound environmental and social management as elaborated in this ESMF in particular, and in both the PMP and RPF. Targeted agents include provincial and district government officers, extension workers, community leaders, PACEs, farmers (Pas) and through these the community at large. Beneficiary institutions are the Ministry of Land, Environment and Rural Development (MITADER), especially at the provincial and district levels, relevant line ministries at its provincial and district levels (e.g. agriculture, public works, health, education, economy and finance, etc.), including local entities (e.g. municipalities and others such as CSOs).

Based on needs identification a specific institutional and human capacity building program for environmental and social management, as well as human health and safety have been developed as part of the SUSTENTA and will continue to be improved.

Practical ways of reaching out to all target groups have been recommended and are being devised for training and capacity needs assessments as well as for delivery of the training. The “Learning by Doing” approach should be given utmost priority. A series of forms, instructions and other hand outs have been prepared by FNDS and PIUs to achieve this objective. This will continue appropriately in the context of AF.

Once a year, a detailed training plan will be developed by the FNDS and approved by the World Bank.

Monitoring
Monitoring has also proven to be fundamental to ensure that the objectives set forth in the ESMF and the ESIAs/ESMPs are being achieved satisfactorily and where there are nonconformities, timely corrective action can be taken.

FNDS has developed monitoring and reporting procedures and templates that were deemed acceptable by the WB and are being used. Monitoring will consist of field visits and generation of quarterly evaluation reports to be submitted to the World Bank. The PIUs safeguards team, supported by central safeguards team, are responsible for this activity. Monitoring and progress reporting are critical to the successful implementation of ESMF as well as Sustenta project.

**Estimated ESMF Implementation Budget**

The total cost for implementing the ESMF for the period from January 2019 to 2023 stands at **US$ 590,900.00** (Five hundred and ninety thousand nine hundred American dollars). The funds will be mainly used to undertake training, capacity building and awareness campaigns, preparing and implementing site-specific ESIAs/ESMPs, training and monitoring activities.
SUMÁRIO EXECUTIVO

Introdução

Este documento actualiza o Quadro de Gestão Ambiental e Social (QGAS) preparado e aprovado em 2016 para o Projecto de Gestão Integrada da Agricultura e Recursos Naturais (SUSTENTA) (o Projecto), que vem sendo implementado pelo Governo de Moçambique (GdM) com a Assistência do Banco Mundial, desde 2017. A Versão Actualizada é justificada pelo Financiamento Adicional (FA) que foi aprovado em 2018 para ampliar o projecto original pela via de (principalmente) ampliação da sua cobertura geográfica nas duas províncias de Nampula, Zambézia e adicção de Manica e Sofala e alcançar um maior número de beneficiários”.

O objectivo do SUSTENTA é de promover o desenvolvimento rural integrado sustentável, ao mesmo tempo em que estabelece um modelo para intervenções no desenvolvimento rural integrado em Moçambique de uma forma que responda às actuais aspirações e visão do país. O projecto visa “contribuir para integrar famílias rurais em cadeias de valor sustentáveis de agricultura e florestas na área do projecto, com uma forte componente de planificação do uso da terra, incluindo registo de terras e garantia de direitos de posse da terra.

As intervenções físicas do projecto serão sob a forma de agricultura e desenvolvimento florestal sustentáveis, melhoria e manutenção de estradas terciárias, pontes rurais, sistemas de irrigação de pequena e média escala (que estarão sob a gestão directa de um outro projecto apoiado pelo BM na área da irrigação, ou seja, o IRRIGA, instalações de armazenamento e outros tipos de infra-estrutura prioritária, assim como a delimitação de terras e a restauração de habitats. O FA proposto ampliará uma operação de investimento com bom desempenho expandindo-se geograficamente para abranger áreas contíguas e aumentar as suas metas alvo para aumentar ainda mais o seu impacto no desenvolvimento. O ODP e as componentes do projecto não serão alterados em relação ao projecto original. As principais alterações de desenho propostas são: (i) a cobertura geográfica incluirá distritos adicionais nas províncias da Zambézia, Nampula, Manica e Sofala; (ii) o número de planos de negócios a serem financiados e implementados aumentará; (iii) os critérios de elegibilidade dos beneficiários, janelas de financiamento e operações serão actualizados; (iv) a meta alvo da área de restauração aumentará; (v) as metas a alcançar em relação à infraestrutura rodoviária aumentarão, enquanto a infra-estrutura de irrigação deixaria de ser financiada sob este projecto. Essas mudanças são totalmente consistentes e alinhadas às prioridades do governo e do PFP do Banco Mundial, e a data de encerramento do projecto seá estendida por três anos (ou seja, de 2021 a 2024) para acomodar o aumento de actividades e metas.

A versão actualizada do Quadro de Gestão Ambiental e Social (QGAS) destina-se a ser um guia para a triagem das intervenções do projecto proposto (subprojectos) para garantir que elas não afectem negativamente o ambiente natural e social e optimizem resultados. O QGAS descreve vários princípios, que incluem:

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

Os princípios e requisitos básicos do QGAS têm sido e serão aplicados durante todo o ciclo de vida do Projecto e de acordo com as lições aprendidas durante os primeiros dois anos de implementação da SUSTENTA, bem como de outros projectos relacionados (por exemplo, MozBIO e MozFIP) ao mesmo tempo que se continua a incorporar sistematicamente novas lições.

Visão Geral da Área do Projecto (Províncias de Nampula, Zambézia, Manica e Sofala)

Componentes do projecto

Conforme descrito no DAP do AF, o projecto manterá as quatro principais componentes aprovadas na versão original e a seguinte alocação de fundos:
Componente 1: Desenvolvimento de Cadeias de Valor Agrícola e Florestal (Montante original: US$ 21,0 milhões, montante adicional: US$ 28,0 milhões IDA, US$ 9,0 milhões CRW, Total 58,0 milhões).

Esta componente será ampliada para aumentar o número de planos de negócios dos PACEs e PMEs e investimentos em infraestrutura na área geográfica expandida. Os recursos do CRW serão direcionados para apoiar as PMEs, os PACEs e os Pequenos Agricultores (PAs) nas áreas afectadas pelo ciclone (US$ 4,0 milhões) e para reabilitar a infraestrutura rural danificada (US$ 5,0 milhões). Os recursos do AF do IDA serão utilizados nos distritos adicionais da Província de Nampula e Zambézia, bem como em Sofala e Manica, para fornecer recursos adicionais às áreas afectadas pelo ciclone e apoiar a transição da SUSTENTA para um programa nacional. Sob o AF, o número de planos de negócios da PMEs aumentará de 25 (original) para 50 (novos) e o número de planos de negócios dos PACEs aumentará de 100 (original) para 250 (novos). As modalidades de financiamento incluirão janelas especiais para atrair jovens agricultores (júniors PACEs, com menos de 35 anos) e startups e negócios liderados por comunidades locais (organizações comunitárias, como associações, cooperativas, etc.).

Os planos de negócios seriam apresentados seguindo as solicitações de propostas periódicas, e sua triagem seria contra critérios transparentes de inovação, viabilidade, adicionalidade e impacto, explicados no Manual de Implementação do Projeto e comunicados aos possíveis beneficiários. O financiamento e o apoio priorizarão as cadeias de valor ao longo das áreas temáticas revisadas, ao mesmo tempo que permitem maior flexibilidade para possíveis oportunidades de negócios. Solicitações especiais de propostas terão como alvo as áreas afectadas pelo Ciclone Idai. O fluxo financeiro dos planos de negócios e as modalidades de aquisições foram revisados para capacitar os beneficiários em sua capacidade de gerenciar fundos e realizar aquisições diretamente, com o apoio da agência implementadora. O investimento em melhorias pontuais para infraestrutura viária seria ampliado de uma meta de 260 km (original) para 1.050 km reabilitados, dos quais 550 km nas áreas afectadas pelo ciclone. O investimento em infra-estrutura de irrigação será descontinuado e os estudos de viabilidade acreditam que passarão para o recém-aprovado IRRIGA (P164431) para sua implementação na mesma área do Projeto.

Componente 2: Garantir os Direitos de Propriedade da Terra e Aumentar a Resiliência dos Recursos Naturais. (Valor original: US$ 14,0 milhões, valor adicional: US$ 8,0 milhões).

Originalmente, os objectivos da componente eram: (a) promover a gestão integrada da paisagem no contexto visado; (b) garantir os direitos de posse da terra de 450 comunidades rurais e 55.000 indivíduos; e (c) proteger, melhorar e restaurar 3.000 hectares de habitats naturais críticos na paisagem. Esta componente será ampliada para alcançar uma área adicional de 400 ha (original 1.600 ha, nova meta de 2.000 ha) de terra restaurada segundo metodologia e princípios revistos: (i) áreas a serem restauradas e a cobertura geográfica dos planos de negócios precisa de ser compatível com uma máxima sinergia; e (ii) os planos de restauração terão que estar prontos antes de serem implementados, garantindo que estão preparados para iniciar a implementação dos planos de negócios. A quantidade e as actividades para garantir os direitos de posse da terra permanecerão as mesmas para permitir a finalização das actividades de regularização fundiária em andamento. As actividades de regularização da posse da terra serão ampliadas através do recém-aprovado MOZLAND (P164551), também implementado pelo mesmo FNDS, e parte da abordagem geral de paisagem adotada pelo MITADER.

Componente 3: Coordenação e gestão do projecto (Valor original: US$ 5,0 milhões, Valor adicional: US$ 4,0 milhões IDA, US$1,0 milhões IDA/CRW)
Originalmente, esta componente inclui actividades relacionadas à coordenação e gestão de projectos, gestão fiduciário, gestão de salvaguardas, M&A e comunicações. O AF fornecerá recursos incrementais para supervisionar a implementação na área do Projecto, compreendendo apoio para a coordenação e gestão de projectos, gestão fiduciária e de salvaguardas, monitoramento e avaliação (M&A) e comunicações. Embora os fundos sejam amplamente destinados à implementação do projecto, eles também apoiam as áreas transversais do organograma SUSTENTA com impacto através do portfólio geral de projectos.

Componente 4: Resposta de Emergência de Contingência (Valor original: US$ 0,0 milhões, Valor adicional: US$ 10,0 milhões CRW)

A componente foi acionada de acordo com o projeto original em caso de uma necessidade potencial de recuperação de desastre, fornecendo resposta imediata a uma crise ou emergência elegível. O montante de US $ 10 milhões foi utilizado para a resposta imediata de emergência às actividades do ciclone por meio da FAO.

As tabelas abaixo apresentam o resumo das alterações do financiamento original e adicional:

<table>
<thead>
<tr>
<th>Componentes</th>
<th>Crédito IDA 5855-MZ / Doação D1190-MZ Milhões de US$</th>
<th>Financiamento Adicional (IDA US$ Milhões)</th>
<th>Financiamento Adicional (CRW US$ Milhões)</th>
<th>Total (Milhões de US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Componente 1: Desenvolvimento de cadeias de valor de base agrícolas e florestais</td>
<td>21.00</td>
<td>28.00</td>
<td>9.00</td>
<td>58.00</td>
</tr>
<tr>
<td>Componente 2: Garantir os direitos de posse da terra e aumentar a resiliência dos recursos naturais</td>
<td>14.00</td>
<td>8.00</td>
<td>0.00</td>
<td>22.00</td>
</tr>
<tr>
<td>Componente 3: Coordenação e gestão do projecto</td>
<td>5.00</td>
<td>4.00</td>
<td>1.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Componente 4: Resposta de Emergência de Contingência</td>
<td>0.00</td>
<td>0.00</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40.00</strong></td>
<td><strong>40.00</strong></td>
<td><strong>20.00</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

A implementação das actividades do projecto, nomeadamente as da Componente 1, nos dois primeiros anos tem estado associada à destruição da vegetação; exposição a emissões de poeira, ruído e vibrações; contaminação por pesticidas e fertilizantes. Estes são ainda agravados pela prevalência de conhecimentos, atitudes e práticas que são prejudiciais para o uso sustentável da água, solos, florestas, vegetação e fauna entre os membros da comunidade e beneficiários do projecto. As componentes 1 e 2 também
foram associados a algumas formas de aquisição de terras que afectam principalmente partes da terra, árvores e culturas que pertencem à população local e a outras entidades. Sob o FA, espera-se que estes impactos permaneçam inalterados e sejam incrementais dentro do próprio projecto e em combinação com outras intervenções de outros projectos e iniciativas de desenvolvimento. Estes assuntos estão a ser abordados e continuarão a ser abordados pelos instrumentos de salvaguardas do projecto originais e actualizados.

**Formulação de projectos e arranjos de implementação**

O SUSTENTA é a primeira fase do apoio do GBM ao Programa Nacional, liderado pelo governo, para promover o desenvolvimento rural integrado sustentável (*Programa Nacional de Desenvolvimento Sustentável*). Como tal, faz parte de um Programa de longo prazo orientado para o estabelecimento de um modelo para promover o desenvolvimento rural integrado, que seria ampliado através de diferentes fontes de financiamento, incluindo um futuro potencial para financiamento adicional do GBM.

O projecto incorpora a avaliação de impacto como seu elemento integral, que será vinculado ao desenho de lições aprendidas e respectiva disseminação e adopção em contextos selecionados.

Desde o início de preparação e lançamento do projecto o mesmo incorporou a importância do conhecimento e tomada de decisão informada. O foco está em áreas como (i) **Análise de cadeias de valor da agricultura**; (ii) **análise da cadeia de valor da floresta**; (iii) **Administração da terra e gestão de terras e recursos naturais baseada na comunidade**, cujas análises foram feitas para estabelecer a prontidão para a implementação do projecto. No decorrer dos primeiros anos de implementação do projecto, esta abordagem foi sistematicamente mantida e continuará sob o FA.

O SUSTENTA desempenhou um papel catalisador na criação do Fundo Nacional de Desenvolvimento Sustentável (FNDS), que contribuiu para fortalecer a capacidade do MITADER de gerir os complexos processos institucionais envolvidos na promoção de processos adequados de terra, meio ambiente e desenvolvimento rural que agora vão para além da gestão do SUSTENTA e abrangem outros desenvolvimentos relacionados, incluindo o estabelecimento de relações sólidas com outros sectores e subsectores. O FNDS tornou-se numa agência implementadora capaz na sua coordenação diária das várias instituições governamentais e não-governamentais aos níveis central, provincial e distrital. Ele cresceu de 15 funcionários em 2016 para 172 hoje (2019).

Para além da planificação, orçamentação, aquisições, contabilidade, relatórios financeiros, gestão de tesouraria e auditoria externa para garantir a implementação adequada dos requisitos das salvaguardas ambientais e sociais e regulamentos nacionais aplicáveis o FNDS estabeleceu uma Unidade de Salvaguardas Ambientais e Sociais e Desenvolvimento Comunitário. A Unidade é responsável pelos aspectos cruciais de gestão ambiental e social e comunicação dos projectos de desenvolvimento rural do MITADER. A equipa de salvaguardas compreende cinco áreas de especialização (Terra, Cadeia de Valor, Infraestruturas, Florestas e Desenvolvimento Comunitário) que auxiliam projectos específicos no tratamento de questões relacionadas a essas áreas temáticas. A equipa é constituída por um coordenador e 3 especialistas a nível central e assistentes técnicos a nível da paisagem, 1 para cada paisagem e conta com a colaboração do governo local a nível provincial, distrital e comunitário. Os arranjos institucionais de desenvolvimento e implementação desempenharam um papel crucial ao extrair lições de todas as actividades empreendidas. Tanto as lições aprendidas como os desenvolvimentos institucionais dos
últimos dois anos beneficiarão da adesão consistente à sólida gestão ambiental e social do projecto, conforme defendido pelos instrumentos de salvaguardas do Projecto preparados em 2016, a saber: (i) Quadro de Gestão Ambiental e Social (QGAS), (ii) Plano de Gestão Integrada de Pragas (PGIP) e (iii) Quadro de Política de Reassentamento (QPR), incluindo esta versão actualizada e a do QPR.

As lições aprendidas com a implementação do programa durante os primeiros anos são evidenciadas na Revisão de Médio Prazo (maio de 2018). As principais lições incluem: (i) Desafios na regularização da posse da terra que, apesar de alcançar bons resultados, exigem atenção da equipa de salvaguardas. Um protocolo de terra (Anexo 7) foi desenvolvido que contribui para a assistência técnica em caso de possíveis conflitos de terra. Esta iniciativa, bem como o reforço das capacidades das instituições de gestão de terras, pode beneficiar das sinergias com o projecto MozLand implementado pelo FNDS e financiado pelo BM (ii) A falta de conhecimento dos requisitos do QGAS pelo pessoal de aquisições, bem como pelos especialistas em infra-estrutura e cadeia de valor apresentaram restrições adicionais, resultando na emissão de documentos do concurso sem cláusulas ambientais e sociais, limitando o objectivo do QGAS. A equipa de Salvaguardas do FNDS, com apoio da equipa de Salvaguardas do BM (através de workshops técnicos e abordagem de coaching), procurou melhorar os procedimentos do QGAS reorganizando a equipa (aumentando o apoio entre todos os especialistas em salvaguardas do FNDS) e desenvolvendo novas modelos para triagem, monitoramento e manual de boas práticas para agricultura e sistemas agroflorestais, bem como um protocolo (Anexo 6) para evitar a conversão de habitats críticos (Veja o link: http://www.fnds.gov.mz/index.php/pt/documentos/publicacoes).

Este QGAS reflecte melhorias destinadas a ajudar as equipas na promoção da conformidade com os princípios e processos contidos neste instrumento.

Para além das formas de recolha de dados, a preparação deste QGAS inclui a contribuição das consultas públicas realizadas em Nampula e Zambézia, envolvendo os principais interessados ou seja autoridades locais, beneficiários (pequenos agricultores emergentes, governos provincial e distrital), entre outros.

**Políticas de Salvaguardas do Banco Mundial e Regulamentos do GdM**

O objectivo do QGAS é o de assegurar que as políticas relevantes de Salvaguardas do Banco Mundial e os regulamentos ambientais e sociais do GdM sejam rigorosamente respeitados. Embora o novo Quadro de Gestão Ambiental e Social (QGAS) esteja em uso, para uma melhor harmonização com as políticas anteriores de salvaguardas, que foram usadas para orientar o projecto original, o financiamento adicional assenta no último. O Projecto desencadeia seis Políticas de Salvaguardas das 10+2 Salvaguardas e Políticas do Banco Mundial, nomeadamente, Avaliação Ambiental (OP/BP 4.01), Gestão de Pragas (OP 4.09), Reassentamento Involuntário (OP/BP 4.12), Habitaos Naturais (OP/BP 4.04), Florestas (OP/BP 4.36), Segurança de Barragens (OP/BP 4.37), assim como as Directizes do Grupo do Banco Mundial sobre o Ambiente, Saúde e Segurança Gerais, Desenvolvimento do Turismo, Directizes de SSA aplicáveis ao Agribusiness/Produção de Alimentos, de Abril de 2007. Foi preparado um Quadro de Política de Reassentamento (QPR) para ir de encontro à Política de Salvaguarda de Reassentamento Involuntário (OP/BP 4.12) e foi preparado um Plano da Gestão de Pragas para ir de encontro à (OP 4.09). Estes dois documentos foram preparados em separado e devem ser utilizados em conjunto com este QGAS. Sob as Políticas de Salvaguardas do Banco Mundial, o projecto enquadra-se na Categoria B.
O Projecto também é implementado à luz da reforma do GOM no sector ambiental em termos de: (a) adesão e adopção de uma série de convenções e protocolos internacionais e regionais de proteção e conservação ambiental; (b) aprovação de um conjunto significativo de legislações com implicações directas e indirectas na proteção ambiental e social; (c) criação de instituições públicas específicas e/ou fortalecimento de instituições existentes dedicadas à gestão ambiental e social no país. Nos termos das leis nacionais, deve-se fazer referência ao Decreto 54/2015, que regula os processos de avaliação de impacto ambiental e social, bem como o Decreto 31/2012 sobre o reassentamento e a expropriação. Outros aspectos legais relevantes incluem legislação sobre gestão de resíduos sólidos, emissões atmosféricas, qualidade do ar e ruído, recursos hídricos, qualidade da água, pesticidas, gestão costeira, propriedade da terra, planificação do uso da terra, património cultural e áreas protegidas e de conservação.

O SUSTENTA já está a desempenhar um papel positivo no aprimoramento dos vários aspectos actualmente em jogo na área do projecto. No entanto, se não forem adequadamente projectados e implementados, os subprojectos em andamento e aqueles que também derivarão do FA também têm o potencial de agravar vários problemas que foram associados a alguns dos desenvolvimentos.

As políticas de salvaguardas do BM e as regulamentações ambientais do GdM já estão a ser aplicadas e continuarão a ser aplicadas para garantir que potenciais impactos ambientais e sociais negativos nos recursos de terra, solos, recursos hídricos, biodiversidade, vegetação, comunidades locais e na sociedade em geral sejam adequadamente geridos e que os impactos positivos são aprimorados.

**Formulação e Seleção de Subprojectos**

Como parte do QGAS, um processo de triagem socioambiental tem ajudado a (i) determinar quais actividades de construção, reabilitação e restauração ambiental provavelmente têm impactos ambientais e/ou sociais potencialmente negativos; (ii) determinar o nível de trabalho ambiental e social necessário, incluindo se um EIAS/PGAS ou um PGAS específico do local será necessário ou não; (iii) determinar medidas de mitigação apropriadas para lidar com impactos adversos; (iv) incorporar medidas de mitigação nos subprojectos financiados pela SUSTENTA; (v) indicar a necessidade da preparação de um Plano de Acção de Reassentamento (PAR), que seria preparado de acordo com o Quadro de Política de Reassentamento (QPR), preparado para o Projecto e actualizado para o AF; (vi) facilitar a revisão e aprovação das propostas de construção e reabilitação; e (vii) criar, melhorar ou proteger o mesmo tipo de recursos em outro local adequado e aceitável, compensando os recursos perdidos. Isso será continuamente melhorado sob o FA para corrigir quaisquer inconsistências presenciadas no passado.

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

Onde for relevante já têm estado a ser preparados Estudos de Impacto Ambiental e Social (EIAS) contendo um Plano de Gestão Ambiental e Social orçamentado ou simplesmente são preparados Planos de Gestão Ambiental e Social (PGAS) para que
o Projecto de modo a que (i) **evite actividades** que possam resultar em impactos ambientais e sociais negativos, bem como que recaiam sobre recursos ou áreas consideradas sensíveis, (ii) **previna a ocorrência** de impactos ambientais e sociais negativos, (iii) **impeça quaisquer** acções futuras que possam afectar negativamente recursos ambientais e sociais, (iv) **limite ou reduza o grau**, extensão, magnitude e duração dos impactos adversos por intermédio da minimização, deslocação, redesenho de elementos do projecto, (v) **reparação ou melhoramento** de recursos afectados, como os habitats naturais ou recursos hídricos, especialmente quando desenvolvimentos anteriores tenham resultado em significativa degradação desses recursos; (vi) **restauração de recursos afectados** ao estado anterior (e, possivelmente, estado mais estável e produtivo), tipicamente mais natural, e (vii) **crie, melhore ou proteja** o mesmo tipo de recursos num outro local adequado e aceitável, compensando recursos perdidos, incluindo compensar as pessoas e outras entidades por qualquer perda de activos e/ou oportunidades tal, conforme definido no BM OP/BP 4.12 sobre Reassentamento Involuntário. As implicações do projecto no reassentamento foram limitadas e circumscreveram-se a perdas de porções de terra, culturas e árvores, o que o torna adequado para preparar planos de ações de reassentamento abreviados/simples (PAR-A) ou apenas a adopção de medidas de compensação simples e pontuais.

Para além disso, o QGAS inclui cláusulas ambientais e sociais padrão (CAS) que devem ser incluídas em todos os documentos de licitação e nos vários contratos (cláusulas contractuais) para o projecto, construção e operação apropriadas das intervenções a serem adoptadas como subprojetos. Os empreiteiros serão responsáveis pela implementação dessas Cláusulas Ambientais e Sociais durante a construção e precisarão de recrutar pessoal qualificado, responsável pelas questões ambientais/sociais e de saúde e segurança, para fazer isso. Empreiteiros para subprojetos mais complexos precisarão de preparar e implementar as suas próprias Avaliações de Impactos Ambiental e Social (EIAs) e Planos de Gestão Ambiental e Social associado (PGAS do Empreiteiro). Os empreiteiros terão de empregar especialistas ambientais/sociais, de saúde e segurança qualificados para esse fim. Em todos os casos, os Engenheiros Supervisores serão obrigados, por meio de acordos contractuais, a supervisionar a implementação adequada das Cláusulas Ambientais e Sociais e dos PGAS do Empreiteiro.

**Plano de Gestão de Pragas (PGP) e um Quadro de Política de Reassentamento (QPR)**

Um Plano de Gestão de Pragas separado (PGP) e um Quadro de Política de Reassentamento (QPR) foram preparados para serem usados junto com a versão original e esta actualizada do QGAS. O QPR também foi actualizado.

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

O QPR também irá garantir que “o reassentamento involuntário seja evitado sempre que possível, ou minimizado, explorando todas as alternativas de desenho dos projetos que sejam viáveis. Onde não for possível evitar o reassentamento, será, em conformidade, preparado e publicitado um Plano de Acção do Reassentamento (PAR). As pessoas afectadas pelo projecto (PAPs) serão compensadas e/ou apoiadas antes do início de quaisquer actividades de construção. As actividades de reassentamento serão concebidas e executadas como programas de desenvolvimento sustentável, fornecendo recursos de investimento suficientes para permitir que as pessoas deslocadas pelo projecto possam compartilhar os benefícios do mesmo. As pessoas afectadas pelo projecto serão significativamente consultadas e terão a oportunidade de participar na planificação e implementação dos programas de reassentamento. Essas pessoas serão assistidas nas seus esforços para melhorar os seus meios e padrões de vida, ou pelo menos para restaurá-los, em termos reais, a níveis prevalecentes antes do início da implementação do projecto, conforme o que vai ser melhor”.

**Formação e Capacitação**

Acções extensivas de formação e capacitação foram realizadas e elas continuarão a estar no topo da agenda, a fim de preparar as instituições relevantes e a comunidade aos vários níveis para planificar, implementar, monitorar e avaliar os diferentes aspectos envolvidos na boa gestão ambiental e social em conformidade com o que foi elaborado neste QGAS, em particular, e no PGP e QPR. Os agentes alvo incluem oficiais do governo provincial e distrital, extensionistas, líderes comunitários, PACEs, agricultores (PAs) e através destes a comunidade em geral. As instituições beneficiárias são o Ministério da Terra, Ambiente e Desenvolvimento Rural (MITADER), especialmente a nível provincial e distrital, ministérios relevantes ao nível provincial e distrital (por exemplo, agricultura, obras públicas, saúde, educação, economia e finanças, etc.), incluindo entidades locais (por exemplo, municípios e outros, como as OSCs).

Com base na identificação das necessidades, um programa específico de capacitação institucional e humana para a gestão ambiental e social, bem como para a saúde e segurança humanas, foram desenvolvidos como parte do SUSTENTA e continuarão a ser aprimorados.

Maneiras práticas de chegar a todos os grupos-alvo têm sido recomendadas e estão a ser planificadas para a realização e avaliação das necessidades de formação, bem como para a realização da formação. A abordagem de “Aprender a Fazer Fazendo” deve ter prioridade máxima. Uma série de formulários, instruções e outras formas de orientação foram preparados pelo FNDS e pelas UIPs para alcançar este objectivo. Isto continuará apropriadamente no contexto do FA.

Uma vez por ano, um plano detalhado de treinamento será desenvolvido pelo FNDS e aprovado pelo Banco Mundial.

**Monitoramento**

O monitoramento também provou ser fundamental para garantir que os objectivos estabelecidos no QGAS e nos EIASS/PGASSs sejam alcançados satisfatoriamente e onde haja incumprimentos, acções correctivas em tempo útil possam ser tomadas.
O FNDS desenvolveu procedimentos e modelos de monitoramento e apresentação de relatórios que foram considerados aceitáveis pelo Banco Mundial e estão a ser usados. O monitoramento consistirá de visitas de campo e geração de relatórios de avaliação trimestrais a serem submetidos ao Banco Mundial. A equipa de salvaguardas das UIPs, apoiada pela equipa central de salvaguardas, é responsável por essa actividade. Os relatórios de monitoramento e progresso são críticos para a implementação bem-sucedida do QGAS, bem como do projecto Sustenta.

**Orçamento estimado de implementação do QGAS**

O custo total para a implementação do QGAS para o período de janeiro de 2019 a 2023 é de **US$ 590,900.00** (Quinhentos e noventa mil e novecentos dólares americanos). Os fundos serão usados principalmente para realizar campanhas de treinamento, capacitação e consciencialização, preparação e implementação de EIASs/PGASs específicos para o local, formação e actividades de monitoramento.

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1. **INTRODUCTION**

This document constitutes an updated version and the only valid Environmental and Social Management Framework (ESMF) that shall be applied to the SUSTENTA (Agriculture and Natural Resources Landscape Management Project) original financing (P149620) and additional financing (P168940). The original SUSTENTA (P149620) implementation was approved on June 30, 2016 and signed on August 26, 2016 and it was expected to come to its end by October 2021. The Updated Version is justified by the Additional Financing (AF) that was approved in 2018 and it is currently undergoing the final preparation. In recognition of the project relevance and good management and results achieved by 2018, “the AF will scale up the original project by (mainly) extending its geographical coverage four provinces of Nampula, Zambezia, Manica and Sofala) and reaching out to a larger number of beneficiaries” (WB, 2018). The closing date of the Project will also be extended by three years (i.e. until 2024) to accommodate the increase in activities and targets. Therefore, since the AF and the Parent project have similar scope of activities and their targeted intervention areas are also similar, the approach or management/mitigation measures devised under the original financing is was applied in the AF. However, lessons learned from the original financing have been taken into consideration and these includes: (i) regularization of land tenure also requires safeguards team’s attention due to possibility of land conflicts; (ii) lack of awareness of the ESMF by procurement and other project staff often results in the failure to consider
safeguards requirements in tender documents. A land protocol and a protocol for preventing critical habitat conversion have been adopted to help address the land conflicts in land tenure regularization and unintended conversion of critical habitats, respectively, while new templates and systems have been developed to ensure safeguards requirements are considered in tender documents. The changes and adjustments in the project will be better explained in the next Chapter (i.e. Project Description).

Figure 1: SUSTENTA Project map

Besides Coordination and Management, the Project continues to have four leading components, namely: (i) Agriculture and forest-based value chain development; (ii) Securing land tenure rights and increasing natural resources resilience; (iii) Project coordination and management; and (iv) Contingency emergency response. These components are being combined creatively to develop and provide good examples of how integrated rural development in the current phase of the country’s development should be undertaken. This is something Mozambique has been actively pursuing since independence in 1975, which is justified by the fact that much of its population lives in rural areas and relies heavily on natural resources, which are largely exploited using rather rudimentary technologies and practices. Finding ways of ensuring that the wealth of natural resources with which the country is endowed are adequately and sustainably used to promote economic and social growth and development that are inclusive, diverse and sustainable, remains at the top of the agenda.
Lately, in addition to the traditional and increasingly more frequently unsustainable use of natural resources, dictated mainly by exponential population growth, small, medium and even large business operators have been contributing to worsen the situation in a way that if left unattended will put at risk the long-term interests of the country and its natural base. Large amounts of resources (mainly land, forests and mineral resources) are being exploited in ways that are not always sustainable. These are, at times, driven by unscrupulous domestic and external operators and markets.

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

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

Under SUSTENTA and in permanent and close consultation with the GOM the World Bank has initiated a process of ensuring that the strategic interest of inclusion, diversification, creation of employment and income generating opportunities are created around local initiatives in the project area. Priority infrastructure has been identified, planned and is being built and training, capacity building and demonstration activities are being carried out to specifically respond to the expectations of local beneficiaries. Efforts are being made to create an enabling environment including the adoption of adequate measures for intervention monitoring and evaluation, drawing lessons learned and improving the interventions and scaling up the activities. Although still in need of consolidation the results achieved so far (i.e. by 2018) have been very encouraging, hence the additional financing and the ongoing plans of expanding lessons learned to the country at large.

Agricultural and forest production activities as well as infrastructure development (e.g. construction of feeder road upgrade and maintenance, rural bridges, construction of small and medium scale irrigation schemes, storage facilities, and other types of priority infrastructure as well as land demarcation and titling), which will continue

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1 From now on the Sustenta will only be responsible for construction of irrigation facilities. Operation and maintenance (O&M) will fall under a different project, i.e. IRRIGA, the Irrigation Project, which is being implemented by the Ministry of Agriculture and Food Security (MASA) also with WB support.
to be the focus of physical interventions under the Project (Components 1 and 2) are showing to have positive and negative implications on the receiving natural and socioeconomic environment, as better explained in chapters 7, 8 and 9. In line with the GoM and WB principles and guidelines related to environmental and social management, such interventions must be designed, implemented and operated in such a way as to avoid causing harm to both the natural and social environment.

At the stage of formulation of this Updated Version of the ESMF the exact location, number, specific scale of some of the above-mentioned interventions, which could justify conducting the environmental and social impact assessments and respective environmental and social management plans, were not yet known. It will only on a later stage that the detailed design and implementation of the subprojects will be carried out. Under such circumstances the preparation of the Environmental and Social Management Framework (ESMF) is considered the best management instrument for WB funded projects.

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

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

This Updated Version of the ESMF also benefits from lessons learned during the first two years of SUSTENTA implementation and reaffirms basic principles and requirements while providing tested methods and tools to be applied throughout the entire Project life cycle. The process also remains open to acquire and make the best use of lessons to be learned.

SUSTENTA safeguard performance has been consistently rated Moderately Satisfactory by the WB team in the last 3 ISRs (Implementation Support Reports), this is because the original financing started many project activities, particularly civil works (rehabilitation of small stretch of roads and bridges) and agribusiness (small grant schemes for commercial emerging agricultures), however these contracts were previously awarded without a binding Environmental and Social Management Plan (ESMP) or Best Practice Manual (BPM), respectively, leading to Safeguards Rate downgrading to Moderate Satisfactory in previous missions. Since then, the WB team has been supporting and supervising the Client more closely to improve compliance and ensure full implementation of the ESMF. This has led to much progress: (i) regularization of contracts without ESMP, (ii) preparation of a generic BPM for emerging agricultures and
Land Protocol and Protocol for Preventing Critical Habitat Conversion; (iii) capacity building of 30 rural extensionist on safeguards; (iv) setting up a up-to-date online share folder to track progress on Safeguards documents developed, (v) submission of timely quarter reports to the WB, (vi) Client holding internal coordination meetings and safeguard trainings as well as regular meetings with the WB. Nevertheless, there is still need to further strength the Client capacity to monitor the ESMP and BPM implementation by the contractors, service providers and beneficiaries. Based on the above, the WB team has maintained unchanged the rate as Moderate Satisfactory despite the notable progress made. However, in the last few months the WB team has been assessing the fulfilment of the monitoring processes foreseen under the various ESMPs and BPMs, including adequate and timely filling of the non-conformities and works inspection forms and follow up activities. The team has a favorable opinion but is waiting for the next ISM to validate these findings and upgrade the SUSTENTA safeguard performance to Satisfactory.

This ESMF comprises twelve (12) chapters that deal successively with:

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

A series of annexes, mainly forms and templates adopted during the first few years of SUSTENTA implementation and other are used to complement issues presented and discussed throughout the report.

The data and information in this document result from a combination of methods of data collection and processing, from the following main sources (i) literature review, including the review of the 2016 SUSTENTA ESMF, RPF and PMP as well as of the SUSTENTA and FNDS documents produced since their inception; (ii) interviews and discussions with key informants including experts in relevant project sectors (agriculture, irrigation, public infrastructure (roads, bridges, buildings, land use planners, etc.) and other key informants in the field as well as from public consultation meetings that took place in February 2019 in Mocuba and Nampula, as detailed in Annex 1; (iii) review of similar and co-related projects, mainly MozFIP, PROIRRI/IRRIGA and MOZBIO; and (iv) direct observations in the project area, which are combined with a rapid assessment by the Consultant.
2. PROJECT DESCRIPTION

The Agriculture and Natural Resources Landscape Management Project (SUSTENTA) retains its focus on the development of agriculture and forests in the project area, by strengthening value chains in a way that will improve the sustainability of local livelihoods while linking these households to a larger socioeconomic development context and improved use of natural resources, mainly land, water and forests.

The project will continue to have four main components to be implemented until 2023 (as opposed to 2021 of the initial plan) with the following estimated allocation of funds, distinguishing original allocation and additional financing:

<table>
<thead>
<tr>
<th>Components</th>
<th>Original Allocation</th>
<th>Additional Financing (IDA US$ Million)</th>
<th>Additional Financing (CRW US$ Million)</th>
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<tbody>
<tr>
<td>1. Agriculture and Forest-Based Value Chain Development</td>
<td>21.00</td>
<td>28.00</td>
<td>9.00</td>
</tr>
<tr>
<td>2. Securing land tenure rights and increasing natural resources resilience</td>
<td>14.00</td>
<td>8.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3. Coordination and project management</td>
<td>5.00</td>
<td>4.00</td>
<td>1.00</td>
</tr>
<tr>
<td>4. Contingency Emergency Response</td>
<td>0.00</td>
<td>0.00</td>
<td>10.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40.00</strong></td>
<td><strong>40.00</strong></td>
<td><strong>20.00</strong></td>
</tr>
</tbody>
</table>

2.1 Project Development Objectives and Principles

The Project Development Objective: the Project Development Objective (PDO) is to integrate rural households into sustainable agriculture and forest-based value chains in the Project Area and, in the event of an eligible crisis or emergency, to provide immediate
and effective response. The PDO will be achieved by supporting production and value addition activities of selected value chains, strengthening natural resource planning and management, supporting land tenure regularization and upgrading the land administration and management, and strengthening the institutional capacity of key public and private institutions at central and local levels.

2.2 Project Components

The four Project components and respective subcomponents as the scope of additional financing are summarily as follows:

**Component 1: Agriculture and Forest-Based Value Chain Development (Original amount: US$21.0 million, Additional amounts: US$28.0 million IDA, US$9.0 million CRW, Total US$58 million).** This component will be scaled up to increase the number of business plans for SECFs and SMEs, and investments in infrastructure in the expanded geographic area. CRW resources will be targeted to support SMEs, SECFs and Smallholder Farmers (SFs) in the cyclone affected areas (US$ 4.0 million) and to rehabilitate damaged rural infrastructure (US$ 5.0 million). Resources from the IDA AF will be used in additional districts of Nampula and Zambesia Province as well as in Sofala and Manica, to provide additional resources to the cyclone-affected areas and support SUSTENTA’s transition into a national program. Under the AF the number of SME's business plans will increase from 25 (original) to 50 (new) and the number of SECF’s business plans will increase from 100 (original) to 250 (new). Funding modalities will include special windows to attract young farmers (junior SECFs, under 35 years old), and startups and business led by local communities (community-based organizations, such as associations, cooperatives, etc.). Business plans would be submitted following periodic calls for proposals, and their screening would be against transparent criteria of innovation, viability, additionality and impact, spelled out in the Project Implementation Manual and communicated to potential beneficiaries. Financing and support will prioritize value chains along revised thematic areas while allowing for greater flexibility for potential business opportunities. Special calls for proposal will target Idai’s affected areas. The business plans financial flow and procurement modalities have been revised to empower beneficiaries in their capacity to manage funds and carry out procurement directly, with support from the implementing agency. Investment in spot improvements for road infrastructure would be scaled up from a target of 260 Km (original) to 1,050 Km rehabilitated, of which 550 Km in the cyclone’s affected areas. Investment in irrigation infrastructure will be discontinued and current feasibility studies passed to the recently approved IRRIGA (P164431) for their implementation in the same Project’s area.

**Component 2: Securing Land Tenure Rights and Increasing Natural Resources Resilience.** (Original amount: US$14.0 million, Additional amount: US$8.0 million IDA). This component will be scaled up to achieve an additional 400 ha (original 1,600 ha, new target 2,000 ha) of restored land under revised methodology and principles: (i) areas to be restored and geographical coverage of the business plans would need to match to allow for maximum synergy; and (ii) restoration plans would have to be ready prior to starting implementation of the business plans. The amount and activities for securing land tenure rights remains the same, to allow the finalization of ongoing land tenure regularization activities. Land tenure regularization activities will be scaled up through the recently approved MOZLAND (P164551), also implemented by the same FNDS, and part of the overall landscape approach adopted by MITADER.

**Component 3: Project Coordination and Management (Original amount: US$5.0 million, Additional amount: US$4.0 million IDA, US$1.0 million CRW).** The AF will provide incremental resources to oversee implementation in the original Project area and
in the affected areas, comprising support for project coordination and management, fiduciary and safeguards management, monitoring and evaluation (M&E), and communications. While fund are broadly earmarked to the implementation of the project, they also support overall FNDS capacity strengthening, with impact on the overall portfolio of projects financed by the Bank.

**Component 4: Contingency Emergency Response (Original amount: US$0.0 million, Additional amount: US$ 10.0 million CRW).** The component was triggered as per the original project in case of a potential disaster-recovery need providing immediate response to an eligible crisis or emergency. The amount of USD 10 million was used for immediate relief response to the cyclone activities through FAO. The original and AF PAD as well as safeguards instruments provide more details about the issues behind each component.

### 2.3 Anticipated subproject types under the Project

Physical interventions under SUSTENTA will continue to be in the form of:

- agricultural and forest production;
- feeder road upgrade and maintenance;
- rural bridges construction and upgrading;
- small and medium size irrigation schemes of which the project will only complete those under construction in the short term, while systems and mechanisms are put in place for irrigation subprojects to be passed on to IRRIGA (P164431);
- storage facilities;
- other types of priority infrastructure; and
- land delimitation and individual land tenure titling.
- Land restoration
- Agro-processing machienary

As better described in Chapters 7, 8 and 9, these have positive and negative implications on people, land, soil, flora, fauna, water, air and the natural and social environment in general. A consultative and participatory process has been consistently adopted in the identification and selection of specific and final sub-projects to be considered for funding. Efforts are also being made to harmonize SUSTENTA with other past, current and planned development interventions that are relevant to streamline with this project such as the cases of MozFIP, PROIRRI/IRRIGA that now covers the two SUSTENTA provinces², MOZBIO and other. It is recommended that this be consistently pursued and improved under the AF.

### 2.4 Subproject activities ineligible for funding

The following type of sub-projects continue to not be eligible for funding:

- Involve the significant conversion or degradation of critical natural habitats;
- Are in ecologically sensitive areas such as forests, wetlands, and other unique habitats;
- Are in gazetted national parks, wildlife reserves, controlled hunting areas or forest reserves;

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² The original PROIRRI only covered the provinces of Manica, Sofala and Zambezia. In addition to the three original provinces IRRIGA also covers Nampula.
Imply the construction of large dams as defined in OP/BP 4.37 Safety of Dams, as well as small dams, which would trigger OP/BP 4.37 and the World Bank Policy of Projects on International Waterways OP/BP 7.50; involve sub-projects which need large-scale land acquisitions from communities; involve growing or purchase of tobacco or drugs.

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

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

2.5 Subprojects that justify the formulation of safeguard instruments

In the original version of the project the ESMF, RPF and the PMP were justified mainly by the implications of components 1 (Agriculture and Forest-Based Value Chain Development) and 2 (Securing Land Tenure Rights and Increasing Natural Resources Resilience). These are the components with physical, social and processual interventions that have the potential of translating into implications on the natural and socioeconomic receiving environment, thus requiring careful design, planning, implementation and monitoring to ensure that negative outcomes are avoided/minimized and positive outcomes are optimized. This remains unchanged in the context of the AF.
3. PROJECT IMPLEMENTATION ARRANGEMENTS

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

In its capacity as the ministry responsible for land, environment and rural development MITADER is the host organization for the project with specific initiatives being managed in line with the sectoral division of responsibilities around these three thematic issues within the current GOM structure. Agricultural initiatives (e.g. irrigation and plant and animal production in general), which play an important role in rural development are under the Ministry of Agriculture and Food Security (MASA), Infrastructure development, mainly roads, bridges and other facilities fall under the Ministry of Public Works, Housing and Water Resources\(^3\) (MOPHRH) and the National Roads Administration (ANE), Trade and Industry (dealing with the host of issues around value chains) fall under the Ministry of Commerce and Industry (MIC) while land demarcation and titling is the direct responsibility of MITADER as is the management and coordination of environmental and rural development components, as provided for in the legislation in force in the country. The provinces and districts/municipalities contribute by assisting in the transformation of sectoral plans into horizontal/territorial plans that are in line with local development priorities. The table below provides an overview of the main actors and their roles:

<table>
<thead>
<tr>
<th>Areas of intervention</th>
<th>Responsible institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lead institutions</td>
</tr>
<tr>
<td>Project management</td>
<td>MITADER</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation subprojects</td>
<td>MASA/INIR (IRRIGA)</td>
</tr>
<tr>
<td>Plant and animal production subprojects</td>
<td>MASA</td>
</tr>
<tr>
<td>Roads and bridges</td>
<td>MOPHRH/ANE</td>
</tr>
<tr>
<td>Storage facilities, trade and industry</td>
<td>MIC</td>
</tr>
</tbody>
</table>

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\(^3\) Also with a strong role in water use in general including irrigation and power generation that relies on water

\(^4\) Regional Water Administrations, mainly ARA Centro Norte and ARA Norte.

\(^5\) Ministry of Industry and Trade
<table>
<thead>
<tr>
<th>Areas of intervention</th>
<th>Responsible institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other types of priority infrastructure;</td>
<td>Lead institutions: MOPHRH/ANE</td>
</tr>
<tr>
<td></td>
<td>Collaborative institutions: PIU, MIC, Provinces and Districts/Municipalities</td>
</tr>
<tr>
<td>Land delimitation and individual land tenure titling</td>
<td>Lead institutions: MITADER</td>
</tr>
<tr>
<td></td>
<td>Collaborative institutions: PIU, Provinces and Districts</td>
</tr>
<tr>
<td>Environmental licensing</td>
<td>Lead institutions: MITADER</td>
</tr>
<tr>
<td></td>
<td>Collaborative institutions: PIU, Hired Service Providers including Environmental and Social Safeguards Specialists, Provinces and Districts/Municipalities</td>
</tr>
</tbody>
</table>

SUSTENTA played a catalytic role in the establishment of the Fundo Nacional de Desenvolvimento Sustentável (FNDS), which has contributed to strengthen MITADER's ability to manage the complex institutional processes involved in promoting adequate land, environment and rural development processes that now go beyond managing SUSTENTA and cover other related developments including establishment of solid relationships with other sectors and subsectors. FNDS has become a capable implementing agency in its day-to-day coordination across several Government and non-government institutions at central, provincial, and district levels. FNDS grew from the ten Fundo Nacional do Ambiente (FUNAB) with only 15 employees to 172 staff members today (2019). Within SUSTENTA and other development projects (e.g. MozFIP, MozBIO, etc.) sectors formulate specific subprojects following their development policies and strategies, which usually have a clear mapping and categorizations of interventions across the country.

In addition to planning, budgeting, procurement, accounting, financial reporting, treasury management, and external audit to ensure adequate implementation of the environmental and social Safeguards requirements and applicable national regulations FNDS has established an Environmental and Social Safeguards & Community Development Unit at central level. The Unit is responsible for the crucial environmental and social management and communication aspects of the projects such as keeping all stakeholders and PAP aware of the main issues around the projects at every phase. Each Project (e.g. MozFIP, MozBIO, etc.) has its own Project Implementation Unit (PIU) that also extends to the provinces. In line with the priority development areas FNDS comprises four Specialists (Land, Forests, Value Chain, Infrastructures and Community Development) who assist specific projects in dealing with issues around these thematic areas. Diagram 1, below, depicts the adopted organizational structure to manage environmental, social and community development issues within MITADER/FNDS. This is a system that has been under consolidation and will assist in the implementation of SUSTENTA including its additional financing as it has been doing with the original financing.
The project will continue to incorporate impact evaluation as its integral element, which will be linked to the drawing of lessons learned and respective dissemination and adoption in selected contexts. The importance of knowledge and informed decision making, and definition of sound project implementation options is also demonstrated by the way in which the project has been conducted in the first two years. Lessons learned are being systematically compiled to complement the analyses that were done during the preparatory work around (i) **Agriculture value chains analysis** under which a preliminary agriculture sector review was completed to provide an overview of sector performance, and an initial assessment of agribusiness development and development potential in Mozambique. This was followed by an in-depth analysis of the institutional framework for agriculture investment in Mozambique and selected agribusiness value chains and operational models to identify best practice models of investor-out grower linkages, (ii) **Forest value chain analysis around planted forests** to identify barriers to the promotion of private investments in the planted forests sectors and of models for the integration of smallholders into different planted forests supply chains and **Natural forests value chains** to identify the most promising supply chains from the management of natural forests; and (iii) **Land Administration and Community-Based Land and Natural Resources Management** to examine challenges related to increasing land rights security (e.g. formalization of community delimitation, individual and collective DUATs), and securing land for investors in collaboration with local communities that already hold rights over the land in question. The promotion of efficient land use patterns and regulatory capacity, and strengthen institutional capacity was also envisaged, under which key factors for the success of Community-Based Organizations, particularly those in charge of managing natural resources (forests, wildlife and conservation areas) were identified and streamlined in the project final design and implementation, several support instruments to guide the different classes of stakeholders to conduct subproject screening, design, implementation and monitoring have been developed. And these have been improved in the first two years by, among other aspects, developing instructions manuals (e.g. agricultural practices and land regularization protocol, adjusted forms for project screening and monitoring).
This ESMF with elements of the RPF and PMP is aimed to ensure that developments resulting from additional financing are also managed in a way that is environmentally and socially sustainable. The RPF has also been slightly updated to include a revised Grievance Redress Mechanism and to deal with land protocol, where such becomes appropriate.
4. DEVELOPMENT CONTEXT IN MOZAMBIQUE

4.1 General Country Development Context and Project Relevance

This chapter provides an overview of the country’s development context, its main natural (physical/biological) and social traits, and selected information about the provinces and districts in the project area. The descriptions made in the 2016 ESMF/RPF/PMP remain largely unchanged. Significant changes are in the areas of (i) additional districts; (ii) socioeconomic/demographic context; (iii) the inclusion of new districts; and (iv) relationships between SUSTENTA and other related developments.

4.1.1 General Context

With 49% of the country’s total wealth being made of natural capital, as opposed to an average of 24% in the other sub-Saharan African countries, Mozambique is one of the most endowed countries in Africa in terms of natural resources (AFD, 2009).

Some of the important international rankings of the country are:

- Human Development Index (United Nations) 181 out of 188 countries (2016)\(^6\);
- Peace Index (Institute for Economics and Peace) 78 out of 163 (2017)\(^7\);
- Ranking of global competitiveness (World Economic Forum) 133 out of 138 (2017)\(^8\);
- Doing Business Classification 138 out of 190 (2017)\(^9\).

There are also regional imbalances in development with the southern provinces of the country (except for Gaza province) representing about 48% of the national GDP, while Maputo City itself, which covers only 5% of the total population, represents 18% of the total GDP. The central (29%) and northern (23%) regions come in the second and third positions, respectively. Yet these two regions are the most populated and endowed with natural resources.

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\(^6\) 1st - Norway (0,849); 181st Mozambique (0,418); 188th Central African Republic (0,352).
\(^7\) 1st - Iceland (1,111); 78th Mozambique (2,013); 163th Syria (3,814).
\(^8\) 1st - Switzerland (5,81); 133rd Mozambique (3,13); 138th Yemen (2,74).
\(^9\) 1st - New Zealand, 138th Mozambique; 190th Somalia.
The country’s economic performance was remarkable between 1995 and 2013-2015. The Gross Domestic Product (GDP) growth rate was in the region of 7.4 in the period, which was informed mainly by a few large-scale capital investment projects, sound financial management, political stability and significant donor support. As with growth in some other developing countries in the SADC region (e.g. South Africa, Angola, etc.), the benefits of economic growth have not been enjoyed by all citizens and the link between economic growth and poverty reduction has been weak. Benefits from large scale capital investment projects tend to accrue to those who are already economically better-off (i.e. mostly minority groups residing in urban areas), as opposed to much poorer people who form the bulk of the population and particularly those living in rural areas. Urban poverty has also been showing a growing trend in the last two decades.

Political tension during the period 2013-2016, the discovery of hidden debts (2015/2016\textsuperscript{10}) and the decline/fluctuations of the prices of the commodities that Mozambique was starting and/or promising to export (mainly coal and gas) in the same period, have been accompanied by deacceleration of economic growth, reduced injection of foreign capital, and aid from donors. This was accompanied by high inflation and elevated depreciation of the national currency. After tight monetary policy reforms to control currency depreciation and fiscal deterioration inflation has decreased from close to 27% in October 2016 to 18% in March 2018 (BM, 2018), but the financial situation remains difficult and marked by uncertainties. Micro Small and Medium Size Enterprises (MSMEs), which are the dominant business entities in the country are the most affected by this complex context as they struggle to have access to finance and other forms of facilitation.

The effects of climate change, which tend to affect poorest countries with low resilience and lesser adaptive capacity, have further exacerbated the national economic challenges.

\textsuperscript{10} An aspect that could not be adequately captured during the formulation of SUSTENTA Safeguards in 2016, as details were unknown at the time.
4.1.1 The Agriculture Sector

SUSTENTA focuses on agriculture combining plant and animal production, forests and wildlife as well as dry land farming and irrigation although the latter will be managed under a different arrangement from now.

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

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

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

As highlighted in the Development Strategy for the Rice Sector in Mozambique11 “the presence of different actors (business, household-commercial, and household self-consumption) highlights three important aspects. First, the predominance of the household sector suggests the need of focusing on this sector for major government interventions: one per cent increase in the growth of the household sector is equivalent to more than 6 per cent increase in the growth of the business sector. Secondly, both the household commercial and household self-consumption sectors are important contributors of overall growth, given their large weight on the structure of production. Thirdly, an overall policy of encouraging private (domestic and foreign) investment has positive aspects on creating dynamism of the overall agriculture, spearheading rapid growth in specific subsectors and creating the conditions for the emergence of a commercial agriculture. Therefore, an agricultural development strategy that is focused on the smallholder sector and promotes linkages between the smallholder sector and the dynamic business sector could accelerate growth and development of commercial agriculture”. SUSTENTA relies on two main agricultural producers, i.e. the emerging commercial agricultural producers (PACEs) and the smallholder agricultural producers (Pas). The PACEs are identified as the most advanced producers in the areas in which the live by virtue of already farming larger areas, adopting innovative technologies and/or being prone to do so. They cultivate 7 ha of land or more. Under the project while fulfilling their productive role, they are mobilized to play a catalytic role in disseminating and demonstrating advanced ways of practicing agriculture among the other smallholder

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11 MINAG/Agrifood Consulting International (September 2005)
farmers (PAs) in their areas. PAs cultivate less than 4 ha and rely on household labor. The combination of PACEs with PAs complements one of the extension’s work strategy adopted in Mozambique which relies on “Contact Farmers” and “Demonstrations”. Work in this area has progressed significantly in the first two years. Out of a total of 100 PACEs business plans to be financed by the end of the Project, 31 have already been financed and 32 are well advanced in the financing cycle. This will also be complemented by MSMEs, which will cover the other areas of the agricultural and forests value chain and add value to the products by providing goods and services. MSMEs have not yet been activated under the project. Preparations are still underway.

The AF will also continue to give priority to the youth. It is foreseen that around 100 people below the age of 35 will receive support as PACEs of which at least 30 will be young women to meet the project’s determinantion to promote gender equality.

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

One important subsector in the development of agriculture is irrigation. Mozambique has enormous potential for irrigated farming, with an estimated 3.3 million ha being potentially irrigable. The total irrigated area fell from around 120,000 ha in the mid-1970s, after the country’s independence, to close to 40,000 soon after the end of the civil conflict in 1992, and little has been done since then to rehabilitate existing irrigation systems. There are currently around 50,000 ha that are irrigated, of which 60% are used for sugarcane and increasingly some banana/fruit production. Only 8.8% of family sector farmers use some form of irrigation (TIA, 2008). The newly formulated irrigation strategy (2011) gives an orientation on how to establish the irrigation schemes and the property rights of the infrastructure. A growing recognition of the importance of irrigation in the development of the country’s agriculture led, among other, to the establishment of a National Institute of Irrigation (INIR) in 201212.

Together with the establishment of INIR with a credit from the International Development Agency (IDA – World Bank Group) the Government of Mozambique implemented the Sustainable Irrigation Development Project (2011-2018), better known as PROIRRI during a period of six years with a focus on three provinces (Zambézia, Sofala and Manica) as well as on small and medium farmers. PROIRRI piloted interventions aimed at drawing lessons on the best ways of reviving irrigation in the country. PROIRRI’s development objective (PDO) was to increase marketed agricultural production and raise on-farm productivity in new or improved irrigation schemes in Central Mozambique. PROIRRI will continue as IRRIGA in the period 2019-24 and it has been expanded to cover the province of Nampula, in addition to the three (Sofala, Manica and Zambezia) that were under PROIRRI. This means that in Nampula is missing to complete IRRIGA and SUSTENTA overlap. This and the way SUSTENTA is designed is what explains why irrigation systems will be passed on to IRRIGA, mainly for Operation and Management (O&M).

Over the 2011-2018 period, PROIRRI developed innovative and sustainable approaches to market-led irrigation in Mozambique, with strengthened public institutions at various

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12 Decree 09/2012, of May 11.
administration levels, and with a legal and regulatory framework conducive of private sector participation.

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

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

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

4.1.2 Climate Change

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

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

The occurrence of different categories of extreme events is reasonably well mapped in Mozambique. The country’s river basins prone to major flooding and impacts are Maputo, Umbeluzi, Incomati, Limpopo, Save, Buzi, Pungwe, Zambezi, Licungo13 and Messalo. Those with the largest number of displaced people, flooded areas, loss of crops are the Limpopo and Zambezi. The basins where there are the greatest damages in road infrastructure are Limpopo, Incomati, Umbeluzi and Pungwe. Hypsometry and geographical location (e.g. coastal vs hinterland) are also important determinants of the geographical location of these extreme events. Accordingly, while floods are a

13 Licungo River baths extensive areas in the project area and in 2015 experienced one of its worst floods in the last more than 40 years, which caused extensive damage to infrastructure and urban rural assets.
phenomenon of the southern and central regions cyclones are most frequent in coastal and marine areas. The southern and central regions also experience more droughts than the northern, where rains tend to have a more regular pattern. The provinces with the highest incidences of cyclone occurrence are Inhambane in the south, Sofala in the center, and Nampula in the northern region of the country. Nampula is already within the project area Manica and Sofala are now being targeted. Thus, although not necessarily the most exposed, the project area is found in areas with some level of exposure to Climate Change (CC).

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

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

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

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

The inclusion of the CC component into the project is highly relevant as it will be implemented in areas (Nampula province and Licungo river basin, the coastal areas of Zambezia, Manica and Sofala province and the Buzi river basin) with considerable level of exposure to this phenomenon involving poor communities, which are both, more vulnerable to climate change and particularly to cyclones, inundations and resulting disruptions in the form of losses of lives and other fundamental household and community assets. These communities should not be passive agents of these phenomena. They need to be made aware of the issues and to be adequately equipped to actively and creatively undertake adaptation measures. On March 15, 2019 Idai made landfall over Mozambique’s Sofala Province producing torrential rains and strong winds and severely affecting Manica, Sofala, Tete, and Zambézia provinces. The cyclone has affected an estimated 1.85 million people, according to some preliminary estimates. The Project CERC component has been activated, and the design of the AF adjusted to support the recovery effort in the affected areas. In addition, an IRM-CERC ESMF for the CERC (Component 4) was prepared, consulted up-on and disclose to ensure that safeguards issues are considered (mitigation measures to avoid or minimize collateral damage ) while responding to Cyclone Idai emergency. This IRM-CERC ESMF is

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

5.1 Project Location

The Project area was established based on a combination of indicators related to current production, poverty incidence, potential to generate higher returns to investments in the selected value chains, and the landscape dimension that geared Project design. The project area comprises the provinces of Nampula, Zambézia, Manica and Sofala (Figure 1). Originally, within these provinces and based on a set of criteria, it was agreed to target the following ten Districts:

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

The additional financing will potentially add nineteen districts to the original ten and these are distributed as follows:

- Nampula: Murrupula and Muceate
- Zambézia: Molumbo, Lugela and Namarroi and four from MozFIP, i.e. Mulevala, Pebane, Mocubela e Maganja da Costa.
- Manica: Macate, Gondola, Manica, Vunduzi; and 1 is under MozBio 2, i.e. Sussundenga.
- Sofala: Dondo, Nhamatanda, Buzi, Chibabava and 1 is under MozBio 2, i.e. Muanza.

These are summarized Figure 2 below.

Figure 2: The Project districts in Nampula, Zambézia, Sofala e Manica province
The expanded geographical area of SUSTENTA can be divided into two main regions: the northern Mozambique between the Zambezi and Rovuma rivers including Nampula and Zambezia provinces and the central Mozambique between the Save and Zambezi rivers including Manica and Sofala provinces.

In the northern part, despite the administrative separation of Nampula and Zambezia, the provinces share a lot of common physical (the climate is humid mesothermal and sub-humid and geology from Precambrian basement complex – Proterozoic), biological (broadleaf evergreen and deciduous forest and grassland vegetation) and social (family structure is basically matrilineal) traits. What makes these two provinces distinct among themselves is the most spoken language in each one: while all the districts in Zambézia speak predominantly Elomwe all the districts in Nampula have Emakhuwa as the dominant language. The languages are also a reflection of the ethnic groups, which Mozambique statistics do not record directly most of the time. The dominant religion in the nineteen districts of the north is Muslim (MAE, 2014). However, in central part the provinces of Sofala and Manica the additional 10 new districts which are apart from the original SUSTENTA landscape and have sections with slight differences in their physical (humid subtropical climate and geology from Precambrian Craton – Archean to Proterozoic) and biological (montane forest and savanna grassland) and social (family

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14 Mocuba has higher mix languages including Portuguese although Elomwe is still the dominant language.

15 Rapale also has a higher mix of religions when compared with the other districts although also dominated by Muslims.

16 Ministry of State Administration
structure is basically patrilineal) traits. These areas also encompass a KBAs: Chimanimani National Reserve and Chimanimani Mountains.

In terms of altitude, rainfall, temperature and main soil types which then determines the agro-ecological zone and even socioeconomic aspects the addition of the nineteen district has translated into 7 distinct areas (Table 4 and Figure 4).

**Table 3: Distribution of the districts in the project area by agro-ecological zones.**

<table>
<thead>
<tr>
<th>Agro-ecological zone</th>
<th>Altitude (in m)</th>
<th>Rainfall (mm)</th>
<th>Temperature (°Celsius)</th>
<th>Main soil type</th>
<th>Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate Altitudes of Niassa and Interior Cabo Delgado</td>
<td>200–1,000</td>
<td>1,000–1,400</td>
<td>24–26</td>
<td>Sands-clays</td>
<td>Ribaué, Rapale, Lalaua, Malema.</td>
</tr>
<tr>
<td>Low altitude of Altitude Zone of Nampula Cabo Delgado e Niassa</td>
<td>500–1,000</td>
<td>1,000–1,200</td>
<td>&lt; 22</td>
<td>Limes and clays</td>
<td>Muecate, Mecubúri, Murrupula</td>
</tr>
</tbody>
</table>

**Figure 4.** Agro-ecological zones in Mozambique
After two decades of work to rid the country of a legacy of war that killed or maimed thousands of people, mostly civilians, in September 2015 Mozambique has declared itself free of landmines (HALO Trust, 2015). Based on this, this ESMF assumes that the project area is landmine free.

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

5.2 Physical Environment

5.2.1 General aspects

Most of the descriptions covering geology, soils, hydrology and climate, and the important traits are summarized here.

As shown in, from the geomorphological point of view Mozambique is divided into two topographical regions: (i) to the north of the Zambezi river, there is a narrow coastline and bordering plateau slope upward into hills and a series of rugged highlands punctuated by scattered mountains; (ii) south of the Zambezi River, the lowlands are much wider with scattered hills and mountains along its borders with South Africa, Swaziland and Zambia. While all the 7 districts of Nampula are found in the medium and high altitude, Zambezia now presents two distinct altitudes. The Mocuba, Gurue, Gile, Ile and Alto Molocue districts plus the new districts of Molumbo, Namarroi, Lugela and Namarro are in the medium and high altitude while Maganja da Costa, Mocubela and Pebane are found in the medium and low altitude, with the lower areas, close to the ocean being prone to floods including cyclones, almost in the same way as the areas in the southern region of the country (see below). This pattern repeats in the Provinces of Sofala and Manica, with higher altitudes at the western part of Manica and much lower altitude in the coastal areas of Sofala.
Figure 3: Mozambique physiography

The southern coastal areas have low water levels and extensive swamps, which make them prone to severe inundations in times of heavy rains. Monte Binga (in Manica province), peaking at 2,435 m, is the highest point of Mozambique; the Indian Ocean (0 m) is the lowest.
The country is drained by several important rivers, nine of which are international\textsuperscript{17}. Although only related with Mulombo district in northwest Zambezia province, the Zambezi is the largest and most important river, the fourth-longest in Africa, and the largest flowing into the Indian Ocean from Africa. Lake Niassa (also Malawi), which is part of the Zambezi River basin, is the country’s major lake. Cahora Bassa dam, along the Zambezi River, is Africa’s fourth-largest artificial lake. A small slice of Lake Chiuta is found in Mozambique. The Zambezi river is subdivided into 27 sub basins, spread over five provinces (Manica, Sofala, Zambezia, Tete and Niassa), which includes one of the SUSTENTA and IRRIGA targeted provinces (i.e. Zambezia). Except for Mulombo district (which is under the influence of both Zambezi and Lurio rivers) Zambezia districts under SUSTENTA are mainly influenced by Licungo river, which together with Lurio are the other most important water course in the project area. Except for Mulombo Lúrio is mainly associated with Nampula province and Licungo with Zambezia province. These are two important rivers in Mozambique with the advantage of being confined within the country’s boundaries.

Other important rivers in the same area are Meluli, Monapo, Mecuburi, Motomonho and Ligonha, in the province of Nampula and Melela, Molócue, Moniga, Raraga and Nipiode, in Zambezia province. Under SUSTENTA monographies of these rivers were formulated and are being used to meet a diversity of interests, including the formulation of development scenarios and investment plans. The Strategic Plan for the Utilization and Development of Lúrio River Basin was formulated in 2017 and should also be used to devise the best ways of developing SUSTENTA AND IRRIGA subprojects where these will fall under it.

The climate, in general, is humid tropical with two distinct seasons: dry (or winter) and rainy (or summer). The average annual precipitation varies between 300 and 1500 mm (Figure 4) and occurs mainly during the summer, between October and April, with January being the rainy season (MANHIQUE, 2008). The temperatures present regional variations due to the interference of factors such as latitude, continentally and the relief itself. In general, temperature values tend to increase toward lower altitudes (HOGUANE, 2007).

\textsuperscript{17} Maputo, Incomati, Umbeluzi, Limpopo, Save, Buzi, Pungwe, Zambezi, and Rovuma.
However, due to interference of the relief (Figure 4), there are lower temperatures in the higher regions and west of the country, which are located, from north to south, in the provinces of Niassa, Zambézia, Tete, Manica. In general, average annual temperatures are distributed as follows: from 18 to 20 °C in mountainous regions; from 22 to 24 °C in the central and northern planar regions and the centre (MICOA, 2005). Atmospheric circulation is characterized by areas of influence of low equatorial pressures with NE monsoon winds during the summer (SAETRE and SILVA, 1979). The south and central winds are predominantly SE trade, and in the north are influenced by a monsoon regime with NE winds during the summer and SW during the winter.

While the districts of Nampula are confined in the area that received between 1,000 and 1,200 mm of rainfall/year the 12 districts of Zambezia are spread over four distinct areas that receive from 1,100 to 1,500. The districts of Maganja da Costa, Mocubela and Pebane are the most exposed to high precipitation including floods and cyclones, as better explained below. The detailed precipitation and other agro-ecological condition for the remaining province are detailed on the Table 4.

The rainy season lasts from October to May, with small quantities also possible outside this range. Most of the rains occur between December-January, with January being the wettest month in the entire country.
5.2.2 Climate Change Issues

A significant proportion of Mozambique territory is situated in favourable natural conditions for the occurrence of natural disasters, notably floods, droughts and cyclones. In recent times sea-level rise (SLR) and temperature increases are being added. Losses of lives, public and private assets which translate into GDP losses are a direct consequence of these disasters. These offset the country’s efforts to eliminate poverty and promote development.

Vulnerability in general and particularly to flooding and SLR is related to heavy rainfall, hypsometry which explains that extensive plains are lower in relation to the rivers and sea levels, high flood flows from neighbouring countries, in shared river basins18, changes in vegetation cover and land use.

As specified in the country’s Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC), in Paris, 2015 the main mission is to “reduce climate change vulnerability and improve the wellbeing of Mozambicans through the implementation of concrete measures for adaptation and climate risk reduction, promoting mitigation and low-carbon development, aiming at sustainable development, with the active participation of all stakeholders in the social, environmental and economic sectors”. The National Adaptation Plan (NAP (2015-2019)) is being updated to make it more responsive to increase local resilience, fighting poverty and identifying opportunities for adaptation and low-carbon development at community level through its mainstreaming in the process of district planning and budgeting. Evaluation shows that the goal has not been accomplished in 2014, and thereby requires delaying the term of the first phase to 2019.

In the medium (2020 to 2025) and long (2026 to 2030) terms Mozambique intends to update its NAP in which the goals will be like those in the shorter term, but referring to the provincial and national levels, respectively. Therefore, from 2020 to 2025, the country intends to increase its resilience at the provincial level and to include adaptation in that scope of planning and from 2026 to 2030 to do the same at the national level, achieving in this way the vision of the NCCAMS – “A prosperous and climate change resilient Mozambique, with a green economy in all social and economic sectors”.

The strategic actions to be included in the NAP are:

- Reduce climate risks through the strengthening of the early warning system and of the capacity to prepare and respond to climate risks;
- Improve the capacity for integrated water resources management including building climate resilient hydraulic infrastructures;
- Increase the effectiveness of land use and spatial planning (protection of floodplains, coastal and other areas vulnerable to floods);
- Increase the resilience of agriculture, livestock and fisheries, guaranteeing the adequate levels of food security and nutrition;
- Increase the adaptive capacity of the most vulnerable groups;
- Reduce people’s vulnerability to climate change related vector-borne diseases or other diseases;
- Ensure biodiversity’s protection

18 Mozambique shares nine important river basins with its neighbours, and it is situated downstream of all of them.
- Reduce soil degradation and promote mechanisms for the planting of trees for local use;
- Develop resilient climate resilience mechanisms for infrastructures, urban areas and other human settlements and tourist and coastal zones;
- Align the legal and institutional framework with the NCCAMS;
- Strengthen research and systematic observation institutions for the collection of data related to vulnerability assessment and adaptation to climate change;
- Develop and improve the level of knowledge and capacity to act on climate change; and
- Promote the transfer and adoption of clean and climate change resilient technologies.

Mozambique is part of the group of countries that are implementing the Pilot Program for Climate Resilience (PPCR), which encompasses support for the institutional and policies' reform, for the funding of pilot projects (roads, agriculture, early warning systems, coastal cities and irrigation) and for knowledge management. Among other main funding agencies/initiatives comprise the World Bank19, the Least Developed Countries Fund (LDCF), the PASA3, the African Development Bank, the JICA, the USAID and the Portuguese Carbon Fund.

Figure 5: Severity levels of combined drought, flood and cyclone hazards

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19 The World Bank is also funding actions in water resources management, conservation areas, forests and energy.
Figure 5 shows the combination of the three variables (cyclone, flood, and drought), including the different combinations of these risks and classification across the country.

While the targeted districts in Nampula are in areas of significantly low level of combined risk the low-lying districts of Mocubela, Pebane and Maganja da Costa, in Zambezia province, are in areas of the highest combined risk.

Droughts and floods, combined with soils, water, hypsometry require the adoption of well-thought mitigation measures in agriculture production and other socioeconomic and infrastructure development.

5.3 Biological Environment

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

The project area is located between Swahilian-Maputaland transitional zone and Zambézian Centre of Endemism.
Swahilian-Maputaland transitional zone extends from the Rovuma River (at the border with Tanzania) to the Limpopo mouth (10° 28' 5.61'' S e 40° 28' 8.36'' E to 25° 12' 4.68'' S e 33° 31' 21.3'' E, respectively) comprising about 147,000 km². The climate is tropical with rainfall standing mostly between 800-1200 mm per year, and the elevation is about 200 m asl (White, 1983). The major part of the coast has a tropical humid to sub-humid climate, with little rain in the dry winter season. It is mostly occupied by coastal forest. According to Timberlake et al., (2011) the coastal forests of Eastern Africa, including Mozambique, have, over the last 20 or so years, been recognized as forming the most important part of a distinct ecoregion – the Eastern Africa Coastal Forests Ecoregion. It has particularly high levels of endemism. “Although small, this ecoregion is often regarded as a globally important conservation priority area” (Burgess & Clarke, 2000).

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

5.3.1 Broad Vegetation in Mozambique and Nampula, Zambézia, Sofala and Manica Provinces

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

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

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

At low and medium altitudes

I. MOIST EVERGREEN FOREST

*Maranthes polyandra, Khaya, Aphloia, Macaranga*

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

II. SEMI-DECIDUOUS HIGH RAINFALL MIOMBO WOODLAND

*Brachystegia spiciformis*

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

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

III. DECIDUOUS MIOMBO SAVANNA WOODLAND

*Brachystegia spiciformis-Julbernardia globiflora*

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

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

IV. DECIDUOUS MIOMBO SAVANNA WOODLAND

*Brachystegia spiciformis, B. boehmii, Julbernardia globiflora*

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

V. DECIDUOUS WOODLAND MIOMBO-DISCONTINUOUS DRY FOREST-SAVANNA MOSAIC

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

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

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

VI. DECIDUOUS MIOMBO (NORTH-EASTERN LOWLAND AND ESCARPMENT) SAVANNA WOODLAND

*Brachystegia boehmii, B. allenii, Julbernardia globiflora*

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

VII. DECIDUOUS DRY MIOMBO SAVANNA WOOLAND DISCONTINUOUS DRY SAVANNA (LOWLAND)

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

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

*Parinari curatellifolia* savanna is almost evergreen and it is found in the hilly plateau of Ribáuè. It appears between 1,000 and 1,500 m. in ferralitic, red, clayey soils. It is usually correlated with good rainfalls about of 1,500-1,700 mm, p.a. Accompanying species are the trees *Uapaca* spp., *Pericopsis angolensis*.

VII. Mangroves and Coastal Dunes

The coastal region of the project central region has extensive and well established mangroves. This is because of the alluvium and freshwater discharge that is received from rivers flowing to the Indian Ocean. The estuaries of the big rivers such as the Zambezi, Pungue, Buzi and Save are all in this central region. The mangrove of the Zambezi delta extends inland approximately 50km, covering almost 180km of coastline. The mangrove forest is composed of all eight mangrove species found in Mozambique:
Avicennia marina, Bruguiera gymnorhiza, Ceriops tagal, Heritiera littoralis, Lumnitzera racemosa, Rhizophora mucronata, Sonneratia alba and Xylocarpus granatum, reaching heights of up to 30 m, supporting a variety of terrestrial and aquatic biodiversity.

In the project area, the coastal dune vegetation includes Sesuvium portulacastrum, Cyperus maritimus, Ipomoea-pes-caprae, Canavalia maritime among others. These species create conditions for the establishment of littoral thickets and forest. The thicket becomes sometimes taller to a dense evergreen forest with climbers forming a patch of coastal forest. Dominant tree species include Diospyros sp., Euclea natalensis, Mimusops caffra, Brachylaene discoulour, Bridelia sp., Commiphora schlechteri as well as Brexia madagascariensis (Albano 2008). Another subsidiary species includes Sideroxylon inerme, Afzelia quanzensis, Tabernaemontana elegans, Sclerocarya birrea, Albizia sp., Commiphora sp., Trichilia sp., and Breonadendron carvalhoi (Albano 2008).

5.3.3 Fauna

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

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

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

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

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

**Threats and Conservation Issues**

In the project area, along the South of the Lurio River there are 4 forest reserves Mpalwé (51 km²), Ribaué (52 km²), Mecubúri (1,964 km²). There is also Baixo Pinda (MICOA 1997), which falls outside the project area. These were established during the 1950s to protect the flora and up until now have been managed by the Ministry of Agriculture and Food Security. Some of these reserves have suffered significant human influence during the war and post war, when management was not possible due to safety reasons. The Mpalwe and Ribauê Forest Reserves vegetation consist of forest fragments dominated by miombo species, particularly Julbernardia globiflora, Uapaca, Sterculia, and pure stands of bamboo (Oxytenanthera sp). There are a series of river streams that have springs on both mountains. The water streams are particularly covered with gallery forest with Milicia excelsa, Xylopia sp., Harrungana madagascariensis, Trema orientalis, Breonadia salicina, Syzygium owariense, among others. On the mountain slopes patches of closed canopy forests mixed with bamboo can be found (Muller et al. 2005).

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

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

The Gilé National Reserve is mainly made up of miombo forest, dambos, reforested savannah and riverine vegetation along various rivers and rivulets. Of great interest are the granitic Kopjes' habitats, which are either inside or around the area.
Fauna: There are listed 95 mammal species, amongst which elephants, lions, leopards, wild dogs (wolves), spotted hyenas (crocuta-crocuta), pala-palas, kudos, impalas. There are also listed 114 bird species.

Most of the inselbergs from Zambézia to Nampula are Important Bird Areas (IBA) based on the presence of globally significant populations of the endemic Namuli apalis, Cholo alethe and Dapplethroat (Parker 2001), and now also the Spotted Ground Thrush and White-winged Apalis. The nearby Mt Chiperone is also an IBA (Parker 2001). Moreover, Namuli Mt found in Guruè District forms part of the Tanzania– Malawi Mountains Endemic Bird Area (EBA) as three of the seven species of this EBA occurring in Mozambique were recorded from here, although these figures have changed somewhat considering more recent research. It also forms part of the Afrotropical Highlands biome.

The most important habitats for biodiversity conservation in this project area according to Timberlake et al (2009) is Gurué-Namuli were there are upland grassland on peat and moist evergreen forest (both montane and at medium-altitude). Neither the peat grassland nor the montane forest is under major threat, although fire and selective logging for Faurea wentzeliana are having an impact and there appears to be an increasing number of patches within the forest cleared for cultivation of Irish potato. In most of the inselbergs in this region (Zambézia and Nampula) the main threats concern of increasing destruction by cultivation and fire of medium-altitude forest and riparian forest along the main streams below 1,600 m. Other significant threats are feral pigs rooting up rich species of vegetation over seepages, and heavy hunting pressure on mammals; edible species are now scarce and predators mostly absent for example in Mabu Mt. The latter and Moebase region are Key Biodiveristy Areas and no-go areas for project land clearing activities.

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

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

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

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

Use and management of natural resources such as forests and wildlife make a major contribution to rural livelihoods in Mozambique, therefore the NRM should be treated as an integral part of rural agriculture. Forests, woodlands, and savannas provide poles and construction materials, firewood, grazing for livestock, bush meat, wild fruits, honey, mushrooms, edible insects, and medicinal plants. In addition, some forests are used as burial grounds, for traditional ceremonies and provide environment for ecotourism opportunities

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

The provinces of Nampula and Zambezia are the most populated in the country. Together they were found to represent close to 39% (38.86%) of the country’s population (Graph 2), by the latest Census (INE, August 2017). This percentage (39%) remains unchanged when compared to the results of the 2007 Census.

The two targeted provinces in the project area represented roughly 11,213,654 inhabitants in 2017 from 7,835,068 in 2007 (the figure was expected to be slightly above 9.0 million in 2017 at an annual growth rate of 2.8%, on average, that had been projected then). This also means that the real growth stood at above 6% in these two provinces, well above the 3.5% that the 2017 census confirmed for the entire country.

In the same period (2017) the nineteen selected districts represented 15% (from 10% in the original project) of the country’s population and above 38% (from 27% in the original project) of the population of the two provinces together. The seven districts in Nampula represent 24% (from around 20% in the original project) of the province’s population, while those from Zambézia represent above 56% (from 34.6% in the original project). The relative concentration of people in these districts and particularly in the case of Zambézia (more than 1/2 of the province’s population) can also be interpreted as an indication of their wealth and considerable carrying capacity for human activities and development.

Absolute and relative (population densities) numbers of people played an important role in the process of selecting these districts to define the project area, i.e. the most and more densely populated districts and those with significant economic potential were selected. For what is envisaged it is of relevance for the selected areas to have inherent elements of economic and social dynamism in which the size of the population is usually known to be a strong factor. The additional funding will adhere to the same principles.
Graph 3: Comparative distribution of population within the selected districts

Graph 3 shows that the districts of Zambezia, mainly Gurue, Mocuba, Alto Molocue and Molumbo are the most populated. This is followed by the districts of Ribaue, Mecuburi in Nampula province. Malema and Gile, in Nampula and Zambezia, respectively, also show considerable numbers of people.

At the national level in 2007 and 2013, the masculinity index stood at 92.8% and 93.2%, respectively, or approximately 93%, in the two horizons, despite a slight increase. Within the structure of a population by sex the index of masculinity defines the quantity x of men that exists for every 100 women, being that the index of femininity is its inverse. In either case, the further away the index is from 100, the greater the inequality between the sexes. Although it is generally noted that in rural areas, the masculinity indices tend to be relatively lower. More balanced societies (in the areas of labour power, better distribution of labour by sex, family stability, etc.) tend to have values closer to 100.

An important and determinant factor in the distribution of socio-economic resources within households is the distribution of their active and non-active age members. The higher the percentage of non-active members, the higher the dependency ratio. In the country, on average, there are 2.4 people under the age of 15 per household, 2.4 people between the ages of 15-64 and only 0.2 persons aged 65 and over. INE (2016) data indicates the following distribution of the population by age categories:

- 0-14 years: 44.92% (men 5,856,623/women 5,791,519)
- 15-24 years: 21.51% (men 2,741,474/women 2,835,474)
- 25-54 years: 27.24% (men 3,301,883/women 3,762,626)
- 55-64 years: 3.42% (men 425,312/women 462,125)
- 65 years and over: 2.9% (men 345,408/women 407,706)
An analysis of the distribution of the population by age group, shows that the sum of individuals of non-active age (under 15 and 65 and over) is largely superior to the age group considered active, which is evidenced by the high rate of dependence estimated at about 108%, meaning that in every 100 people of working age there are approximately 108 people of non-active age. On the other hand, in the urban environment, there is an average of about 84 persons of non-active age in every 100 persons of active age.

Mozambique’s population continues to be dominated by young people despite the incessant increase of those above 65. In the same way as the masculinity and femininity indexes the age of a population is a determinant factor in socioeconomic development including that of specific projects such as SUSTENTA. The additional financing will now consider dedicated support to Young farmers and entrepreneurs who want to start a productive/economic activity. These will benefit from funding windows tailored to young emerging commercial small farmers (young SECFs) and young entrepreneurs. They usually need specific training and tailored investment support. This is a relevant approach when considering that young people (an women) are the hardest affected by unemployment. They face considerable obstacles to have access to formal employment and tend to rely on a host of informal economic activities. Yet, in the case of the youth, they are usually the most educated and technically qualified and they could be the people with a strong potential to embark on different forms of adding value to local agricultural and forest products, by bringing both their experience of running their own businesses and part of the required capital.

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

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

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

Even though at present Lalaua, Muecate and Murrupula, are not directly part of the Nacala Corridor, to a great extent the seven selected districts in Nampula constitute a specific unity characterized by several common natural and sociocultural (i.e. ethnical, linguistic and religious) traits. The district capitals of Ribaué and Malema are autonomous municipalities. This also attests to their socioeconomic importance in the province and the region.

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

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

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

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

Some of the aspects that define the practice of agriculture in the area, which are typical of the so-called “family sector” are:
- Cultivation of very limited areas: 0.5 to 1 ha is the common size of most of the farms in the project area\textsuperscript{20}.
- Use of farming technologies that are rudimentary: Cultivation is primarily undertaken using hoes and virtually no external inputs, such as improved seed, fertilizers and chemicals are used\textsuperscript{21}.
- Over the years the family sector farmers have developed livelihood strategies oriented towards minimizing risk through crop diversification, which takes place in a variety of ways including:
  - Growing several crops and the dominance of intercropping;
  - Preferring to grow two or more consecutive crops rather than a single one of a longer cycle, even if the potential total yield is higher for the latter, to obtain advantage of moisture availability during the short rainy season; and
  - Growing crops in as many diverse environments (topography/relief/soil) as possible, e.g., in sandy flat areas, in medium textured alluvial deposits of slopes (transition zones), in the fine textured dark colored soils of the river beds (dambos) and in open valleys and alluvial soils.

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

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

In Nampula districts the so-called subsistence farmers are also involved in cash crops, mainly cotton and cashew nuts and more recently cassava, after the installation of a brewery by CDM (Mozambique Brewery) that produces beers using cassava as the main raw material. OLAM, SANAM and JFS are the three private companies in the forefront of promoting cash crops and particularly cotton. They provide seeds and other inputs to local farmers and become the first buyers of the harvest following agreed prices.

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

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\textsuperscript{20} The informal character of agriculture and animal production, which are dominant economic activities in the project-related areas, explains the present land use and land tenure patterns. Ancestral laws establish the distribution and use of land by existing families. Lineage plays a crucial role in the process. Each family and groups of families do their best to secure enough land and to have direct access to areas for housing, fauna, forests, pastures, fertile grounds and water.

\textsuperscript{21} Due to the monopolistic structure of the market for these products, they are rather very expensive in Mozambique.
5.4.1 Other Development Programs/Projects in the Project Area

The project area is rich in development initiatives that SUSTENTA is required to take cognizance of. Some of these are summarized in this subchapter. These are having and can be expected to have two types of consequences for SUSTENTA, namely (i) facilitation and creation of synergies in terms of expanding market opportunities, beneficial infrastructures, etc.; and (ii) constraints as there could be competition for resources such as land, water, forests, etc. where those developments will interfere with the SUSTENTA intentions. The project needs to continuously find way of augmenting synergies with such developments while avoided/minimized conflicts.

The National Director of Water (DNA) has finalized the Strategic Development Plan of the Lúrio River Basin. The exercise made a through description of the river and its basin, past, current and potential uses in the future and prepared a strategic plan to develop water resources for the Lúrio River Basin, covering developments in several sectors (water, irrigation, energy, mining, etc.). This is of importance for the districts of Malema, Ribaué, Mecubúri and Rapale, which have significant parts of their territory strongly influenced by this important river in Mozambique.

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

- A significant number of local farmers have agreements with cotton operators (e.g. OLAM and SANAM) and they grow cotton for them in return of some forms of assistance such as seeds, pesticides and other minor forms of assistance.
- In Nampula province and extending to Niassa and Cabo Delgado there are significant forests out grower’s schemes, such as the case of Lurio Green Resources. This is active in the districts of Ribaué22 (south of Lalaua), Mecubúri and Rapale. The figure below clearly shows Lúrio Green Resources area of influence.
- The International Fund for Agricultural Development (IFAD) is in the final stages of preparing the implementation of two large projects in agriculture (Programme for Agricultural Value Chain Development) and aquaculture (Project to Promote Small Scale Aquaculture). PROCAVA will share Murrupula (in Nampula) as well as in Molumbo and Lugela (in Zambezia) with SUSTENTA while PRODAPE will share Ribaue (Nampula) and Mocubela (in Zambezia). This in addition to other synergies such as systems and processes to promote production value chains to promote local socioeconomic development, increase food security and the participation of women and the youth in rural development.

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22 Until 1986 when a new administrative division was approved, Lalaua was part of Ribaué district.
Of importance due to its magnitude is PROSAVANA project. The figure below depicts the boundaries of this project as it was in March 2010. As can be seen from the map there could be overlaps between this project and SUSTENTA although the final demarcation of the former project remains an open subject. PROSAVANA is, among other, known for being an attempt of applying the agricultural development in Brazil’s Cerrado to Mozambique. It is a tripartite project (Mozambique, Brazil and Japan) that has already been approved by the government of Mozambique with the aim of boosting agriculture productivity and production in Nampula, Niassa and Cabo Delgado, which now seems to be involved in a sea of uncertainties.

During the public meetings the project team had the opportunity of listening to the level of disappointment by local people with what is understood as having been a project that raised high expectations and concerns and then vanished into a strong level of uncertainty. Insistences were made about the need for SUSTENTA to avoid following on PROSAVANA footsteps.
Regarding this project and many other that could be in the same areas or close to SUSTENTA more details should be collected and presented in the subsequent phases of the project development and where synergies can be created these should be considered seriously. This is also one of the issues strongly raised by stakeholders during the public consultation process.

5.4.2 Land Use Plans

Land use planning issues, and particularly the District Land Use Plans (PDUT\(^{23}\)), will occupy and important position in project development. By definition (Territorial Planning Law and respective Regulation), PDUT are district and inter district land use plans that establish the structure of the spatial organization of the territory of one or more districts, based on the identification of areas for preferred uses and by setting the standards and rules to be observed in the occupation and use of land and the use of its natural resources. Territorial Planning Law and its Regulation were established in 2007 and 2008, respectively. From the date of establishment, the districts were given two years to complete PDUT. However, for various reasons there have been delays in completing those plans such that close to eight years later there is still several districts that have not yet completed their plans. Once formulated and approved PDUT are valid for a period of 10 years, upon which they can be modified to be in line with identified changing conditions.

The existing plans are being used by SUSTENTA management as land use planning instruments, to meet the various purposes. SUSTENTA is also providing additional assistance to the provinces and districts to improve these plans, including land delimitation and titularization. As described in Chapter 2, this will be scaled up as part of the additional financing.

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\(^{23}\) From Portuguese Planos Distritais de Uso da Terra
6. LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT

6.1 In Mozambique

The ESMF analysis the legal and institutional reform movement to improve the country’s ability to manage the environment and turn it into a more sustainable process. The reform has been under implementation in the form of: (a) adherence to and adoption of a series of international and regional environmental protection and conservation conventions and protocols; (b) approval of a significant set of legislation with direct and indirect implications to environmental protection; (c) creation of specific public institutions or strengthening of existing institutions dedicated to both environmental and social management. Relevant aspects to SUSTENTA and respective management of environmental and social aspects are summarized below.

6.1.1 Legal Framework

The Constitution of the Mozambican Republic defines the right of all citizens to live in a balanced and natural environment and their obligation to protect it (Art. 90). It further states that "The state and local authorities with the cooperation of environmental protection organizations will adopt policies to protect the environment and ensure the rational use of all natural resources."

The Environment Law (Law Nr. 20/97, dated 7 October) defines the legal basis for the sound use and management of the environment as a means to safeguard sustainable development in the country. This Law applies to all activities in the public or private sectors that may directly or indirectly affect the environment.

6.1.1.1 Adherence to International and Regional Conventions and Protocols

General principles:

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

Important international and regional treaties and conventions ratified so far include:
Table 4: Important environmental and social international and regional treaties ratified by Mozambique

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<tr>
<th>N.º</th>
<th>International/regional convention/protocol</th>
<th>Substance</th>
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<tbody>
<tr>
<td>1</td>
<td>The UN Convention on Biodiversity ratified by Resolution n.º 2/94, of 24 of August</td>
<td>Aimed at &quot;the conservation of biological diversity, the sustainable use of its components and fair and equitable sharing of benefits arising from the use of genetic resources, including by appropriate access to genetic resources and appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, as well as through adequate funding&quot;. This international instrument advocates the conservation of ecosystems and natural habitats and maintenance and recovery of viable populations of species in their natural surroundings. It is an essential foundation for the creation, development and protection of conservation areas in the country, which sometimes can be endangered by carrying out operations such oil and gas and other industrial operations without due regard to the provisions of environmental legislation.</td>
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<td>2</td>
<td>Convention on the Protection, Management and Development of Marine and Coastal Environment in East Africa, ratified by Resolution n.º 17/96, of 26 of November</td>
<td>Highlights a series of measures to protect and conserve the marine and coastal environment of the Party States, particularly in terms of preventing and combating pollution and the protection of the regions’ flora and fauna against the growing threats caused by many human activities. In Mozambique it is estimated that close to 60% of its population lives along the coastal areas. This translates into considerable pressure on the natural resources in these areas.</td>
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<td>3</td>
<td>African Convention on Nature and Natural Resources Conservation ratified by the Parliament’s Steering Committee through Resolution n.º 18/81, of 30 December</td>
<td>Aimed at ensuring the conservation, use and development of land, water, forest and wildlife resources of Member States, bearing in mind not only the general principles of nature conservation, but also the best interests of the communities themselves.</td>
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<td>4</td>
<td>Protocol related to Wildlife Conservation and its application in the SADC, ratified by Resolution n.º 14/2002, of 5 of March</td>
<td>Aimed at establishing common approaches and support to conservation and sustainable use of wildlife resources relating to the effective enforcement of laws in the region and within the domestic laws of each Party State.</td>
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<td>5</td>
<td>SADC Revised Protocol on Shared Watercourses, of August 2000</td>
<td>Establishes a series of steps (13) to be followed in the management of water courses shared by more than one-member state in the SDAC region. The main objective is maintaining unity and cohesion of each watercourse, balance between the various aspects of water use and management (social, economic, environmental, etc.), increased cooperation, coordination and harmonization among States in the region and particularly those sharing specific watercourses, amicable resolution of disputes including recourse to courts where amicable settlement.</td>
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24 Mozambique shares water courses only with SDAC member states.
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<th>N.°</th>
<th>International/regional convention/protocol</th>
<th>Substance</th>
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<td>6</td>
<td>Ramsar Convention on Wetlands of International Importance, ratified by Resolution No. 45/2003 of 5 November</td>
<td>Countries, including Mozambique, prepare a list of Wetlands of International Importance. The governments commit themselves to sustainably use such areas by promoting territorial planning, policy development and publication of legislation, management actions and education, as well as the proper and effective management of such areas in an integrated approach vis-à-vis international cooperation particularly regarding transboundary wetlands, the shared wetland systems, common species and development projects that may affect wetlands.</td>
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<tr>
<td>7</td>
<td>Resolution n.º 21/81, of 30 of December, by the Cabinet that turns Mozambique into an UICN member</td>
<td>Among other aspects this resolution is aimed at encouraging and facilitating cooperation amongst governments, international organizations and people interested in nature conservation and global resources.</td>
</tr>
<tr>
<td>8</td>
<td>25-27 September 2015 and the Sustainable Development Goals of September 2015 (2015-2030)</td>
<td>As with the MDGs (2000-2015) Mozambique is a subscriber of the SDG covering 17 action areas or Objectives in which Objective 1 and 2 refer to the elimination of “Poverty” and “Hunger”, while Objectives 5 deals with “Gender Equality”, just to name some of the objectives that are relevant for this project.</td>
</tr>
<tr>
<td>9</td>
<td>Climate Change and COP 21</td>
<td>Mozambique is one of the 196 countries that signed and ratified the new international agreement in Paris, in December 2015, to reduce greenhouse gas emissions to contain global warming to 2°C or below. COP 21 was a decisive meeting, 3 years after the end of the commitment period of the previous international agreement, the Kyoto Protocol (COP 3). The country’s Intended Nationally Determined Contribution (INDC), of September 2015, is clear about the fact the country’s mission is to “reduce climate change vulnerability and improve the wellbeing of Mozambicans through the implementation of concrete measures for adaptation and climate risk reduction, promoting mitigation and low-carbon development, aiming at sustainable development, with the active participation of all stakeholders in the social, environmental and economic sectors”</td>
</tr>
</tbody>
</table>

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

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

6.1.1.2 Approval of Domestic Policy and Legal Instruments

General Legislation

The Constitution

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

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

The Government Five-Year Programme (2015-2019) establishes the priorities and actions to be implemented during the entire length of the Government’s mandate (5 years). This plan established five priorities which also underpin the development of the aquaculture sector. Table below shows the relation between this plan and relevance to Rural development/SUSTENTA proposed interventions.

Table 5: Priorities, strategic objectives and priority actions of GoM’s five-year plan related to rural development

<table>
<thead>
<tr>
<th>Priority</th>
<th>Strategic objective</th>
</tr>
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<tbody>
<tr>
<td>III. Promote employment and increase productivity and competitiveness</td>
<td>i) Increase production and productivity in all sector with emphasis to agriculture</td>
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<td></td>
<td>ii) promote national primary products value chains ensuring integration of local content</td>
</tr>
<tr>
<td>IV. Development of economic and social infrastructures</td>
<td>iii) Expand and modernize agriculture, railways, ports, airport, communication and logistics infrastructures</td>
</tr>
</tbody>
</table>

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Environmental Laws and Regulations

There has been an extensive development of environmental laws and regulations. Table 6 presents a summary of those that are relevant for this project.

Table 6: Relevant environmental legislation

<table>
<thead>
<tr>
<th>Legislation</th>
<th>Description</th>
<th>Relevance</th>
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<tbody>
<tr>
<td><strong>GENERAL</strong></td>
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<tr>
<td>Resolution No. 5/95</td>
<td>Establishes the basis for all environmental legislation. According to Article 2.1, the main aim of this policy is to ensure sustainable development in order to maintain an acceptable balance between the socio-economic development and environmental protection. To achieve the above objective, the policy must ensure, among other requirements, the management of natural resources in the country and the general environment - to preserve its functional and production capacity for the present and future generations.</td>
<td>All developers are responsible for ensuring that all their proposed activities conform to this policy to ensure environmental sustainability of the project.</td>
</tr>
<tr>
<td>Environmental Policy</td>
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</tr>
<tr>
<td>Law 20/97</td>
<td>It defines the legal basis for the proper use and management of the environment and its components. It applies to all public and private activities that directly or indirectly may influence environmental components. In its Article 9 it outlaws any form of pollution and environmental degradation. The Environment Act lays the foundation for there to be damage prevention and environmental protection. As far as the implementation of infrastructure is concerned, Article 14, clause 1 states that “the implementation of infrastructure for any other purpose which, by their size, nature and location, can cause significant negative impact on the environment is outlawed, ...”. This is especially applicable for zones susceptible for erosion or desertification, wetlands, environmental protection areas, and other ecological sensitive zones.</td>
<td>This law determines the relevance of environmental protection and prevention of any harm that may be caused to any of the environmental components by project development.</td>
</tr>
<tr>
<td>Environmental Law</td>
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ENVIRONMENTAL IMPACT ASSESSMENT
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<thead>
<tr>
<th>Legislation</th>
<th>Description</th>
<th>Relevance</th>
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<tbody>
<tr>
<td>Decree No. 54/2015 Regulation on the Environmental Impact Assessment Process</td>
<td>It establishes the rules to be followed for environmental licensing of any activity to be carried out on national territory.</td>
<td>This regulation forms the ESIA for project environmental licensing processes that should be followed. All provisions of this piece of legislation will need to be followed during project implementation in relation to all relevant interventions. Diagram 2 makes a summary of the process.</td>
</tr>
<tr>
<td>Decree No. 129/2006 General Guidelines for Preparation of Environmental Impact Assessment</td>
<td>Details the procedures for conducting an environmental impact study, and the format, structure and content of the environmental impact assessment report. The purpose of this decree is to standardize the procedures to be followed and the presentation of the environmental impact assessment report.</td>
<td>The environmental impact study report must comply with the specifications of this Decree.</td>
</tr>
<tr>
<td>Decree No. 130/2006 General Directive for the Public Participation Process</td>
<td>Details the procedures to be followed in the consultation process within the environmental impact assessment process. The purpose of this Decree is to ensure maximum participation of those concerned and affected by the project during the environmental impact assessment process.</td>
<td>All public participation processes must follow the procedures issued by this Decree.</td>
</tr>
<tr>
<td>Decree No. 25/2011 Regulation of the Environmental Audit Process</td>
<td>Highlights the importance of environmental audit as a tool for an impartial and documented management process to ensure the protection of the environment. It establishes procedures for evaluating the operational and working processes in relation to the requirements of the environmental management plan, including environmental legal requirements approved for a project.</td>
<td>Once the project is authorized, the developer must have in place a functioning, frequent and independent internal audit system, irrespective of the public environmental audit that the project may be subject to under this decree.</td>
</tr>
<tr>
<td>Decree No. 11/2006 Regulation on environmental inspection</td>
<td>Aimed at supervising, monitoring and making regular verification of compliance with environmental protection standards at national level.</td>
<td>The project will be subject to inspections by MITADER during its implementation in order to verify compliance with the environmental management plan and environmental legislation. The developer must cooperate with such inspections.</td>
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</tbody>
</table>

**EMISSIONS AND AIR QUALITY**
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<tr>
<th>Legislation</th>
<th>Description</th>
<th>Relevance</th>
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<tbody>
<tr>
<td>Decree No. 18/2004 Regulation on environmental quality standards and waste emissions</td>
<td>Provides parameters for the maintenance of air quality; standards for emissions of gaseous pollutants from various industries, including mobile sources. Also emphasizes prevention and control of water pollution and soil protection.</td>
<td>The project must meet the maximum permissible limits of air quality standards established under this regulation, so as not to harm the environment. The project must comply with the standards of water quality and effluent emissions, considering emissions allowed by law, so as not to harm the environment. Any proposed action should consider the levels permitted under this decree. The violation of such is liable to a fine.</td>
</tr>
<tr>
<td>Decree No. 67/2010</td>
<td>Proposes Changes to Decree No 18/2004, which are included in Annexes I and V, referred to in Article 7 and 16 of the previous decree. This legal instrument amends and adds new standards for environmental quality to be considered in any activity in the country.</td>
<td>Idem.</td>
</tr>
<tr>
<td>WASTE AND POLLUTION</td>
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<tr>
<td>Law 20/97 Environmental Law</td>
<td>Article 9 of this law proscribes the production and disposal of toxic substances or pollutants in the soil, subsoil, water or atmosphere as well as imposing a ban on any activities that may accelerate any form of environmental degradation beyond the limits set by law.</td>
<td>The project should implement the provisions of this Regulation. Measures to prevent any form of pollution beyond the limits set by the regulations must be taken.</td>
</tr>
<tr>
<td>Decree 13/2006 Regulation on Waste Management</td>
<td>This regulation operationalizes the intent of the environmental law. Establishes the legal framework for waste management in Mozambique. The purpose of this legal provision is to establish rules for the generation, transfer and disposal of solid waste. Article 5 classifies waste into two categories: hazardous and non-hazardous. The management of hazardous waste is assigned to the MITADER, including the management of licenses. Only registered and licensed companies and entities can collect, transport and handle hazardous waste in appropriate locations.</td>
<td>The project should implement measures for the better management of solid waste in accordance with this Regulation.</td>
</tr>
<tr>
<td>Water</td>
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<tr>
<td>Law 16/91 Water Law</td>
<td>States that the use of public water basin as a management unit, is based on the principle of user pays and polluter pays. The use of water</td>
<td>The Developer has the responsibility to implement measures to prevent pollution of water resources during and</td>
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<tr>
<td><strong>Legislation</strong></td>
<td><strong>Description</strong></td>
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<td><strong>requires an authorization by the regional administration of water that oversees the basin through license (short term) or lease (long term). The Water Act also emphasizes prevention and control of water pollution and soil protection.</strong></td>
<td>after project implementation. If there is any discharge to be made in shallow waters, an authorization by the respective ARA subject to a fee is required.</td>
<td></td>
</tr>
<tr>
<td><strong>Decree 26/91 of November 14 – creation of ARAs</strong></td>
<td>Creates 5 regional water administrations for all country and defines the territorial boundary between them.</td>
<td>Defines the correspondent ARA has responsibility on water resource management in which the dams will be located.</td>
</tr>
<tr>
<td><strong>Resolution 46/2007 of August 21</strong></td>
<td>States the following short term (2015) and long term (2015) objectives: (1) satisfaction of basic human needs; (2) improve sanitation to prevent waterborne diseases; (3) economic development; (4) environmental conservation; (5) drought and flood vulnerability reduction; and (6) promotion of peace and regional integration.</td>
<td>All objectives of water policy are to be considered in the project.</td>
</tr>
<tr>
<td><strong>Water resource management strategy (approved in 22nd ordinary session of Ministry Council, August 21 of 2007)</strong></td>
<td>The main objective of the national water resource management strategy is to implement the water policy objectives. Related to the project is presented in: Chapter 2 – Water Resource Management. On this subject, the following strategic objectives are related to the project: 2.5 – Hydraulic infrastructures and 2.8 – Drought Management. The main actions in this strategy is to build and rehabilitate small dams in short term (&lt;5 years) and built and manage medium and large dams in medium (5-10 years) and long term (&gt;10 years). 2.9 – Water and Environment. Ensure that proposed infrastructures such as dams along the rivers do not threaten ecological services. One of important strategic actions is to ensure ecological flow according to downstream needs and avoid elimination of small floods or compensate with small artificial discharges reviewing constantly the operation rules. 2.10 – Water quality and pollution control. Actions: adopt polluter-pay approach, promote environmental impact assessment in any development initiatives along the</td>
<td>Development of project is in same line as stated in this strategy.</td>
</tr>
<tr>
<td>Legislation</td>
<td>Description</td>
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<tr>
<td><strong>Decree 43/2007 of October 30 2007 - Regulation on water License and concession</strong></td>
<td>Regulates the private water utilization licensing process. It also applies to discharge of effluents. This regulation prioritizes the water supply for human consumption and sanitation above all other uses. No license or concession would be issued if environment is affected negatively. According to this regulation, ARAs are responsible to issue licenses and monitor implementation of contracts. Article 26 specifies that license and concession regime for hydraulic infrastructures (include dams) must observe existing and expected specific regulations.</td>
<td></td>
</tr>
<tr>
<td><strong>Decree 47/2009 of October 07 2009 - Regulation on small dams</strong></td>
<td>This regulation is the only regulation related specifically to dams in the country. It applies to design, construction, exploration and maintenance of small dams (max. 15m height and 1 million m³ of storage capacity). It emphasizes that for other type of dams the respective ARA must receive request for authorization purposes.</td>
<td>Applicable.</td>
</tr>
<tr>
<td><strong>Regulation on dam safety (under preparation)</strong></td>
<td>This regulation is still under preparation. Defines the DNGRH and ARAs as overall responsible entities to implement and monitor its implementation. Also defines participation of other institutions such as Engineer Laboratory of Mozambique, National Institute of Disaster Management, Consulting Commission for Dam Safety, as well as project developer.</td>
<td>Awaiting enactment</td>
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## Construction

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<tr>
<th>Legislation</th>
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<tr>
<td><strong>Ministerial Diploma n.º 77/2015 of May 22</strong>&lt;br&gt;Regulation of civil works activity licensing</td>
<td>Defines the requirements and conditions for exercise, modification suspension and termination of the contractor activity in Mozambique.&lt;br&gt;The contractor must have authorization (Alvara (trading license)) of specific Category</td>
<td>Depending on the type of infrastructures to be developed construction activity must be done by registered/licensed contractors according to the procedures presented in this regulation.</td>
</tr>
<tr>
<td></td>
<td>There are five categories, namely:&lt;br&gt;a) Category I – Buildings and Monuments,&lt;br&gt;Category II – Urbanization Works,&lt;br&gt;Category III – Roadways;&lt;br&gt;b) Category IV – Electrical installations in buildings;&lt;br&gt;c) Category V – Hydraulic infrastructures for the project;&lt;br&gt;d) Category VI – Water perforations and intakes</td>
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<td>In addition to the staff schedule the regulation also specifies the minimum equipment that contractors must posses</td>
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<tr>
<td><strong>Decree 5/2016 of March 8</strong>&lt;br&gt;Regulation of Contracting of Public Works, Supply of Goods and Provision of Services to the State</td>
<td>Specifies the procedures for tendering a public construction service.</td>
<td>If project is to be public investment, procedures for tender must comply with this regulation.</td>
</tr>
<tr>
<td><strong>Decree 94/2013 of December 31</strong>&lt;br&gt;Regulation of contractor and civil works consultant activity</td>
<td>Establishes norms to the contractors and civil works activity in Mozambique. Civil works are divided into the following categories: (1) buildings and monuments; (2) urban works; (3) communications; (4) building electrical installations; (5) hydraulic infrastructures; (6) foundations and water intakes.</td>
<td>Procedures for operation of consultant and contractors must follow this regulation.</td>
</tr>
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</table>
## Land and Spatial Planning

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<tr>
<th>Legislation</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Law No. 19/97 of October 1 Land Law</strong></td>
<td>Defines the rights of people who use the land, indicating the details of the rights based on customary claims and procedures to acquire titles for its use and benefit communities and individuals.</td>
<td>The project must respect the land use rights of communities. If any activity (such as agriculture, housing, trade, etc.) is disturbed by the project, the parties affected should be compensated accordingly.</td>
</tr>
<tr>
<td><strong>Decree 66/98 of December 8 Land Law regulation</strong></td>
<td>Operationalizes the objectives of the Land Law. Defines total protection areas reserved for nature conservation and protection status, as well as partial protection zones, which may be granted land use titles and where activities cannot be implemented in the absence of a license. The partial protection areas include, among others, the strip of land with 50m wide from the edge of the lakes and rivers’ historic maximum, the 250m strip of land wide around the reservoirs, 100m bandwidth on the coast and estuaries.</td>
<td>This regulation defines zones of total and partial protection. In these areas, land use is restricted. The Developer must meet these regulatory requirements.</td>
</tr>
<tr>
<td><strong>Decree No. 19/2007 of July 18 Land Planning Law</strong></td>
<td>Is intended to guide the spatial planning of the territory recognizing the rights of citizens enshrined in the Constitution. Article 20 refers to the expropriation of private property belonging to or used by the communities due to activities of public interest or necessity/usefulness. In these cases, fair compensation must be paid to cover, among others the loss of tangible and intangible assets, disturbance of social cohesion and loss of productive assets.</td>
<td>The Developer must consider fair compensation when it becomes necessary to expropriate private property.</td>
</tr>
<tr>
<td><strong>Decree No. 23/2008 of July 1 Regulation of Land Use Planning Act</strong></td>
<td>Establishes the legal systems of land-use planning instruments at national, provincial, district and municipal levels.</td>
<td>All procedures for possible expropriation for dam construction should be followed.</td>
</tr>
<tr>
<td><strong>Decree No. 60/2006 of Urban Land Use Regulation</strong></td>
<td>Features in Chapter X procedures for expropriation for purposes of spatial planning.</td>
<td>The Developer should consider the guidelines in introducing the planned infrastructure in the municipality areas, specially laying distribution network pipes.</td>
</tr>
</tbody>
</table>
Resettlement and Compensation

The National Resettlement and Compensation Regulation is better discussed below. The gap between the National Resettlement Regulation and the WB Involuntary Resettlement (OP/BP 4.12) is also briefly discussed below.

Healthy and Safety

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<tr>
<th>Legislation</th>
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<tbody>
<tr>
<td>Law No. 23/2007</td>
<td>Applies to legal relations of subordinate work established between employers and workers, national and foreign, of all industries operating in the country. Chapter VI provides the principles and safety rules, hygiene and health of workers.</td>
<td>The project should ensure that employees carry out their activities in good physical and environmental conditions. Inform them about the risks of their work and instruct them on proper compliance with health and safety standards at work. Developers/contractors must also provide first aid in case of accident, sudden illness, poisoning or illness. The developer/contractor in cooperation with the unions shall inform the competent organ of labour administration on the nature of work accidents or occupational diseases, their causes and consequences, after making consultation and registration.</td>
</tr>
<tr>
<td>Legislation</td>
<td>Description</td>
<td>Relevance</td>
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<tr>
<td>Law No. 5/2002</td>
<td><strong>Law of Protection of Workers with HIV/AIDS</strong>&lt;br&gt;Sets out principles designed to safeguard all employees and employment seekers to not be discriminated against in the workplace or when applying for jobs because they are suspected or have contracted HIV/AIDS. Article 8 provides that an employee who is infected with HIV in the workplace, as part of their professional occupation, in addition to compensation they are also entitled to, adequate medical care aimed at easing their state of health, according to the Labour Law and other applicable legislation, funded by the employer.&lt;br&gt;HIV testing to workers, job seekers to assess them during their application, job maintenance or for promotion purposes is prohibited. All testing is voluntary and should have worker's consent.</td>
<td>The developer/contractor must train and guide all workers to carry out their tasks even if they are infected with HIV/AIDS. The developer/contractor must raise awareness among workers to prevent, and to know their status on HIV/AIDS and disseminate information about the disease and on how to prevent it.</td>
</tr>
<tr>
<td>Decree No. 45/2009</td>
<td><strong>Regulation on the General Labour Inspectorate</strong>&lt;br&gt;Lays down rules on inspections, under the control of the legality of work. Article 4 paragraph 2 provides for employer's responsibility in the prevention of occupational health and safety risks of the employees.</td>
<td>Developer/contractor must meet the requirements. In the case of inspection, the developer/contractor should help and provide all necessary information to the inspectors.</td>
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Cultural Heritage

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<th>Legislation</th>
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<tr>
<td>Decree 42/90 Regulation of Funeral Activity</td>
<td>Stipulates that the burial of corpses in rural areas can be done in cemeteries or other places approved by the Authorities. But too often there are family cemeteries or even within the properties. No reference is made regarding the transfer of corpses in rural areas, that development projects should comply with. It is assumed that traditional leaders should be consulted to define appropriate burial sites and traditional practices to be followed for this purpose.</td>
<td>Under the practice recommended by this decree, the Developer should refer to local community leaders about the existence of graves along the areas of work or implementation of the new sections of road. If so, recommendations for relocation in compliance to traditional practices should be observed.</td>
</tr>
<tr>
<td>Law 10/88 Cultural Protection Law</td>
<td>Is aimed at legally protecting property and cultural and intangible heritage of Mozambique. Under this law, the material cultural heritage includes monuments, groups of buildings (of historical, artistic or scientific value), places (of archaeological, historical, aesthetic, ethnological or anthropological importance) and environments (physical and biological formations of interest).</td>
<td>Some artefacts can be found during construction. If this happens, the Contractor shall immediately notify the relevant authority.</td>
</tr>
</tbody>
</table>

6.1.1.2.1 The Environmental and Social Impact Assessment Process

Due to its strategic position in the current national environmental and social management framework and its current and expected recurrence under SUSTENTA subprojects environmental and social management (including licensing and operation), this regulation deserves additional notes in this review. These are summarized below.

The Environmental Impacts Assessment (EIA) Regulation, was approved by Decree 54/2015 to regulate the same process

Mozambique has developed comprehensive regulations to cover the ESIA process, which are included in the Regulation of the Process for Environmental Impact Assessment. In many aspects the regulations are in line with the world’s environmental and social management best practices, including IFAD recommendations and procedures.

In addition to providing consistency to the precautionary measures that should be taken in environmental and social management as well as optimizing sustainability of interventions, there are three main specific objectives of any ESIA exercise:
Screening and scoping of the proposed developments in terms of their potential impacts on the natural and social receiving environment, indicating both the beneficial outcomes and adverse effects. The new Decree (54/2015), which was enacted on the 1st of April 2016 has introduced a new category, which is A+ followed by a simple Category A. The two Category A projects (i.e. A+ and A) include all the interventions that require stringent ESIA process due to their expected severe impacts. One of the differences is that A+ projects should be reviewed by independent (and more professional) evaluators, while simple A projects are expected to be reviewed by the normal review process that has been in use, comprising mainly MITADER technicians and those of other sectors (e.g. agriculture, mining, energy, fisheries, water, etc.) seen as relevant in each specific project case. Under the new Decree the two A Category projects are required to assess their impact on biodiversity and present and plan to offset any potential biodiversity losses. Screening is done by the Provincial Directorates of Land, Environment and Rural Development (DPTADER), while projects under Category A and A+ are then supervised by the central MITADER and Category B and C (exemptions) are the domain of the provinces.;

The actual Environmental Impacts Assessment (ESIA), which assesses the potential impacts of the investment in detail and evaluates alternatives.

Proposal of measures to be taken in order to avoid, mitigate and/or eliminate adverse effects both at the planning, design and installation stages, and during operation and eventual decommissioning of the project. This is generally done in the form of an Environmental and Social Management Plan (ESMP), which is normally an intrinsic part of the ESIA.
The Scoping Exercise, ESIA and the Environmental and Social Management Plan (ESMP) are components of importance in any EA process. Scoping primarily explores fundamental issues and identifies any potentially significant positive and negative environmental (and social) impacts associated with the proposed development, helping to determine the scope of the Environmental and Social Impacts Assessment. An ESMF and an ESMP include in an annex Environmental and Social Clauses (ESC), which serves as a guide for the contractor during construction. These ESC should be included in the bidding documents and in Construction Companies Contracts for systematic compliance during project construction. The ESMF presented an annex that can be used (Annex 8).

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

- Keeping Interested and Affected Parties (PI&As) informed about key issues and findings of each stage of the ESIA;
- Gathering concerns and interests expressed by various project stakeholders;
• Obtaining contributions/opinions from stakeholders in terms of avoiding/minimizing possible negative impacts and maximize positive impacts of the project; and

• Supporting the social dialogue and identifying from the onset, stakeholders’ perceptions and expectations. This can contribute to the action planning and effective communication to minimize the impacts of the project. The process also allows for rethinking the project’s technical aspects

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

The regulation also includes an Annex V that deals with fatal issues, which, among other aspects expressly indicates that investments will not be allowed in:

• Totally protected areas, except where those investments are promoted by the entity that oversees such areas;
• Conservation areas classified as such;
• Areas with the following characteristics:
  o Presence of species critically in danger;
  o Presence of a series of endemic/restricted species;
  o Presence of migratory species;
  o Crucial areas for key eco-systemic services at national, provincial and district levels.

SUSTENTA has been classified as Category B under WB regulations, which are substantially like those of Mozambique, as it will be seen below, although the latter does categorize projects at this level, i.e. at the level of the framework. Efforts have been made and will continue to be made to ensure that SUSTENTA subprojects are designed, implemented and operated to consistently conform to this categorization and/or below, i.e. Category C.

6.1.1.2 Resettlement Issues

Even though SUSTENTA has not and will continue to not be expected to proceed with land acquisition and involuntarily resettlement, it is important to make a quick review of what the Mozambican legislation establishes about this phenomenon.

Decree 54/2015 of the Environmental and Social Impacts Assessment Process, which governs the EIA process in Mozambique, says very little about resettlement, except that Article 20, points b) and c), indicate that an environmental license for construction (point b)) will be issued after approval of the ESIA/ESMP and RAP for projects that require resettlement and that an environmental license for operation (point c)) will also be issued upon approval of the of the ESIA/ESMP and RAP for projects that require resettlement. Annex I from this regulation, which specifies the factors that determine the classification of a project under Category A+ also indicates in its point b) that projects located in populated areas that require resettlement will fall under Category A+. Seen from a different perspective this also means that projects with resettlement implications fall under Category A+ i.e. the most stringent category. Yet, for the WB when the impacts of a project mean that fewer than 200 people are to be relocated or if they are not physically displaced but lose less than 10% of their assets due to the project an abbreviated resettlement action plan (A-RAP) is acceptable and this allows the project to remain under Category B. In such a context, it is possible to maintain most of the livelihoods of those affected (family and neighborhood ties, access to goods and services (e.g.
education, health, markets, etc.) to which the affected persons and families are accustomed to and consequently they need only to receive compensation and follow-up to fully restore their livelihoods. Only a project that causes impacts of a greater magnitude than these (≥200 people affected) and losses of more than 10% of their assets requires a complete Resettlement Action Plan (RAP - see above).

After many years of not having a single instrument to guide resettlement planning and action on August 8, 2012 the Cabinet approved Decree 31/2012, the new “Regulation on the Resettlement Process Resulting from Economic Activities”. This regulation fills a longstanding void in this regard. However, as it stands, this new regulation contradicts a lot with the best practices adopted to deal with this phenomenon from various angles/domains as highlighted below:

- Article 15 indicates that a Resettlement Action Plan is part of the Environmental Impact Assessment, as per Decree 45/2004²⁵, of September 29 of the latter process;
- Decree 31/2012 makes no provision of a Framework as a starting point in situations where project intervention area’s footprints are not known; nor does it provide (i) basic characteristics to trigger resettlement, (ii) entitlement eligibility criteria, and/or (iii) room for grievance redress mechanism upon which Project Affected People (PAPs) can rely upon for peaceful resolution of their concerns.

Mozambique legislation guiding involuntary resettlement is spread over a series of legal documents dealing with land, general rights, compensation, etc. To counteract potential inconsistencies derived from using laws and regulations that are not always easy to harmonize, most of the resettlement procedures undertaken to date by development initiatives in Mozambique have followed international guidelines as would be the case of WB OP 4.12 on Involuntary Resettlement and its subsequent Environmental and Social Standard 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement. This approach is systematically endorsed by the Government, as one of the WB member-countries. The Policies cover the involuntary taking of land, as well as restriction of access to means of livelihood.

Under WB policies, whenever an investment is likely to result in involuntary resettlement, a Resettlement Policy Framework (RPF) should be prepared by the borrower, defining the principles, organizational arrangements, criteria for eligibility and compensation, grievance redress mechanisms and monitoring processes to be adopted. Once the Social Screening process has determined with certainty that resettlement will be needed, a Resettlement Action Plan (RAP) is further prepared, approved and implemented prior to the physical implementation of the activities involving such a phenomenon. Chapter 9 of this document presents more details about the step-by-step process to be followed, to conform to both sets of legislation, i.e. GoM and WB.

6.2 Institutional Framework

After many years (i.e. from 1994 to 2014) of managing environmental issues through a ministry in charge of environmental coordination (MICOA), the GOM has recently (January 2015) established the Ministry of Land, Environment and Rural Development (MITADER). It is expected that MITADER will boost the environmental sector capacity to

²⁵ This provision remains valid under the current DM 54/2015, governing the same process.
undertake important environmental management responsibilities such as (i) land use planning including the integration of this aspect into decentralized planning and particularly rural development, (ii) reduction of the people living in environmentally risky and sensitive areas; (iii) environmental education and promotion; and (iv) regulation and enforcement of natural resources management activities, particularly around land, forests and rural resources in general. The first two years of SUSTENTA implementation have shown the vitality of this institutional development.

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

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

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

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

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

Work undertaken by former MICOA with these sectors in fulfilment of its coordination role is being continued and being improved in a situation where MITADER has more direct management mandate over a wider number of important natural resources and social issues and particularly to manage rural development. The various SUSTENTA interventions fall under specific sectors and subsectors as enumerated above. MITADER continues to retain the role of environmental licensing for such interventions with the initiatives coming directly from the sectors and subsectors including those under MITADER itself. Currently the environmental and social licensing of projects falls under the National Directorate of Environment (DINAB). Under DINAB there is a Department responsible for the issuance of Environmental Licenses at the central level with representation at the provincial level.

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

A Project Coordinating Unit (Unidade de Gestão de Fundos Internacionais, UGFI) had been established on the first year of establishment of MITADER. This Unit was later transformed into National Fund for Sustainable Development (FNDS), which has rapidly established itself as a capable implementing agency since the start of the SUSTENTA project in its day-to-day coordination across several Government and nongovernment institutions at central, provincial, and district levels. It has strong capabilities to competently handle planning and budgeting, accounting, financial reporting, treasury management, and external audit, including the management of environmental and social matters. FNDS is not only represented at Central Level, but it also has Provincial
Implementing Units (PIUs) in some Provinces of Mozambique, including Zambézia and Nampula, where SUSTENTA Project is being implemented.

The AF will provide incremental resources to oversee implementation in the Project area comprising support for project coordination and management, fiduciary and safeguards management, monitoring and evaluation (M&E), and communications. While funds are broadly earmarked to the implementation of the project, they also support crosscutting areas of the SUSTENTA organogram with impact through the overall portfolio of projects.
6.3 World Bank Safeguard Policies

In its quest to promote sustainable development, the World Bank approved, in 2018, the most recent Environmental and Social Framework (ESF). The ESF contains (i) a Vision for Sustainable Development, which sets out the Bank’s aspirations regarding environmental and social sustainability; (ii) the World Bank Environmental and Social Policy for Investment Project Financing, which sets out the mandatory requirements that apply to the Bank; and (iii) the Environmental and Social Standards, together with their Annexes, which set out the mandatory requirements that apply to the Borrower and projects.

Following the World Bank Guidance on Additional Financing which is not a new project, environmental and social safeguards for SUSTENTA were prepared considering the previous World Bank Operational Safeguards Policies. In line with the project characteristics, which focuses on agriculture and public works SUSTENTA triggered six of the 10+2 World Bank Operational Safeguards Policies, namely, Environmental Assessment (OP/BP 4.01), Pest Management (OP 4.09), Involuntary Resettlement (OP/BP 4.12), Natural Habitats (OP/BP 4.04), Forests OP/BP 4.36, Safety of Dams (OP/BP 4.37), as well as adhered to the World Bank Group General Environmental, Health and Safety Guidelines (EHS), Tourism and Hospitality Development EHS Guidelines and the applicable Agribusiness/Food Production EHS Guidelines from April 2007. The ESMF has made provision to address potential concerns afferent to OP/BP 4.04 (Natural Habitats), OP/BP 4.36 Forest, OP/BP 4.37 (Safety of Dams) including possible impacts under OP/BP 4.11 (Physical Cultural Resources). A Resettlement Policy Framework (RPF) was prepared to satisfy the Involuntary Resettlement (OP/BP 4.12) Safeguard Policy requirements and an Integrated Pest Management Plan (IPMP) was also prepared to satisfy OP 4.09 requirements. These two documents were prepared separately; however, they should be used together with the previous ESMF and its updated version (i.e. this document). This remains unchanged under the AF.

These Safeguard Policies are briefly reviewed and described below.

Table 7: Safeguard Policies Triggered by the Project

<table>
<thead>
<tr>
<th>Safeguard Policies Triggered</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment (OP/BP 4.01)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Natural Habitats (OP/BP 4.04)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Forests (OP/BP 4.36)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Pest Management (OP 4.09)</td>
<td>X</td>
<td></td>
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<tr>
<td>Physical Cultural Resources (OP/BP 4.11)</td>
<td></td>
<td>X</td>
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<tr>
<td>Indigenous Peoples (OP/BP 4.10)</td>
<td></td>
<td>X</td>
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<tr>
<td>Involuntary Resettlement (OP/BP 4.12)</td>
<td></td>
<td>X</td>
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<tr>
<td>Safety of Dams (OP/BP 4.37)</td>
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<td>X</td>
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<tr>
<td>Projects on International Waterways (OP/BP 7.50)</td>
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<td>X</td>
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<tr>
<td>Projects in Disputed Areas (OP/BP 7.60)</td>
<td></td>
<td>X</td>
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The table below makes a summary of each of the World Bank Operational Safeguards Policies. The table is followed by additional explanations about the safeguards that are directly triggered by SUSTENTA.
### Table 8: The Ten World Bank Operational Safeguards Policies

<table>
<thead>
<tr>
<th>Safeguard Policies</th>
<th>Main Objective</th>
<th>Applicability</th>
<th>Application for SUSTENTA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Assessment (OP/BP 4.01)</strong></td>
<td>Used in the World Bank to identify, avoid, and mitigate the potential negative environmental impacts associated with Bank lending operations. This policy is the umbrella policy for the Bank's environmental safeguard policies.</td>
<td>The purpose of Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people are properly consulted.</td>
<td>Applicable, since the SUSTENTA leads and will lead to some environmental and social adverse impacts. All subprojects will have to undergo an environmental impact assessment from design through to implementation, monitoring and evaluation in accordance with the GOM and WB principles</td>
</tr>
<tr>
<td><strong>Natural Habitats (OP/BP 4.04)</strong></td>
<td>Aimed at ensuring that World Bank-supported infrastructure and other development projects consider the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats provide to human society. The policy prohibits Bank support for projects which would lead to the significant loss or degradation of any Critical Natural Habitats, whose definition includes natural habitats which are either: (i) legally protected; (ii) officially proposed for protection; or (iii) unprotected but of known high conservation value. In other (non-critical) natural habitats, Bank supported projects can cause significant loss or degradation only when (i) there are no feasible alternatives to achieve the project's substantial overall net benefits; and (ii) acceptable mitigation measures, such as compensatory protected areas, are included within the project.</td>
<td>It strictly limits the circumstances under which any Bank-supported project can damage natural habitats (land and water areas where most of the native plant and animal species are still present).</td>
<td>Applicable, since the project has areas of intersection with important natural habitats, which should not be negatively affected by its development. The ESMF includes measures for addressing potential negative impacts on natural habitats. A Protocol for Prevention of Conversion of Critical Habitats (Annex 6) has been developed to address this matter</td>
</tr>
<tr>
<td>Safeguard Policies</td>
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<tr>
<td><strong>Forests (OP/BP 4.36)</strong></td>
<td>Aimed at reducing deforestation, enhance the environmental contribution of forested areas, promote afforestation, reduce poverty, and encourage economic development. The policy is currently being revised to make it more effective and in recognition of the fact that forests play an increasingly important role in poverty alleviation, economic development, and for providing local as well as global environmental services.</td>
<td>Reduction of deforestation and use of forests to promote economic development</td>
<td>Applicable. Although the use of forests products foreseen under the project is already designed to enhance existing forests resources in the project area concrete efforts are being made and will continue to be made to demonstrate that this is possible and specially to change the current practices prevalent also in the project area that are typical example of unsustainable use of forest resources.</td>
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<tr>
<td><strong>Pest Management (OP 4.09)</strong></td>
<td>Aimed at assisting rural development and health sector projects to avoid using harmful pesticides and encourage the use of Integrated Pest Management (IPM) techniques in the whole of the sectors concerned.</td>
<td>Where pesticides must be used in crop protection or in the fight against vector-borne disease, the Bank-funded project should include a Pest Management Plan (PMP), prepared by the borrower, either as a stand-alone document or as part of an Environmental Assessment.</td>
<td>Applicable, since certain elements of the project may encourage the use of pesticides in an area without a strong tradition of using these products. All the necessary precautions will need to be taken in order to avoid creation situation where the use of pesticides can negatively affect local people</td>
</tr>
<tr>
<td><strong>Physical Cultural Resources (OP/BP 4.11)</strong></td>
<td>The objective of this policy is to avoid, or mitigate, adverse impacts on cultural resources from development projects that the World Bank finances. The assumption is that cultural resources are important as sources of valuable historical and scientific information, as assets for economic and social development, and as integral parts of a people's way of life. The borrower identifies physical cultural resources likely to be affected by the project and assesses the project’s potential impacts</td>
<td>Not applicable. The project is not expected to interfere with any known and recognized historical or cultural resources.</td>
<td></td>
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<tr>
<td>Safeguard Policies</td>
<td>Main Objective</td>
<td>Applicability</td>
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<td>cultural identity and practices. The loss of such resources is irreversible, but fortunately, it is often avoidable.</td>
<td>on these resources as an integral part of the EA process, in accordance with the Bank’s EA requirements</td>
<td>However, in order to ensure that all precautions are taken to protect any physical cultural resources in the event of these being found in the project area this ESMF includes measures for addressing potential negative impacts on cultural heritage</td>
</tr>
<tr>
<td>Indigenous Peoples (OP/BP 4.10)</td>
<td>The policy underscores the need for Borrowers and Bank staff to identify indigenous peoples, consult with them, ensure that they participate in, and benefit from Bank-funded operations in a culturally appropriate way - and that adverse impacts on them are avoided, or where not feasible, minimized or mitigated.</td>
<td>Integration of indigenous peoples in project development and benefits</td>
<td>Not applicable as there are no people falling under the category of indigenous people in the project area</td>
</tr>
<tr>
<td>Involuntary Resettlement (OP/BP 4.12)</td>
<td>The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts. It is also aimed at promoting the participation of displaced people in resettlement planning and implementation. Its key economic objective is to assist displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement. The policy prescribes compensation and other resettlement measures to achieve its objectives and requires that borrowers prepare adequate resettlement planning instruments prior to Bank appraisal of proposed projects</td>
<td>The policy is triggered in situations involving involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas.</td>
<td>Applicable. Although limited in scope and size some of the project interventions have the potential of resulting in loss of assets by local people and these need to be restored/compensated in line with the GOM and WB regulations and guidelines. A Resettlement Policy Framework (RPF) has been prepared to address these potential negative impacts on communities and should be used together with this ESMF.</td>
</tr>
<tr>
<td>Safeguard Policies</td>
<td>Main Objective</td>
<td>Applicability</td>
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<tr>
<td>Safety of Dams (OP/BP 4.37)</td>
<td>Aimed at ensuring that experienced and competent professionals design and supervise construction of bank-funded dams, and that the borrower adopts and implements dam safety measures through the project cycle. The policy also applies to existing dams where they influence the performance of a project. In this case, a dam safety assessment should be carried out and necessary additional dam safety measures implemented.</td>
<td>Ensure that all precautionary measures necessary to strengthen the institutional, legislative, and regulatory frameworks for dam safety programs are in place where there are bank-funded dams.</td>
<td>Applicable. Although limited to small and medium size dams the project is open to the construction of a number of dams to boost local agricultural production.</td>
</tr>
<tr>
<td>Projects on International Waterways (OP/BP 7.50)</td>
<td>Aimed at assisting riparian stated to make appropriate agreements or arrangements for the entire waterway, or parts thereof, where bank-funded projects involve international rivers. It requires that adequate detailed procedures for inter-state notification be followed by riparian states</td>
<td>Where the project area stretches over water ways that cover more than one state</td>
<td>Not applicable. The project will not use water from international rivers</td>
</tr>
<tr>
<td>Projects in Disputed Areas (OP/BP 7.60)</td>
<td>Aimed at ensuring that the Bank only finances projects in disputed areas when either there is no objection from the other claimant to the disputed area, or when the special circumstances of the case support Bank financing, notwithstanding the objection. The policy details those special circumstances.</td>
<td>Where there are disputed areas the Bank wants to make sure that it is not making any judgment on the legal or other status of the territories concerned or to prejudice the final determination of the parties' claims.</td>
<td>Not applicable. There are no known disputed areas in the project area</td>
</tr>
</tbody>
</table>
6.3.1 Environmental Assessment (OP/BP 4.01)

The World Bank's environmental assessment operational policy requires that all proposed Bank-funded projects, no matter the source of funding be screened for potential environmental and social impacts. The policy is triggered if a project is likely to have adverse environmental and social risks and impacts in its area of influence. Similarly, each proposed subproject activity is required to undergo the same social and environmental screening process to qualify for funding. This is done through the systematic usage of both the Environmental and Social Screening Form (ESSF) and the Check-list. Moreover, according to OP/BP 4.01 the Bank classifies proposed subprojects into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of their potential environmental and social impacts:

**Category A**: A proposed project is classified as Category “A” if it is likely to have significant adverse environmental and social impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Environmental and Social Impact Assessment (ESIA) for a Category A project examines the project's potential negative and positive environmental and social impacts, compares them with those of feasible alternatives (including the “without project” situation), and recommends any measures needed to prevent, minimize, mitigate or compensate for adverse impacts and improve environmental and social performance. For a Category A project, the borrower is responsible for preparing safeguards documents, normally either an Environmental and Social Management Framework (ESMF) when the physical footprint of a project is unknown by appraisal, or an Environmental and Social Impact Assessment (ESIA with an Environmental and Social Management Plan [ESMP]), or an Environmental Audit/Risk Assessment whenever the physical footprint of a project activity is known prior by appraisal stage.

**Category B**: A proposed project is classified as Category “B” if its potential adverse environmental and social impacts on human populations or environmentally and socially important areas, including wetlands; forests, grasslands, and other natural habitats, are less adverse than those of Category “A” projects. These impacts are site-specific and easier to deal with; few if any of them are irreversible; and in most cases appropriate mitigation measures can be readily designed. The scope of ESIA for a category “B” project may vary from project to project, but it is narrower than that of a category “A” ESIA. Like Category A ESIs, it examines the project's potential negative and positive environmental and social impacts and recommends any measures needed to prevent, minimize, mitigate or compensate for adverse impacts while improving the project environmental and social performance. For simple Category B projects with very limited/low social and environmental impacts the preparation of Environmental and Social Management Plan (ESMP) that builds upon an ESMF might be enough. By the same token, the preparation of an abbreviated RAP that builds upon an RPF might suffice. Resettlement issues will be further elaborated under OP/BP 4.12 below and the RPF for this project, which is presented separately.

**Category C**: A proposed project is classified as Category “C” if it is likely to have minimal or no adverse environmental and social impacts. Beyond screening, no further ESMF/ESIA or ESMP or RPF/RAP action is required for a Category “C” project. Nonetheless, being a category C project doesn’t necessarily prevent a project from ensuring adequate monitoring of both environmental and social aspects of projects that are beyond safeguards.
Category FI: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in sub-projects that may result in adverse environmental and social impacts.

Due to the localized, limited and thus manageable environmental and social impacts SUSTENTA has been classified as a Category “B” project; and since not all the sub-projects have been clearly identified the World Bank requires the preparation of an ESMF, which is a screening tool to screen sub-projects for potential environment and social impacts. Most of the sub-projects have been falling under Category B and some under Category C. This will remain unchanged as part of the additional financing. Project infrastructure is in the form of upgrading and maintenance of (i) rural feeder road; (ii) rural bridges (iii) small scale irrigation schemes (which will be passed on to another project (IRRIGA); (iv) storage facilities; (v) other types of priority infrastructure to link production areas to the main roads as well as to other areas of particular interest (railway, transformation/industrial units, important trade centers, etc.), facilitate and improve production and productivity and trade. Based on the outcome of the social and environmental screening, part of which was done during the first two years, the sub-projects have been preparing either simple ESIAs/ESMPs or freestanding ESMPs (this has been more common), and abbreviated RAPs or no-action needed. The costs for the preparation of these ESIAs/ESMPs, freestanding ESMPs or RAPs need to be included into the Project budget. The outcome of the screening and the determination of the sub-project Category will need to continue to be confirmed and approved by MITADER to verify compliance with Mozambique’s ESIA Policy. Though World Bank policies and procedures are those to be followed, the TORs for these ESIAs also need to be approved by both MITADER and the World Bank.

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

Subprojects also need to follow the applicable World Bank Environmental, Health and Safety (EHS) Guidelines of April 2007. These are i) General EHS Guidelines; ii) some of the Agribusiness/Food Production EHS Guidelines; iii) Tourism and Hospitality Development EHS Guidelines; and iv) Electric Power Transmission and Distribution EHS Guidelines.
To complement what is presented in Table 8: The Ten World Bank Operational Safeguards Policies a few more details are presented below in regard to Pest Management and Involuntary Resettlement, for which under documents (PMP and RPF) have been developed.

6.3.2 Pest Management (OP 4.09)

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

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

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

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

Given the pest management issues to be dealt with under this project a separate Pest Management Plan (PMP) has been prepared and has been disclosed prior to project appraisal. The existing PMP should be used as part of this ESMF.
6.3.3 Involuntary Resettlement (OP/BP 4.12)

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

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

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

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

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

Under this project MITADER is working as both implementing entity and supervising agency. The challenge is being tackled productively and lessons learned as the process progresses are being adequately documented as it will be shown in the subsequent chapters of this document. This dual role will tend to be normal as MITADER deepens its role as the champion institution for rural development in the country. In this regard SUSTENTA is proving to be a privileged opportunity to test a series of interventions.

Although there has been increased harmonization between the GOM Regulations and the WB Safeguards Policies, differences in certain areas and aspects remain. Under the Project whenever there are differences between national legislation and World Bank safeguards policies, the latter prevails.

The table makes a brief comparison between the Mozambican legislation and that of the WB in conducting environmental and social impact assessments while identifies existing differences.
Table 9: Comparison of legislation between Mozambique and WB requirements

<table>
<thead>
<tr>
<th>Issue</th>
<th>Mozambique Legislation</th>
<th>WB safeguard requirements</th>
<th>Gaps/Conflicts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersed laws and regulations</td>
<td>The laws and regulations governing environmental and social management processes are scattered throughout several documents, formulated at different times and contexts, which at times also contradict each other and make it difficult for practitioners to use and harmonize them to deal with specific issues</td>
<td>The WB Operational Policies and Environmental and Social Framework are precisely designed to better mainstream environmental, social and climate change considerations into a programme/project cycle. They are meant to assist programme staff and project teams, who are responsible for developing, implementing and supervising Bank-supported projects, followed by government entities executing the investments in a way that is consistent and relatively easy to follow</td>
<td>The dispersion under the GoM regulatory set up is a considerable constraint. Whenever relevant WB Operational Policies will be used to establish and facilitate how the various GoM instruments should be harmonized</td>
</tr>
<tr>
<td>Project categorization</td>
<td>EIA required by Environment Law Nº 20/97 of October 7, 2007, and Decree Nº 45/2004 and the upcoming Decree Nº 54/2015. The Regulation for the EIA process classifies the projects into 3 categories: A full EIA and now (Decree Nº 54/2015 another A' category subject to review by professional assessors) is required for Category A. A Simplified EIA is required for category B and no EIA is required for Category C.</td>
<td>Under the OP 4.01, a full EIA is required for all projects screened as Category A. For Category B projects, some form of environmental assessment is required, usually less rigorous than a full EIA and often taking the form of an Environmental Management Plan (EMP). Beyond screening, no further ESMF/ESIA or ESMP or RPF/RAP action is required for a Category “C” project and a project is classified as Category FI if it involves investment of Bank funds through a financial intermediary</td>
<td>Despite some minor differences there are no conflicts between the two sets of legislation</td>
</tr>
<tr>
<td>Resettlement and project categorization</td>
<td>Under the GoM regulations, particularly DM 54/2015 all interventions requiring people to be involuntarily resettled fall automatically under Category</td>
<td>Under WB OP 4.12, projects and programs dealing with resettlement or economic displacement could be part of category A or B. In the latter the probability of resettlement is low and where impacts on the entire displaced population are minor, or fewer</td>
<td>WB’s categorization will be adhered to. In addition to what has been coming out during the first two years of SUSTENTA implementation experiences abound in the country</td>
</tr>
<tr>
<td>Issue</td>
<td>Mozambique Legislation</td>
<td>WB safeguard requirements</td>
<td>Gaps/Conflicts</td>
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<td></td>
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<td>than 200 people are displaced or if they are not physically displaced but lose less than 10% of their assets due to the project, an abbreviated resettlement plan may be agreed with the borrower</td>
<td>where minor resettlement implications have been dealt with as Category B project with evident success.</td>
</tr>
<tr>
<td>Involuntary Resettlement</td>
<td>GoM regulations (e.g. DM 31/2012) focus on projects as such and their implications on resettlement. The importance of avoiding/minimizing this phenomenon is not adequately considered</td>
<td>The WB clearly advocates that resettlement should be avoided or minimized wherever possible</td>
<td>Resettlement should be avoided or minimized where possible by exploring aspects of design and even project implementation and this is what has been adhered and will continue to be adhered to in all stages of SUSTENTA development</td>
</tr>
<tr>
<td>Planning/general framework</td>
<td>Decree 31/2012 requires at least 4 public meetings to be prepared/held in the context of the preparation and approval of a resettlement action plan</td>
<td>WB regulations emphasize the need to engage in a comprehensive and deep communication and participation process to ensure that PAPs participate fully in all phases of the resettlement process</td>
<td>There is no minimum or maximum number of meetings. Where resettlement will be required as many meetings as necessary will be held to ensure the full participation of PAPs in the design of resettlement/compensation actions and measures to compensate and replace livelihoods and their satisfactory implementation</td>
</tr>
<tr>
<td>Specification of the minimum number of public meetings to be held as part of preparation and approval of the resettlement action plan</td>
<td>Decree 31/2012 indicates that, especially in case of physical displacement, the PAPs must be installed in a place with specified characteristics, including the characteristics of land, of the soils, and of characteristics of the replacement houses</td>
<td>The essential aspect in the light of WB’s procedures is that PAPs must be compensated in a fair and participatory manner and that corresponds to their genuine interests and those of the people who represent them. It is also essential that living standards become equal to or higher than those that prevailed before the resettlement action</td>
<td>Because this project does not provide for the relocation of HH houses from one point to the other, the essence of WB procedures, i.e. “restoring livelihoods to a level equal to or greater than that prevailing before resettlement” will be consistently followed, together with the “free, prior and informed consent” (FPIC).</td>
</tr>
<tr>
<td>Specification of the rights and places where PAPs should live after being resettled</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Mozambique Legislation</td>
<td>WB safeguard requirements</td>
<td>Gaps/Conflicts</td>
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<tr>
<td>Environmental authority must provide an environmental permit for projects prior to appraisal.</td>
<td>The issuing of an environmental license shall precede any other required license.</td>
<td>OP 4.01 requires the approval and disclosure of ESIAs by the relevant government authority.</td>
<td>In both processes the disclosure takes place before approval and therefore any raised concern is dealt with before project approval.</td>
</tr>
<tr>
<td>Grievance and Complaints Mechanism</td>
<td>Besides what is contained in the general legislation on the responsibilities of local authorities, e.g. in Resettlement the Resettlement Committees in addressing the various resettlement issues, no reference is made to mechanisms for complaints and grievances in connection with environmental and social processes</td>
<td>By WB standards an appropriate and accessible grievance redress mechanism must be established in all projects</td>
<td>WB procedures are more specific on the grievance redress mechanism and offers considerable protection to PAPs in case of non-compliance with the principles behind all environmental and social issues</td>
</tr>
<tr>
<td>National guidelines and standards exist for Occupational Health and Safety (OHS).</td>
<td>OHS legislation in place; (Law No. 23/2007 of 1 August 2007) and implementation the responsibility of Ministries of Labor and, Health. Safety standards guidelines for Environmental Quality and Effluent Emission are in place (Degree No. 18/2004 of 2 June 2004. and the implementation is under responsibility of MITADER.</td>
<td>The guidelines for OHS provided under the WB Occupational, Health, and Safety Guidelines should be applied for all infrastructure projects.</td>
<td>Mozambique has not prepared specific standards for management of wastes, and noise emissions for different industries. Therefore, World Bank standards (IFC OHS guidelines and IFC Environmental, Health and Safety guidelines) can be applied. National environmental standards (Decree No. 18/2004 of 2 June 2004 developed for other industries (air emissions, power industry, and plastic exist and can be applied).</td>
</tr>
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7. ENVIRONMENTAL AND SOCIAL CONCERNS/ISSUES IN THE TARGETED AREAS

7.1 Overview

For the formulation of the ESMF (2016) literature review, preliminary contacts with central level institutions in Maputo city, consultations and direct observations with people and of circumstances in the project area were made to ascertain the type and level of impact that the project could have on the receiving natural and social environment. Five public consultation meetings also took place as follows:

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

In addition to informing stakeholders about the project structure and contents, including the project geographical boundaries, expected impacts and planned ways of systematically dealing with these impacts the meetings were also meant to get participants’ views on issues to be reexamined. The feedback received from stakeholders was the integrated in many sections of the three documents (i.e. ESMF, PMP and RPF).

With the same objectives, for the AF two meetings were held with stakeholders in Zambezia (Mocuba 19th February 2019) and Nampula (20th February 2019). The two meeting had more than 100 participants and the minutes can be seen in Annex 1. The table below summarizes the main issues presented by participants during the meetings.

As stated in the meetings, SUSTENTA is generally considered a beneficial project for the recipient provinces and districts and their inhabitants and as an opportune project at this stage of Mozambique development. The concerns and suggestions presented are mainly aimed at assisting in optimizing both the design and response to the various issues including avoiding, minimizing and managing potential negative impacts. Annex 1 presents the minutes of the meetings. The results of the public meetings were used to reformulate various sections of this ESMF and the accompanying RPF.
### Table 10: Summary of the feedback from the public meetings

<table>
<thead>
<tr>
<th>Areas of interest/issues/contributions</th>
<th>Comments/suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural resources management</strong></td>
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<tr>
<td>Despite all the efforts that have been made, serious problems remain in the management of the environmental components in areas such as:</td>
<td>• Extensive education and awareness raising must be put in place. Local and community leaders require capacity building for them to be at the forefront of educating people in good environmental practice</td>
</tr>
<tr>
<td>• Negative interferences with water springs and water courses (reported as a serious issue mainly in Nampula province)</td>
<td>• The consolidation of land tenure rights is likely to have a positive effect on natural resources management. As more people secure the rights over the land the use, they are likely to appreciate the value and importance of using it correctly as opposed to a situation where they think it is none’s land or that it belongs to other people</td>
</tr>
<tr>
<td>• Cultivation and destruction of vegetation in the river beds that translate into increased erosion, disturbance to the water flows and water quality</td>
<td>• In addition to education and awareness raising law enforcement is also required and must be put in place</td>
</tr>
<tr>
<td>• Destruction of trees and vegetation in general during infrastructure development that are not always restored</td>
<td>• Where project interventions interfere with vegetation this should be restored promptly for both environmental protection and aesthetics. In the same way that a manual of good practices has been prepared for agricultural developments similar manuals should be prepared to cover other areas, e.g. infrastructure development</td>
</tr>
<tr>
<td>• Some fishermen use pesticides to catch fish and contaminate the water</td>
<td></td>
</tr>
<tr>
<td>• Indiscriminate use of forests/trees for fuelwood charcoal including encroachment in protected areas (e.g. Mecuburi(^26))</td>
<td></td>
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</tbody>
</table>

<table>
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<tr>
<th><strong>Coordination with other similar/relevant initiatives</strong></th>
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</tr>
</thead>
<tbody>
<tr>
<td>There were several references to the importance and relevance of coordinating Sustenta with other similar or relevant initiatives that goes beyond MITADER and WBG of projects</td>
<td>The ESMF highlight the importance of establishing synergies with other initiatives. In practice this occurred during the first two years. However, more dedicated efforts are required to go</td>
</tr>
</tbody>
</table>

\(^{26}\) It was reported that around 40% of this large forest reserve in Nampula has been subject to serious encroachment and destruction by local people and it is in urgent need of attention (reversion/rehabilitation)
### Areas of interest/issues/contributions
such as MozBIO, MozFIP, IRRIGA, etc. and embraces those from other funding agencies including the private sector. Specific areas in which coordination is required include:

- Provision and use of agrochemicals
- Dissemination and adoption of agroforestry technologies
- General sharing of experiences and lessons learned

### Comments/suggestions
deeper in the process. This also entails dedicated work to make the mapping of existing initiatives and systematically ascertaining the extent to which these can have lines of collaboration with Sustenta

### Resettlement and compensation
There is a host of issues related with land use and resettlement that need attention, such as:

- Local people tend to disrespect the minimum distances that must be preserved in the development of different initiatives (e.g. 50 meters on both sides of national roads in rural areas, which should be free of any form of occupation, 15 meters in relation to the secondary and tertiary roads, etc.). And there are those who do this in bad faith so that they can claim compensation when the land is needed for developments including Sustenta initiatives
- Some participants notice that the provisions of compensation where the project interferes negatively with people’s assets (e.g. portions of land, trees, crops, etc.) are not always strictly adhered to. Seemingly there are PAPs that have not been compensated at all

### Health and safety
Contractors and other operators are not systematic in the adoption of safety measures such as wearing of latex gloves, working overalls, safety boots, safety helmets, hearing protecting devices for workers exposed to high noise levels, and lifesaving vests for construction sites near water bodies. This exposes workers to injuries and other health and life hazards

### Support to district governments (mainly SDAE and SDPI) to undertake environmental and social monitoring and inspection
SDPIs, mostly, feel that they do not have the necessary resources (mainly transport) to undertake monitoring and inspection. Prevalent view is that SDAEs are slightly better but all of them could benefit from dedicated support to improve their ability to conduct work in these areas. SUSTENTA project personnel cannot cover all the areas and aspects and building the capacity of district technical departments to do so can be a significant contribution

The project should reinforce land use planning, including land tenure rights and enforcement of the provisions of the laws in force

In as much as possible this should be considered. It is a fact that one of the weaknesses in environmental and social management in Mozambique is related with what happens on the ground. The desktop and office work are relatively solid, but education, inspection and law enforcement on a day-to-day basis remains weak
In addition to the results of the public meetings, this Updated Version of the ESMF uses the results of the first two years of SUTENTA implementation to ascertain the main environmental and social issues, concerns and possible ways of mitigating them in the project area.

In regard to Gender-Based Violence. To ensure the incorporation of GBV risk mitigation in the social safeguards instruments, the GBV risk assessment tool developed by the WB was applied to identify contextual and potential project-related risks. The GBV risk has been rated as “moderate” (score 14.5). A technical assessment of GB risk in the project will be undertaken to understand the baseline situation and identify a number of mitigation measures to minimize the risk from Sustenta AF activities. The technical assessment will also produce a GBV Action Plan to address the identified risks. The technical assessment will take place before the implementation of project activities and the Action Plan will be included in the final ESMF.

The additional financing is only expected to replicate and expand the interventions/subprojects without altering the main parameters in terms of:

- Nature of impact (positive or negative)
- Recipient or resource affected (soil, water, air, cultural, social, economic, historical, aesthetic)
- How the project affects the receiver (directly, indirectly or cumulatively);
- The probability of occurrence;
- The magnitude (significant or non-significant);
- The scale of space (extension); and
- The time scale (duration).

The most favorable effects for each parameter have been actively pursued and this will continue under the AF. It follows that what applied for the first two years will continue in the same way and benefit from lessons learned in terms of avoiding, minimizing and applying mitigation and management measures. However, it also means that the added interventions have the potential of cumulatively incrementing some negative environmental and social impacts such as area of vegetation being cleared; exposure to dust emissions, noise and vibration; contamination from pesticides and fertilizers. These are aggravated by the prevalence of knowledge, attitudes and practices that are damaging to the sustainable use of water, soil, forests, vegetation and fauna among the community members and project beneficiaries.

### 7.2 Cumulative Impacts

Cumulative impacts can be defined as impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted and within a reasonable distance from the proposed project site (Murray et al. 2015).

While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or significant) in the same geographical area, and occurring at the same time, result in a cumulative impact that is collectively significant. Thus, the impacts of this Project and more importantly of the subprojects that will come from AF need to be considered in conjunction with the potential impacts from other current and future developments or activities that are underway or planned and reasonably defined and are located within a geographical scope where potential environmental and social
interactions could act together with the Project to create a more (or less) significant overall impact.

To provide guidance on the Cumulative Impact Assessment (CIA) of this project, the following valued environmental and social components (VECs) are considered:

- Physical features including soil and water;
- Environmental processes;
- Ecosystem conditions (e.g. biodiversity);
- Social conditions (e.g. health, economics); and
- Cultural aspects.

In line with the nature and characteristics of the ESMF the assessment is also made in general terms and it is a rapid assessment. For the final development and approval of subprojects detailed assessments will be required. It would also be difficult to try to compile a comprehensive list of existing and planned developments in the project area at this stage, thus the assessment focus on general traits and on what is generally known.

SUSTENTA interventions will not happen in isolation. They will take place near other interventions initiated by all sorts of operators/investors, i.e. household, micro, small, medium and large in areas such as agriculture tourism, infrastructure, mining, etc. as discussed in Chapter 4 and they will have the potential of contributing to increased significance for the receiving natural and social environment. These could result in increased pressure on land, soil, water, forests, wildlife, air, etc., which could exacerbate social conflicts and the degradation of the ecosystems.

Increased pressure on soil, water and vegetation are of importance for this project. For instance, in Nampula and Zambezia artisanal mining activities occupy an important position in local economies. The Lúrio river basin is already and will be recipients of large undertakings in the areas of agriculture including irrigation, mining, energy, forests, industries, tourism including ecotourism. These may pose considerable stress on water availability and quality and possibly constraint the adoption of sound integrated water resources management.

The cumulative effects of developing SUSTENTA activities in areas generally marked by deforestation and poor land use practices in the entire project areas can lead to substantial erosion and increased sediment loads in rivers that deteriorate water quality. Salt water intrusion is another important water quality limitation in the deltas of the rivers and respective tributaries falling in the project area (in the coastal provinces of Zambezia), which undermines the potential development of all the river basins. Most of these impacts are caused by human factors such as inappropriate land use practices or overexploitation of resources.

Even though these will be passed on to IRRIGA, cumulative impacts from construction, rehabilitation and expansion of irrigation schemes in the same river basin may pose significant stress on water availability upstream and downstream of SUSTENTA sub-projects, affecting other users, such as communities, agricultural, mining, industry projects, etc.

One of the best ways of mitigating the impacts of the various uses of resources, with potential negative impact, while impacts from the same activity are prevented from aggravating the ambient is the adequate land, water and natural resource use planning and working together with all the entities and programs/projects that deal with these
crucial aspects and environmental components. A good land use plan and siting of interventions goes a long way towards achieving impact avoidance and minimization. This is specifically true in the case of Mozambique and the project area, which are known for being well endowed in terms of natural resources and relatively low population densities. The fact that the project is strong on land management should be used as much as possible.

Therefore, the AF will reinforce mitigation measures that are proportionate and adequate to the scale of anticipated cumulative risks and impacts. Main areas of intervention include (i) increasing the number of Rural Extension agents that will work also on safeguards in the additional 9 districts; (ii) expanding the coverage area of the Grievance Redress Mechanism (GRM); (iii) restoring additional 400 ha of degraded land; (iv) increasing 6000 ha to the land area that have sustainable landscape management practice, etc.
8. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

The project will continue to have the same four main components with the following and allocation of funds:

1. **Component 1**: Agriculture and Forest-Based Value Chain Development (US$ 49.29 M IDA).
2. **Component 2**: Securing Land Tenure Rights and Increasing Natural Resources Resilience (US$ 22.26 M IDA)
3. **Component 3**: Project Coordination and Management (US$ 8.45 M IDA)
4. **Component 4**: Contingency Emergency Response (US$ 0 M)

Activities under these four components and mainly those from Component 1 *Agriculture and Forest-Based Value Chain Development* (US$ 48.29 M IDA) and Component 2 *Securing Land Tenure Rights and Increasing Natural Resources Resilience* (US$ 22.26 M IDA) but also those from other components will affect the different environmental and social components in different ways.

The location and details related with those interventions were not yet known at the time of preparation of this Updated Version of the ESMF. The exercise to select and prepare the pre-feasibility studies of specific subprojects will be conducted later.

SUSTENTA 2018 annual report of activities shows that under the two main components of the project the following developments took place:

**Component 1: Agriculture and Forest-Based Value Chain Development**

1. **Business Plans**: 46 business plans for Small Emerging Commercial Farmers (PACEs), 32 for Nampula and 14 for Zambezia were funded. These in turn supported 9,764 Small Farmers (PAs) who benefited from Agricultural Input Kits. The project has also been supporting the improvement and intensification of agricultural activities.
2. **Infrastructure**: spot improvements of rural roads were completed, which will ensure smooth circulation in 96.8 Km, corresponding to a 65% execution of the plan and 37% in relation to the overall goal of the 260 Km Project. The survey and preparation of road maps for the roads scheduled for 2019 was also completed.
3. **Rehabilitation of irrigation systems**: a survey of the preliminary drawings of the executive projects was carried out.

**Component 2: Securing Land Tenure Rights and Increasing Natural Resources Resilience**

- **Land registration and DUATs**: 63,147 individual plots were registered and 33,934 DUATS issued.
- **Land delimitation**: 153 communities were delimited and of these 60 have their certificates issued.
- **Land Use Plans and Community Development Agendas**: a total of 153,072 hectares were supported.

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

The first two years show the Project potential environmental and social impacts to be as described in the subsequent subchapters.

8.1 Potential adverse environmental and social impacts

The environmental and social impacts result from the project activities under components 1 and 2. These impacts relate particularly to the final design, construction and operation of (i) rural feeder road upgrade and maintenance; (ii) rural bridges (iii) small and medium scale irrigation schemes; (iv) storage facilities; and (v) other types of priority infrastructure, (vi) land demarcation and titling. Further impacts may be caused by the increased use of fertilizers and agro-chemicals, including herbicides and pesticides, as well as installation and operation of agro-processing and storage facilities. Land demarcations and all the measures being taken to improve the management of forests and other natural resources also have an impact on both the natural and social environment.

Soil

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

Air Emissions

The project interventions are typically associated with the release of dust generated from land clearing, excavation and movement of earth materials, cut and fill operations, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind. The use of construction equipment and power generators is expected to release exhaust related pollutants such as carbon dioxide (CO2), nitrogen oxides (NOx), sulfur oxides (SOx), particulate matter (PM) and hydrocarbons (HCs). Agro-processing
facilities can cause air pollution. The air emission standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied. In construction sites, the cleaning and rehabilitation of fuel oil tanks in oil storage facilities may generate volatile organic compound (VOC) emissions. For small operations as the ones expected under Project air emissions during rehabilitation/construction and operation phases tend to be confined to the immediate vicinity of the rehabilitation/construction and operation sites and will have insignificant impacts on air quality. Adequate preventive, design and management measures will suffice to prevent such emissions from being harmful to people and surrounding biophysical setting.

**Noise**

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

**Solid and Liquid Wastes**

Non-dangerous wastes can be disposed of in urban landfills. Hazardous wastes, such as used oils need to be disposed in an environmentally sound manner. They are normally disposed off through a contractual arrangement with the oil suppliers, who will take the waste oils away for recycling.

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

**Water Quality and Quantity**

Accidental spills of oil, polluted runoff from polluted areas and sediment transport. The latter impact is particularly significant when rehabilitation and/or construction activities occur within or near surface water such as in the case of the rehabilitation and/or construction of heavy fuel oil supply facilities. Polluted water flowing into surface water bodies could impact the aquatic organisms and affect the quality of life of downstream water users when river waters are involved. Many people are still using river water as a source for drinking water. Groundwater contamination may occur from percolation of oil and lubricants into soil. Nevertheless, waters disturbed by rehabilitation and construction activities are likely to recover when sediment or other pollution is controlled, and natural processes are permitted to replenish. Agro-processing facilities can cause water pollution. The effluent standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.
As regards water quantity the issue of environmental flows is revisited. There are many formulas suggested by experts for the purposes of calculating the environmental flows. Most of these methods rely on information contained in the water flow series (history) related with a given section of a watercourse, in order to establish a minimum flow rate. The methods, which tend to use the average daily flow in a natural system (not monthly average flows as most methods based on hydrological records) comprise in the methodological approach a set of hydrological concepts covering different and important aspects of ecological management of rivers that in general establish a “flow regime of ecological maintenance” in order to create rational management proposals for the conservation ecosystems in regulated rivers. Without going into much detail in this ESMF on this subject it is suggested that the matter be taken up in the later stages of the hydrological and environmental studies in order to arrive at an equation that will be suitable to the different interventions to be carried out. In close collaboration with the ARAs (Centro Norte and Norte) MASA/INIR (the Developer for small and medium scale irrigation) should be responsible for ensuring that this aspect is considered adequately in each subproject. The same applies to the transport and circulation of sediments. It will be fundamental to establish and respect the requirements for sediment transport and circulation that are essential for maintaining the health of surrounding ecosystems. These, however, will need to consider that in most cases the water management systems to be built and/or rehabilitated will be small. Experts also agree that for small systems complex methods of calculation of environmental flows have little or no effect.

**Flora and Fauna**

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

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

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

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

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

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

As seen in the description of the receiving natural environment along the South of the Lúrio River there are three forests reserves Mpalwé (51 km²), Ribaué (52 km²), Mecubúri (1,954 km²) in the project area Primeiras and Segundas Protected Areas as well as the Gilé reserve in Zambézia province. The forests reserves were established during the 1950s to protect the flora and have been under the management of the Ministry of Agriculture and Food Security. It is also noted that the reserves have suffered significant human influence during the war and post war and need special attention. It is to be expected that under this project the reserves will enjoy their rightful status with a view to play their role. WB and GOM requirements for managing those areas in a sustainable manner will have to be adhered to in all Project interventions. A list of protected species, including those in the IUCN red-list should be compiled and presented as a standalone list to be used against the various project interventions.

Health and Safety

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

The rehabilitation/construction and operation of fuel supply facilities are associated with the risk of release of flammable material due to accidental damages to the fuel tanks from works-induced activities, such as landslides or collapse of tall structures such as cranes, and broken pipelines from works-induced vibration.
Health and safety measures at the construction sites, as described in the World Bank Environmental, Health and Safety Guidelines need to be applied and enforced by the contractors. These include the wearing of protective clothing, masks, construction site boots, helmets, gloves and others.

**Pesticide Use and Management**

As highlighted in the PMP that has been prepared together with the ESMP, the possible and expected expansion of the introduction of advanced agriculture and agribusiness development associated with the SUSTENTA has a strong potential for an increase in pest populations and subsequently a raise in pesticide usage to control them, as well as an increase in the use of chemical fertilizers across the agricultural cycle.

Any increase in pest populations may be detrimental to agricultural productivity or human/animal health, which in turn will increase the dependency on pesticides. Any subsequent increase in the use of chemicals has the potential to cause harm to users, to the public and to the environment. The 2018 SUSTENTA annual report indicates that fungus caterpillar plague, which damaged the maize crop of the first campaign of 2018, has been widespread. The same applies to the plague of the sesame as well as aphids and whiteflies that affect soybean. Different chemicals have been used to control these plant diseases such as Hitcel (for maize), Imidacel (for sesame) and cypercel (for soyben).

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

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

**Land**

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

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

These land use plans are important instruments in deciding the siting of interventions including those expected falling under the Project. The Project should continue to endeavor to support the smooth completion of the land use plans as part of the process
of deciding the best location of the various interventions as highly relevant guideline. Land Use Planning falls under MITADER and "Land Delimitation and Titling" foreseen under SUSTENTA will largely relay on local land use plans. The Land Use Planning Department at all levels will have to be involved in the updating of the local land use plans as a way of best implementing all SUSTENTA interventions that have land acquisition implications. These interventions will go hand in hand with the general efforts to provide the country with its National Land Use Plan that has been underway to be followed by the respective provincial plans and fill a void that has prevailed since the enactment of the Land Use Planning Law (2007) and its regulation (2008).

Note is made of the fact that even where district (PDUT) and urban (PPU and PP) exist in some cases the quality of such instruments is not always adequate. Assistance is needed to bring them up to the required standard. This is proving to progress satisfactorily under SUSTENTA as demonstrated by the support provided by the project to prepare land use plans covering a total of 153,072 hectares.

**Socio-Economic**

The rehabilitation and construction phase is generating several short-term job opportunities for the local people, as well as new opportunities to improve livelihoods for local communities and reduce poverty. This will be expanded under the AF.

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

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

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

Activities that may also result in negative impacts are:

- the use of Genetically Modified Organisms (GMOs), which would make farmers for 100% dependent on multi-nationals and could have other negative impacts on poverty levels and health;
- the introduction and adoption of innovative practices (cultural itineraries, post-harvest practices), e.g. through the increased use of fertilizers and pesticides;
- support to semi-industrial processes and packaging, e.g. increased use of antibiotics to control diseases.
Overall, the project activities could have negative impacts on certain aspects of local livelihoods, housing, social and economic infrastructure and natural resources, not only because of the facilities and infrastructure that will be provided, but especially because of the influx of local, regional and even international investors and workers.

The environmental and social risk factors and challenges of the project will be: (i) unauthorized occupation (and non-consensual) of land belonging to local people – which at present is being counteracted by the process of delimitation, registration and issuing of DUATs; (ii) increased population, certainly due to an increasing number of influx because of the numerous mining concessions and/or economic boom in the region, which will result in increased needs of land; (iii) work conflicts and disputes for work between local people and people from other parts of the country and/or outside the country. The project has been consistent in ensuring that local people are given priority to access to jobs whenever their skills match the requirements; (iv) the likely widespread of STIs including HIV/AIDS.

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

Physical Cultural Resources

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

8.2 Other potential adverse socio-economic impacts

Resettlement

So far, no subproject has ever resulted in the need to resettle people in terms of relocating houses/households to new areas. Efforts have been underway to limit interference of subprojects to portions of land and trees/crops, in a way that does not affect the PAPs in more than 10% of their assets and livelihoods.

Although limited in size, it is ascertained that resettlement could take place in the project intervention areas. This could be directly associated with two categories of interventions, namely (i) construction of project infrastructures; and (ii) land demarcation and land use plans. The potentially affected structures are permanent houses, shops, temporary sale points, food vending areas, farmed areas (crops), trees belonging to local people/entities, etc., which are very close to the existing roads or within the sites to be proposed sites for different interventions, e.g. (i) feeder road upgrade and maintenance; (ii) rural bridges (iii) small and medium scale irrigation schemes; (iv) storage facilities; (v) rural electrification; and (vi) other types of priority infrastructure, etc. In regard to these interventions and mainly due to their linear nature and the limited level of encroachment, in most cases, if not all, abbreviated resettlement action plans (A-RAP) will suffice as in each case only a limited number of people (i.e. less than 200) and assets (less than 10% of all livelihood assets) are likely to be affected. Land demarcation may require people and their assets to be affected as this is a process that is likely to be associated with
improved land use planning that would be contrary to the current land occupation, which is less structured most of the time, particularly in rural areas, although so far efforts have been made to avoid this.

**Mobility and Accessibility**

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

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

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

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

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

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

**8.3 Existing and potential positive impacts**

Improvement of local infrastructure and particularly rural feeder roads (of which 96.8 Km from the initially planned 260 have been completed) to connect agricultural producers to markets is already contributing to the adding of value to local agricultural products. The AF will increase the total tertiary and vicinal road rehabilitation to 500 km from the 260 km in the original project. The districts have specific roads that they regard as high priority and which they see as fundamental to facilitate liaison with larger markets and make it
possible for local farmers to use both the road and other means of transport (e.g. railways) to transport their goods to the markets and processing centers.

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

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

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

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

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

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

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

In summary, the following positive impacts have started to take place in connection with the developments summarized in the 2018 annual report, and therefore further expanded:

- Positive impacts of rural roads by facilitating rural/rural-urban trade (availability, accessibility and affordability);
Better water management through small scale irrigation systems with positive implications on the increase of crops and time throughout the year to engage in plant and animal production;

- Positive impacts of processing, storage and packaging facilities. These protect crops against insects and rodents, maintaining product quality, increasing life standards and consequently contribute to food security for rural populations and the general population;
- Land tenure regularization at scale has significant positive impacts on natural resources management and other investments in land;
- the Project also strengthens Provincial and District governments’ capacities to promote landscape management and value chains development, which can also be expected to generate positive “sustainability spin-off” effects at the local level;
- Project activities are having significant positive impacts on natural habitats, as they promote integrated sustainable natural resource management in its comprehensive “Programa Estrela”;
- Project positive externalities include carbon sequestration from the restored areas as well as from the improved land use practices (e.g., agroforestry, reduced tillage, vegetative cover\textsuperscript{27}), and reduced carbon emissions from forest cover loss. Restoration of critical natural areas will contribute to increase water flow stability and reduce erosion to downstream water users. Restoration can also help create biological corridors, which serve as habitats for globally important biodiversity, and over time can increase tourism potential.

8.4 Measures to mitigate negative impacts

A preliminary list of measures that are being adopted and should continue to be adopted to mitigate potential and significant negative impacts of the project is presented in the table below. Due to the localized and temporary nature as well as low to medium magnitude of rehabilitation and construction works, fast recovery of the minor impacts is taking place after construction is finished. Efforts should continue to be made to restrict the project to this level of impacts.

\textsuperscript{27} As stated in the PAD the project directly contributes to the Zambezia Emissions Reductions Payment Project, the first initiative in Mozambique to provide climate performance-based payments against verified reductions of GHG emissions (WB, 2018).
Table 11: Measures to mitigate negative impacts

<table>
<thead>
<tr>
<th>Potential negative impacts</th>
<th>Mitigation measures</th>
</tr>
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<tbody>
<tr>
<td>Soil and groundwater: During construction and rehabilitation:</td>
<td>Mitigation measures include proper storage of hydrocarbons and dangerous chemicals on site and the installation of natural, concrete or synthetic liners beneath oil and chemical storage tanks and the placement of these structures within a bunded impermeable concrete structure of 110% the volume of the largest tank. Other important measures include proper surface drainage during both the construction and operation phases, minimization of on-site water and chemical usage (oil, lubricants and fuel), as well as limiting the exposure of the soil to accidental releases of pollutants. Chemicals used on-site should preferably be non-toxic and readily biodegradable. Fueling areas should have a concrete slab so that petrol and oil cannot escape into the environment. Drainage systems in maintenance areas should be equipped with an oil/water separator;</td>
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<tr>
<td>Top soil management</td>
<td>During construction put the top-soil apart and place it back on top after construction has finished.</td>
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<tr>
<td>During operation: Pollution of water and soil from pesticides</td>
<td>During operation:</td>
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</table>
| and fertilizers and erosion from agricultural areas.            |  - Implementation of the provisions of the Pest Management Plan  
  - Only use approved pesticides  
  - Adequate disposal of obsolete pesticides  
  - Compliance with prescribed doses of pesticides  
  - Control of the periods of pesticide application  
  - Promoting the use of organic manure  
  - Training of stakeholders on the use of agro-chemical inputs  
  - Observance of recommendations for the use of fertilizers and pesticides bio control  
  - Rational use of fertilizers and pesticides  
  - Awareness and training of farmers  
  - Apply contour line farming in order to avoid erosion.                                                                                                                                                                                                                                                                                                                                 |
| Soil erosion problems associated with construction              | Focus on existing quarries and construction areas: Rehabilitation of affected areas, e.g. quarries and other construction areas. Put in place vegetative filters to filter sediments out of run-off. Rehabilitation works should start as soon as possible after the construction work is finished.                                                                                                                                                                                                                                                                                             |
| Air emissions: release of dust from land clearing, excavation   | Control techniques for minimizing PM emissions involve watering of surfaces, chemical stabilization, or reduction of surface wind speed with windbreaks or source enclosures. Covering the road surface with a new material of lower silt content, such as  
<p>| and movement of earth                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>materials, cut and fill operations, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind.</td>
<td>covering a dirt road with gravel or slag has also proved to be efficient. Regular maintenance practices, such as grading of gravel roads, also help to retain larger aggregate sizes on the traveled portion of the road and thus help reduce emissions.</td>
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<tr>
<td>Agro-processing facilities from project associated investors</td>
<td>Low cost measures also include:</td>
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<td>- Proper site enclosure through appropriate hoarding and screening;</td>
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<td>- On-site mixing and unloading operations;</td>
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<td>- Proper handling of cement material;</td>
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<td>- Maintaining minimal traffic speed on-site and on access roads to the site;</td>
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<td></td>
<td>- Covering all vehicles hauling materials likely to give off excessive dust emissions;</td>
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<td></td>
<td>- Ensuring adequate maintenance and repair of construction machinery and vehicles;</td>
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<td></td>
<td>- Avoiding burning of material resulting from site clearance;</td>
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<tr>
<td></td>
<td>- Covering any excavated dusty materials or stockpile of dusty materials entirely by impervious sheeting;</td>
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<td>- Proper water spraying when necessary;</td>
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<td>- The provision of water troughs at entry and exit points to prevent the carryover of dust emissions, beyond the construction site</td>
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<td></td>
<td>Measures to reduce truck traffic emissions include proper truck maintenance and the adoption of a traffic management plan while avoiding congested routes. Regarding on-site construction equipment, proper maintenance procedures and the quality of diesel fuel used are important to reduce emissions. Equipment should also be turned off when not in use, to reduce power needs and emissions of pollutants.</td>
</tr>
<tr>
<td>Noise: noise levels emitted during the construction/rehabilitation and operation may exceed acceptable noise level standards</td>
<td>Agro-processing facilities can cause air pollution. The air emission standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.</td>
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<td></td>
<td>Mitigation measures to be adopted mainly during construction and operation to minimize noise levels include but are not limited to:</td>
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<td>- Enclosing the site with barriers/fencing</td>
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<td></td>
<td>- Effectively utilizing material stockpiles and other structures, where feasible, to reduce noise from on-site construction activities</td>
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<tr>
<td></td>
<td>- Choosing inherently quiet equipment</td>
</tr>
<tr>
<td></td>
<td>- Operating only well-maintained mechanical equipment on-site</td>
</tr>
<tr>
<td>Potential negative impacts</td>
<td>Mitigation measures</td>
</tr>
<tr>
<td>---------------------------</td>
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</tbody>
</table>
| Agro-processing facilities from project associated investors | • Keeping equipment speed as low as possible  
• Shutting down or throttling down to a minimum equipment that may be intermittent in use, between work periods  
• Utilizing and properly maintaining silencers or mufflers that reduce vibration on construction equipment during construction works  
• Restricting access to the site for truck traffic outside of normal construction hours  
• Proper site logistics and planning  
• Limiting site working hours if possible  
• Scheduling noisy activities during the morning hours  
• Informing the locals when noisy activities are planned  
• Enforcing noise monitoring |

Agro-processing facilities can cause noise pollution. The noise emission standards in the applicable World Bank Group Agribusiness and Food Production Environmental, Health and Safety Guidelines, as well as the General Environmental, Health and Safety Guidelines need to be applied.

Solid and liquid wastes: during construction/rehabilitation and operation, there will be generation of construction and operation debris as a result of various construction and operation activities

Hydrocarbons (waste oils)

The generated solid materials can be used for reclamation purposes whenever applicable. However, care should be taken to ensure the absence of contaminated fill material and the adequacy of the physical and chemical properties of such material to limit potential adverse impacts on water and soil and ensure project safety. Construction and demolition wastes can also be minimized through careful planning during the design stage, by reducing or eliminating over-ordering of construction materials to decrease waste generation and reduce project costs. The contractor should carry out sorting of construction and demolition wastes into various categories and adopt re-use/recycle on site whenever deemed feasible.

Chemical wastes generated during the construction phase include containers that were used for storage of chemical wastes on site, the chemical residue as well as contaminated material. Rehabilitation of fuel storage facilities may involve the removal of contaminated soils around fuel dispensers, piping, and tanks, as well as bulky, inert and contaminated solid waste items such as damaged tanks. Storage of hazardous waste should take place in a separate area that has an impermeable floor, adequate ventilation and a roof to prevent rainfall from entering. Additionally, all chemical wastes should be clearly labeled in Portuguese and, stored in corrosion resistant containers and arranged so that incompatible materials are adequately separated. General refuse generated on-site during the construction phase should be stored in enclosed labeled bins or compaction units separate from construction and chemical wastes. General refuse is generated largely by food service activities on site, therefore, where feasible, reusable rather than disposable dishware should be promoted. Aluminum cans, glass, plastics, wood and metals may be recovered from the waste stream by individual collectors if they are segregated and made easily accessible, so separate, labeled bins for their storage should be provided.

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

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<tbody>
<tr>
<td>Potential negative impacts</td>
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<tr>
<td>Sediment flow required for the health of the ecosystem downstream the developments.</td>
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<tr>
<td>Water retention and all the management measures to be adopted can also interfere negatively with other social activities downstream the developments</td>
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<tr>
<td><strong>Flora and fauna:</strong> Stream pollution by sediments from rehabilitation and construction activities by suspended and settable solid particles that may coat, bury, suffocate or abrade living organisms. Many aquatic invertebrates and fish may undergo changes in population density and community composition if high concentrations of suspended solids occur. Aquatic vegetation may be adversely affected by a reduction in photosynthesis due to high turbidity.</td>
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<tr>
<td>Accidental hydrocarbon spill will have a detrimental impact on aquatic life.</td>
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<tr>
<td>General implementation and enforcement of good agricultural practices and crop management, e.g. contour line farming, in order to reduce erosion.</td>
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<tr>
<td>Potential negative impacts</td>
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<tr>
<td>Deforestation, soil degradation through erosion, habitat destruction may occur during clearing</td>
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<tr>
<td>Health and safety: occurrence of accidents (direct and indirect) to workers on-site, pedestrians, and machine operators or passengers during construction/rehabilitation and operation</td>
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<tr>
<td>Potential negative impacts</td>
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</tbody>
</table>
| Development of agriculture might increase the prevalence of water-borne diseases (intestinal and urinary bilharzia and malaria) | - In case blasting is required the Contractor should work according to an approve Blasting Plan, which need to be approved by the Supervising Engineer and the Client  
- Provision of adequate loading and off-loading space  
- Development of an emergency response plan  
- Provision of on-site medical facility/first aid  
- Provision of appropriate lighting during night-time works  
- Implementation of speed limits for trucks entering and exiting the site  

Regarding hazardous substances, the following measures should be implemented:  
- Ensuring that hazardous substances are being kept in suitable, safe, adequately marked and locked storing places  
- Ensuring that containers of such substances are clearly marked, and that material safety data sheets are available  
- Ensuring that all workers dealing with such substances are adequately informed about the risks, trained in handling those materials, and trained in first aid measures to be taken in the case of an accident.  
- Designating an area where contaminated materials and hazardous waste can be stored for proper disposal according to environmental guidelines in force in the country and as specified in the applicable World Bank Group Environmental, Health and Safety Guidelines of April 2007.  

Regarding waterborne and water-related diseases substances, the following measures should be implemented by the contractor:  
- The adoption of good housekeeping practices for ensuring hygiene on site  
- The elimination of pools of stagnant water, which could serve as breeding places for mosquitoes  
  The provision of bed nets for workers living on site. Ideally, these nets should be treated with an insecticide  

The appropriate elimination of waste of all types, including wastewater  
- Monitor the prevalence of intestinal and urinary bilharzia and malaria. If the prevalence increases implement the following:  
  - Distribute long-lasting insecticidal impregnated mosquito bed nets (LLINs) to affected communities, to control malaria  
  - Mass treatment of high-risk groups with praziquantel need to be carried out to control intestinal and urinary bilharzia  
  - Minimize contact with infected water by requiring people to wear boots and gloves  
  - Support to access to drinking water and autonomous sanitation facilities  
  - Reduce fecal and urinary pollution of surface waters by prohibiting defecation and urine in water and putting in place sanitation systems (latrines, etc.) |
### Potential negative impacts

Infrastructures to manage water (e.g., dams/weirs) may translate into reduction of the flow in rivers and streams, conflicts for water usage, etc.

**Socioeconomic impact including resettlement, reduction of arable and pastoral land, prevention of HIV/AIDS and influx of external workers:** potential loss of land or land use, interruptions to means of livelihood, disturbances to cultural resources, and influx of foreign workers.

Public security issues regarding influx of external workers, mobilization and demobilization of staff, lack of job opportunities for local people

### Mitigation measures

- Educate affected communities about these water-borne diseases
- Follow WHO guidelines
- Design and operation of water management infrastructures (small dams/weirs) need to be done in such a way as to not interfere negatively with the host of water uses by local people downstream. The uses include drinking, washing, including ablutions, livestock, navigation, etc.
- Make use of existing water management structures and where these do not exist and/or are weak assist local authorities and farmers to establish and strengthen these (e.g., water user associations) to develop and enforce water sharing systems and procedures that reduce conflicts and promote harmony
- Select project sites and rights-of-way (ROW) in a consultative and participatory manner so to avoid important social, agricultural, and cultural resources and avoid areas of human activity
- Utilize alternative designs to reduce land and ROW width requirements and minimize land use impacts
- Ensure a high rate of local employment to minimize influx of foreign contract workers: preferred preference to local people in order to avoid social conflicts
- Prevention of STDs, HIV/Aids: Create awareness and educate workers and nearby communities. Provide free, enough, good quality condoms for personnel. Provide treatment for infected personnel
- Supply and enforce wearing protective equipment (helmets, boots, dress, gloves, masks, goggles, etc.) by workers
- Strictly follow government instructions on the hiring of foreign workers and clarify criteria for hiring them
- Favor local labor where the required skills are available, including offering training opportunities to increase local people’s chances of getting work/jobs.
- Environmental management of construction waste (installation of litter bins, regular collection and disposal in authorized sites)
- Awareness on respect for local customs
- Dissemination of the use of farmyard manure
- Rational use of mineral fertilizers (avoiding excess nitrogen fertilizer)
- Leave land fallow to restore soil fertility
- Cover bare soil with a vegetation cover to reduce soil erosion
- Educate and training of farmers
SUSTENTA has developed a Manual of Good Environmental and Social Management Practices for Agriculture and Agroforestry Systems (Annex 2), which is recommended should be used together with the guidelines outlined above as well as be continuously developed as new issues and lessons learned are garnered.

The existing institutional and organizational arrangement as described in Chapter 3 is well positioned to ensure adequate implementation of the Safeguards requirements and applicable national regulations.

The prevailing practices in the subproject cycle as described in the subsequent chapter need to be continuously applied and improved to generate minimum impact and maximum benefits.
9. GUIDELINES FOR SUB-PROJECT SCREENING, PREPARATION, APPRAISAL, APPROVAL AND MONITORING

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

Ultimately the main objective of applying environmental and social safeguardas that cover all phases of Project development is to systematically identify the best entry points and interventions to ensure that not only the “not doing harm” is achieved, but also that development gains are maximized.

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

The objectives of the ESMF screening process include:

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

g) provide guidance for monitoring environmental and social parameters during the implementation and operation of project activities;
h) ensure the final environmental and social evaluation of the project.

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

Below, critical aspects that have been adopted and will continue to be adopted to avoid/minimize negative impacts as well as mitigate and manage them correctly are suggested. These are presented first in two fluxograms one for infrastructure developments and the other for agricultural value chains developments and as
developed by FNDS in the course of the first two years. The diagrams are then summarized in a table (Table 12) and described in the following subchapters.

**1.1. FLUXOGRAMAS PROCESSUAIS: INFRA-ESTRUTURAS**

Fluxogram 1: Infrastructure projects E&S management fluxogram
### 1.2. Fluxogramas Processuais: Cadeias de Valor Agrícola

**Fluxogram 2: Agricultural value chain projects E&S management fluxogram**

**Table 12: Roles and responsibility in implementing ESMF and preparing ESIA/ESMP**

<table>
<thead>
<tr>
<th>Roles</th>
<th>Intuitional responsibilities</th>
<th>Assistance/Collaboration</th>
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</table>
| Screening of Project Activities and Sites | Developers: MASA, MOPHRH/ANE, MITADER, MIC  
Hired Service Providers | ARA, PIU-ESSS |
| Assigning the Appropriate Environmental and Social Categories | MITADER at provincial level | PIU-ESSS |
| Carrying out Environmental and Social Work | Hired Service Providers | PIU-ESSS |
| Environmental and Social Checklist | Hired Service Providers | PIU-ESSS |
| Environmental and Social Impacts Assessment (ESIA) | Hired Service Providers | PIU-ESSS  
Developers: MASA, MOPHRH/ANE, MITADER, MIC |
| Subproject Review and Approval | MITADER at provincial level | PIU-ESSS |
| Participatory Public Consultation and Disclosure | Developers: MASA, MOPHRH/ANE, MITADER, MIC | District/Local authorities |
### Roles and Responsibilities

<table>
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<tr>
<th>Roles</th>
<th>Intuitional responsibilities</th>
<th>Assistance/Collaboration</th>
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<tbody>
<tr>
<td>Grievance Mechanism</td>
<td>Hired Service Providers</td>
<td>District/Local authorities</td>
</tr>
<tr>
<td>Monitoring Reports and review</td>
<td>Developers: MASA, MOPHRH/ANE, MITADER, MIC</td>
<td>District/Local authorities</td>
</tr>
<tr>
<td>Environmental and Social Audit</td>
<td>MITADER/WB</td>
<td>PIU-ESSS</td>
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#### 9.1 Screening of Project Activities and Sites

Depending on the size, nature and perceived environmental consequences of a project Mozambican Regulation for ESIA (Decree 54/2015) provides for four project categories, namely A, A+, B and C. Category A+ and A projects are more stringent and the former is subject to review by professional assessors while A is reviewed normally as it used to be under the previous regulation (45/2004). Where project activities fall under Category B, a simplified ESIA and RAP needs to be carried out. The screening process will be used to determine the appropriate types of environmental follow-up measures, depending on the nature, scope, and significance of the expected environmental and social impacts from each of the Project subproject activities. Figure 12 of this ESMF (Chapter 7) illustrates how this process is structured.

FNDS has also developed Environmental and Social Screening Forms (Annex 328 and Error! Reference source not found.29), which will be completed by Project Environmental, Social, Health and Safety staff. The screening forms, when correctly completed, will facilitate the:

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

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

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

Subsequent to the desk appraisal of the interventions, the initial screening of the proposed sub-project activities will be verified in the field, with the Environmental and

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28 For infrastructure developments

29 For Agribusinesses
Social Screening Form (ESSF) prepared by the Project Safeguard staff. The District Environmental Officers, stationed at the SDPI and/or municipalities, will do the verification. Subsequently, they will oversee the preparation and implementation of the required measures.

9.2 Assigning the Appropriate Environmental and Social Categories

Category A (A+ and A) is more complex and sub-project activities would have significant and long-term adverse environmental and social impacts and therefore would require an ESIA/ESMP and/or RAP, in accordance with Mozambican legal requirements. Category B projects are those with one or a few potentially significant adverse impacts, which would require an Environmental and Social Management Plan (ESMP) to address specific impacts during project construction or operation, but not a full ESIA. Category C projects would not involve any significant adverse environmental impacts; they would therefore not require an ESIA or a specific ESMP, but they would require adherence to good environmental practices, including any applicable Environmental and Social Clauses to be included in the Contractor’s Contracts. The recommended and simple way to adhere to good environmental and social practices is through a simplified ESMP.

The assignment of the appropriate environmental category for the subprojects will be based on the provisions of the Mozambican ESIA Guidelines (Decree 54/2015).

According to the Mozambican Regulation projects requiring Resettlement Action Plans (RAPs) fall automatically under Category A and these would be reviewed and approved by MITADER’s National Directorate of Environmental Impact Assessment in Maputo. Experience has shown that avoidance and minimization of resettlement to, at most, confine it an A-RAP under SUSTENTA is generally achievable. Where after resizing, restructuring and relocating such will not be possible the subproject must be abandoned under SUSTENTA and passed on to other interventions with the provisions to accommodate projects above Category B. the A-RAP should be consistent with the Resettlement Policy Framework. The ESIA, ESMP or RAP should be disclosed in country at the project sites and on the MITADER website and the World Bank Infoshop prior to commencement of any project construction activities. In addition, Project Affected People (PAP) should have been compensated before any construction activity can start. Since the WB policies will apply under this project, in the specific case of resettlement MITADER’s role will be mainly confined to confirming the fact that the sub-projects are not associated with massive resettlement as to fall under Category A.

9.3 Carrying out Environmental and Social Work

After reviewing the information provided in the Environmental and Social Screening Form (ESSF) and the Preliminary Environmental Information Sheets and having determined the appropriate environmental and social category, the Provincial Directorate of Environment (DPTADER) in close collaboration with the Project Implementation Unit will determine whether (a) the application of simple mitigation measures outlined in the Environmental and Social Checklist and Environmental and Social Clauses for Contractors will suffice (Category C); whether (b) an Environmental and Social Management Plan (but no ESIA) needs to be prepared to address specific environmental impacts (Category B); For subprojects categorized as B, either the ESMP or the Simplified ESIA, should be prepared by an environmental and social consultant certified by MITADER.
It is not expected that there will be subprojects falling under any of the A categories in SUSTENTA. Should this happen the subproject will have to be restructured (resized, relocated and/or subject to other measures) to fall under Category B or C or just be abandoned, should these measures fail.

9.4 Environmental and Social Checklist:

The Environmental and Social Checklist (in Annex 4) will be completed by the Project’s Environmental and Social Specialists. Experience has shown that certain subprojects may be found to require a (simplified) ESIA, according to category B projects under Mozambican legislation, although that has not yet happened as the common situation has been to prepare only an ESMP. In the case of having to prepare the (simplified) ESIA, this would identify and assess the potential environmental and social impacts of the proposed activities, evaluate alternatives, as well as design and implement appropriate mitigation, management and monitoring measures. These measures would be captured in the Environmental and Social Management Plan (ESMP) which will be prepared as part of the (simplified) ESIA Document.

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

9.5 Environmental and Social Impacts Assessment (ESIA)

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

30 SUSTENTA will not finance any category A subproject, which entails a full ESIA, either under Mozambican legislation or under WB safeguard policy OP 4.01.
Based on the results of the above review process, and discussions with the relevant stakeholders and potentially affected persons, the Environmental and Social Specialists, in case of sub-projects that do not require an simplified ESIA/ESMP or a freestanding ESMP will make recommendations on Environmental and Social Good Management Practices to the Municipal or District Government to go ahead with the subproject implementation; these are the cases where sub-projects fall at C category under Mozambican legislation.

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

9.6 Subproject Review and Approval

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

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

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

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

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

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

PPP will support a Social Engagement Plan and for it to be effective there are norms and procedures to be observed throughout. The ESMF presents the preliminary document that was used together with other tools developed by the FNDS such as “Community Readiness for Land Registration and Regularization” (Error! Reference source not found.), especially regarding land use issues, to guide the PPP and Engagement of Stakeholders. During the subsequent phases of the project these community engagement documents should be further developed by the Project’s Safeguard Specialists in order to be more responsive to issues as they come to light.

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

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

In terms of the ESIA Regulations in force in Mozambique (Decree 54/2015 and Diplomas 129/2006 and 130/2006 and other related regulatory instruments) mandatory public consultation meetings mark the end of each main phase, e.g. scoping and definition of terms of reference as well as a public consultation on the draft final ESIA document. Under Mozambican legislation, these should be announced at least 15 days prior to the meeting day. In addition to being invited by public notices, a certain number of participants to these meetings should be directly invited by letters of invitation drafted by the Consultant, issued, and distributed by the project developers. In this case the PCU would be at the forefront in ensuring that relevant stakeholders are invited and participate in the meetings.
During the meetings, the ESIA team in collaboration with the developers’ (agriculture, public works, energy, etc.) representatives and the engineering team, maintain PI&APs informed of the main issues and findings of each phase and collect concerns and interests expressed by the various project stakeholders. Public meetings are non-technical in nature and are expected to contribute to get stakeholders’ inputs in terms of avoiding/minimizing possible negative impacts and optimizing the positive impacts of the subproject.

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

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

9.8 Grievance Mechanism

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

Conflicts or grievances arising from project development process are generally associated with poor communication, inadequate or lack of consultation, inadequate flow of accurate information, or restrictions that may be imposed on project affected people. Communities must be involved in awareness-raising and training concerning their rights and obligations; how to obtain legal advice and representation, and how to seek redress against what they regard as unfair practices. These are not only restricted to resettlement actions. They cover the entire project cycle from design to implementation and cover all entities involved, i.e. the Project Developers, Contractors, Local Authorities, etc.

Training in conflict management for technical personnel and district/municipal entities as well as contractors by the FNDS/PIU Safeguards Personnel should be carried out. Local leaders, notably the members of the Community Groups/Resettlement Committees should be trained in conflict management by professional Service Providers to assist in minimizing the negative impact of conflicts.

Special attention should be paid to women, the poor and most vulnerable groups in affected households as well as in host communities to ensure they understand their rights and entitlements. This may be assisted using women social facilitators and
ensuring women are included in the local Community Groups/Resettlement Committees and with other relevant vulnerable groups in Project Monitoring Commissions.

9.8.1. Type of Potential Questions/Information Requests/Complaints (Grievances)

Potential questions/information requests/complaints/grievances Include but are not limited to:

- Questions/information requests/complaints (grievances) regarding land acquisition and/or resettlement;
- Noise of construction works;
- Presence, and potential disruption, of the construction labor force and the effects on communities, local services and infrastructure;
- Community health and safety in relation to impacts of increased traffic on nearby residents;
- Visual intrusion;
- Congestion of and access to locations;
- Damage to the surrounding natural environment;
- Disappointment related to expectations about employment from the Project;
- Negative impacts on a person or a community (e.g. financial loss, physical harm, nuisance);
- Dangers to health and safety or the environment;
- Failure of sub-contractors and their workers or drivers to comply with standards or legal obligations;
- Harassment of any kind;
- Etc.

Project affected people with grievances concerning any aspect of project development including proposed or actual resettlement and/or compensation arrangements should be able to present these to trusted entities who can act as linkages as necessary to others who may be needed to resolve the problems.

This section will describe the Project Grievance Redress Mechanism in relation to the following aspects:

- Registration and response to complaints;
- Mechanisms of appeal;
- Provisions for recourse to civil courts if the other options are unsuccessful.

The aim is to respond to PAPs complaints in a timely and transparent manner. The institutional mechanism for this project will ensure that PAPs have channels to present and resolve their grievances related to any aspect of the project. All relevant stakeholders should work hand in hand to ensure that processes are effective in terms of timely communication and reaction. The PIUs and FNDS should always be informed about all issues, even in cases where they may not be directly involved in responding to those issues. The process and procedures should be structured in the following ways:
9.8.2. Available and Accessible Procedures to Resolve Conflicts (Grievance Redress Mechanism)

SUSTENTA AF will rely on the common Grievance and Redress Mechanism that has been established by FNDS for all MITADER and WB projects. It is called the “Dialogue and Grievance Mechanism (MDR)”. A manual of procedures and a communication strategy were prepared, and an IT platform has been designed to register and monitor the reported cases. This mechanism has been discussed with key stakeholders, including local communities, and has been tested in the Maputo Special Reserve to validate its procedures. The MDR is in the process of being implemented and will be operationalized in all Project areas. This is illustrated in the outline below:

Diagram 3: Grievance resolution process outlines according to the MDR

Diagram 3 shows the presentation of complaints directly to first level recipients at community level where these may be resolved immediately if possible. Should they require technical support from FNDS Social Safeguards Specialists these may be sought as a second level recourse. Finally, should a case not be resolvable internally, it may be referred by FNDS to an independent mediator for resolution. Decisions on resolution and communication to the complainant must be made in a timely fashion at all levels. Should affected persons not be satisfied by the informal process used, or if the nature of the complaint requires higher level appeal, national legislation provides for making complaints in various sectors at the highest levels of Government such as National Directors and Ministers. In addition, should either party be dissatisfied, the affected party may bring the complaint to court, where it will be treated in accordance with Mozambican law. In principle, a community may take a Company to court for failing to comply with the terms of an Environmental and Social Management Plan. In such cases, all citizens have the right to submit complaints to the Public Prosecutor's Office, which is responsible for ensuring the correct application of the law, particularly in the development of land use planning instruments and their implementation. The FNDS, will ensure that a “Complaints Register” is maintained and landscape level. The complaint records should contain: i) the complainant's contact details and information on the complaint itself, ii) the results of investigations and responses provided, iii) measures taken by SUSTENTA Project management, iv) necessary follow-up actions and v) internal communications made in response to complaints and solutions. In all cases where complaints are made about the implementation of Project activities, FND is expected to investigate the
complaint and resolve it internally by applying the MDR manual in use in the Project and returning the response within a period of less than 15 days.

**Gender-Based Violence**

In normal day-to-day situations, but particularly in times of social change such as those that can be triggered by the development of an urban sanitation project, violations of the rights of persons based on gender are common. These arise in the same forms as typified above, but not only.

It is suggested that cases of Gender-Based Violence (GBV) be transmitted directly from the affected person to PIU with the support of the Heads of Ten (1) Houses, including local NGOs and CBOs working on this issue.

Each step should be limited to a maximum of 14 calendar days from the receipt of a complaint to the decision-making.

It is strongly recommended that all necessary measures to ensure that solutions are adopted by consensus based on negotiation and agreement are taken.

Detailed procedures for compliance with the grievances and the appeal filing process should be disseminated among PAPs, which should be trained to use them when so deemed necessary. The empowerment process described in previous chapters should focus on these procedures, among other things. The procedures should be disseminated during all stages of the ESIA and ESMP and RAP.

**Confidentiality and Anonymity**

The Project will aim to protect a person’s confidentiality when requested and will guarantee anonymity in reporting. Individuals will be asked permission to disclose their identity. Investigations will be undertaken in a manner that is respectful of the aggrieved party and based upon the principle of confidentiality. There may be situations when disclosure of identity is required. If this is the case, the PIU will identify this and ask if the aggrieved party wishes to continue with the investigation and resolution activities.

**Uptake Channels**

There should be multiple uptake channels for questions/information requests/complaints (grievances). These should be accessible and culturally appropriate for all potential project affected peoples, including vulnerable subsections of the population. Among the suggested uptake channels are physical mailboxes, a dedicated email address, a dedicated phone number, a dedicate text message number, and the possibility of submitting orally.

**9.9 Annual Monitoring Reports and review**

Monitoring of the compliance of project implementation with the mitigation measures defined in its ESIA/ESMP, PMP and/or RAP will be carried out jointly with communities,

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31 Mecanismo de Diálogo e Reclamações (MDR) para implementação de Iniciativas REDD+ e Projectos FNDS/Banco Mundial (MITADER/FNDS, 2016).
the Environmental and Social Specialist, and the Provincial Community Management Specialists, MITADER’s local representatives, extension workers and the Service Provider (i.e. CSO) responsible for implementing the Project.

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

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

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

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

It is worth pointing out that annual reviews are not normal for ESIAs/ESMPs with the current practices. Where these occur are done every five-years. The Project Implementation Unit at central (PPCU) and provincial levels need to make dedicated efforts to ensure that this work is done properly on an annual basis.

9.9 Environmental and Social Audit

An external independent environmental, social, health and safety audit will be carried out at mid-term of project implementation and at the end of the project. It is suggested that this be done every three years. The audit team will report to MITADER and the World Bank, who will deal with the implementation of any corrective measures that are required. The audits are necessary to ensure that (i) the ESMF process is being implemented appropriately, and (ii) mitigation measures are being identified and implemented accordingly. The audit will be able to identify any amendments in the ESMF approach that are required to improve its effectiveness.

The Audit Reports will include:

- A summary of the environmental, social, health and safety performance of the sub-projects, based on the ESIAs, ESMPs, RAPs, PMP and the implementation of the Environmental and Social Clauses in the Contractor Contracts and Contractor ESMPs;
- A presentation of compliance and progress in the implementation of the sub-projects ESMPs;
- A summary of the environmental and social monitoring results from individual sub-projects monitoring measures (as set out in the sub-project ESMPs).
The main tasks of the audit will be to:

- Consider the project description;
- Indicate the objective, scope and criteria of the audit;
- Verify the level of compliance by the developer with the conditions of the ESMP, PMP, RAP, Environmental and Social Clauses and Contractor ESMPs;
- Evaluate the developer’s knowledge and awareness of and responsibility for the application of relevant legislation;
- Review existing project documentation related to all infrastructure facilities and designs;
- Examine monitoring programs, parameters and procedures in place for control and corrective actions in case of emergencies;
- Examine records of incidents and accidents and the likelihood of future occurrence of the incidents and accidents;
- Inspect all buildings, premises and yards in which manufacturing, testing and transportation takes place within and without the project area, as well as areas where goods are stored and disposed of and give a record of all significant environmental, social, health and safety risks associated with such activities;
- Examine and seek views on health and safety issues from the project employees, the local and other potentially affected communities; and
- Prepare a list of health and safety and environmental and social concerns of past and on-going activities.
10 GUIDELINES FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN AND MONITORING REQUIREMENTS

10.1 Environmental and Social Management Plan (ESMP)

A site specific ESMP should be conducted as part of the ESIA process, as per the Regulamento do Processo de Avaliação do Impacto Ambiental (RPAIA), and should include the “monitoring of impacts, prevention plans, as well as accident contingencies”. 4 ESMP for infrastructure subprojects have been prepared since the project inception and there is considerable experience within SUSTENTA and FNDS in the preparation of such plans. In addition, 2 manuals of good practices for infrastructures and a guide to good practices for agriculture and agroforestry systems were developed.

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

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

The ESMP covers a set of measures that need to be taken to ensure that impacts are dealt with in the following hierarchical order:\(^\text{32}\):

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

As stated above (e.g. Fluxograms 1 and 2), the management measures set forth in the ESMPs for more complex sub-projects and the Environmental and Social Clauses (SECs) for simple sub-projects will be included in the bidding documents and in the various contractual clauses for the design, construction and appropriate operation of the interventions to be adopted. All construction contracts should comply with the Environmental and Social Clauses and if relevant with the ESMP and Contactor ESMP prepared for the specific sub-project. Their implementation is the responsibility of the contractors. The Supervising Engineers will be required to monitor the adequate implementation of these clauses, ESMPs and CESMPs. For complex sub-projects the contractors will be required to prepare and implement his/her own Contractor ESMP and should employ an experienced environmental, health and safety specialist for this purpose. The Supervising Engineers will be required by contractual arrangement to supervise the adequate implementation of these Contractor ESMPs, other ESMPs or SECs and should employ an experienced environmental, health and safety officer for this purpose.

A series of steps to be followed to ensure that agriculture under the Project follows the best practices should be creatively followed where the Project will be supporting agricultural sub-projects. Annex 9 provides a checklist of issues to be considered as part of Good Agricultural Practices - Hygiene and Safety (Environmentally and Socially Friendly Agricultural Farming Systems), which should be followed and adapted to specific interventions. This should be used together with SUSTENTA’s instructions on the same subject (Annex 2).

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

10.2 Pest Management Plan

Chapter 8 shows that pesticides are already being used under the project to counteract the occurrence of pests affecting some of the crops (e.g. maize, soybean and sesame).

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

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

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

**Box 1: Overview of Pesticide Management Plan**

The Pesticide Management Plan (PMP) is a tool to prevent, evaluate and mitigate the occurrences of pesticides or pesticide breakdown products. The PMP includes components promoting prevention and developing appropriate responses to the detection of pesticides or pesticide breakdown products and provides responses to reduce or eliminate continued
In addition to agricultural insect pests and plant diseases, pests also include weeds, birds, rodents, and human or livestock disease vectors.

Mozambican regulation on pesticides and World Bank Safeguard Policy on Pest Management OP 4.09 conform to the specifications of the World Health Organization (WHO) and Food and Agriculture Organizations of the United Nations (FAO). There are no specific policies about pest management and crop protection in the context of IPM approaches in Mozambique. Research into plant health and to a certain extent IPM approaches are carried out by IIAM (National Agrarian Research Institute) and the Faculty of Agronomy and Forestry (FAEF) of the Eduardo Mondlane University (UEM). IRRIGA and other agricultural development projects contain several provisions for deepening research and development of alternative ways of improving IPM that should benefit SUASTENTA. Under these agencies, IPM research will continue and the knowledge will be passed on to extension services as they become available. SUSTENTA will support such initiatives were feasible.

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

10.3 Involuntary Resettlement (Resettlement Action Plan)

The project has been showing considerable ability to avoid/minimize resettlement. Were land acquisition has been unavoidable it has been minimal such as that simple compensation measures have been adequate to restore the losses. There are reasons to believe that this will remain largely unchanged and it is encouraged.

Both, the Mozambican legislation Decree 31/2012 (“Regulation on the Resettlement Process Resulting from Economic Activities”) and other relevant national laws and regulations (see Chapter 6) as well as the World Bank Safeguards Policy on Involuntary Resettlement (OP/BP 4.12) will apply to any sub-project with implications on land expropriation. In cases where the Mozambican regulation differs from OP/BP 4.12, therefore OP/BP 4.12 prevails.

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

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

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

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

Given the complexity of issues to be dealt with under involuntary resettlement a Resettlement Policy Framework (RPF) has been prepared for the SUSTENTA and slightly revised for the AF and must be used together with this ESMF.
11 TRAINING AND CAPACITY BUILDING REQUIREMENTS

Despite the fact that the Mid-Term review identified areas in need of improvement to consistently implement ESMF and PMP/RPF requirements by procurement personnel, as well as by the infrastructure and value chain specialists as well as subproject beneficiaries on the ground, there has been considerable implementation of the environmental and social management measures outlined in the ESIAs/ESMPs, PMP and RAPs reinforced by considerable level of training and capacity building, including technical assistance. Training and capacity building will continue to be a requirement for the key stakeholders to ensure that they have the appropriate knowledge and skills to carry out environmental, social and community work and to implement the environmental and social management plans. Stakeholders at all are targetted.

11.1 Institutional Capacity Assessment and Analysis

Descriptions made in Chapters 6 and 7 (mainly the findings from the public meetings) clearly show that there has been considerable progress in institutional, legal and regulatory processes related with environmental and social management in Mozambique. However, coordination and law enforcement remain a serious challenge. FNDS has shown that a lot is possible and that more can still be achieved.

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

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

Based on lessons learned from the first two years, needs identification a specific institutional and human capacity-building program for environmental and social management will continue to be developed as part of the Project. Beneficiary institutions are MITADER at its various levels, mainly the provincial and district levels, relevant ministries at provincial and district levels, e.g. agriculture, public works, energy, mineral resources, health, education, economy and finance, etc., including local authorities (e.g. municipalities and others such as CSOs), community leaders, extension workers, etc. A detailed capacity-building program is already under implementation, with a focus on strengthening the District, Municipal and Provincial structures responsible for environmental and social management and will be scaled up under AF. Community leaders are being pointed out by a multitude of stakeholders as reiterated during the public meetings and this should be taken up consistently.

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

This is done under the leadership of the FNDS and PIU environmental and social safeguard specialists and community development specialists who deal with the various and complex issues related with communication, coordination, capacity building and institutional strengthening.

11.2 Proposed Training and Awareness Programs

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

- sensitize the various stakeholders on the linkages between environment and social impacts and Project subprojects, particularly rural feeder roads, agriculture and forest development, agro-industry, water supply, energy, education, health, etc.;
- demonstrate the role of the various key players in the implementation and monitoring of the safeguards’ instruments (ESMF-ESIA/ESMP, RPF/RAP, PMP, etc.);
- sensitize representatives and leaders of community groups and associations (who will in turn convey the message to their respective communities) on the implementation and management of the mitigation measures; and on their roles in achieving environmental and social sustainability;
- ensure that both provincial and district level personnel can provide leadership and guidance as well as supervise the implementation of their components in the ESIA/ESMP, RPF/RAP, PMP, etc.;
- ensure that participants understand and analyze the potential environmental and social impacts, and competently prescribe mitigation options as well as supervise the implementation of management plans;
- strengthen local NGOs and teams of extension workers to provide technical support to the farmers for them to adopt best practices in dealing with the natural resources (land, soil, water, flora/fauna, etc.).

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

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

Practical ways of reaching all target groups will need to be devised for training and capacity needs assessments as well as for delivery of the training. The “Learning by
Doing\textsuperscript{33} approach in relative detriment of studies and other forms of advice and assistance will be given priority consideration. The training of trainers is also seen as a relevant approach as it will assist in the creation of basic conditions for sustainability and replication of the interventions. The outcomes of such a process will live beyond the life span of PROJECT.

11.3. Technical Assistance (TA)

Areas in need of Technical Assistance are permanently being assessed and the results are be used to devise the best approach to deploy TA to the project. This approach should continue in the next phase.

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

\footnote{33 In which relevant personnel at the various levels are exposed to examples of good practices and/or where they learn by seeing and/or doing how things are approached and done.}
12. ESMF MONITORING REQUIREMENTS

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

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

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

The Project Implementation Unit (PIU) should regularly consult and coordinate with the appropriate government agencies on social and environmental monitoring. Quarterly progress reports should be prepared and circulated to all relevant entities covering aspects such as:

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

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Amount inUS$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening EIAS/ESMP’s preparation and audits</td>
<td>108,000.00</td>
</tr>
<tr>
<td>General technical assistance (Land protocol, manual for good practs to agriculture; protocol for preventing the conversion of critical habitats)</td>
<td>120,000.00</td>
</tr>
<tr>
<td>Monitoring</td>
<td>175,000.00</td>
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<tr>
<td>Grievance</td>
<td>150,000.00</td>
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<tr>
<td>Awareness, Training and Capacity Building</td>
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<tr>
<td>awareness</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 590,000.00</strong></td>
</tr>
</tbody>
</table>

The total cost of preparing and implementing ESMF, and the ESIA/ESMPs under this document stands at **US$ 590,900.00** (Five hundred and ninety thousand nine hundred american dollars)
REFERENCES


Annexes
Annex 1: Minutes of the public meetings (Mocuba/Nampula)

Summary of Public Meetings for Additir


Manual de Boas Práticas_Salvaguardas.

Annex 3: Subproject screening form for infrastructure developments

Formulário AS de Triagem para obras

Annex 4: Screening forms for agricultural and other business developments

Formulário de triagem socio-ambiental
FORMULARIO TRIAGEM MPMEs LIMPO

Annex 5: Assessment of Community Readiness for Land Registration and Regularization

Prontidão Comunitária_Regularização

Annex 6: Protocol for preventing the conversion of critical habitats

Protocol for Preventing the Habitats Conversion
Annex 7: Protocol for land regularization

Protocolo Regularização Posse

Annex 8: Environmental and Social Clauses for Contracts under the Subprojects

Environmental and Social Clauses for Contracts

Annex 9: Best Practices on Agriculture- Hygiene and Safety

Best Practices on Agriculture- Hygiene