GOVERNMENT OF MOZAMBIQUE **AFRICAN DEVELOPMENT BANK**

PROGRAMME FOR INTEGRATED DEVELOPMENT AND ADAPTATION TO CLIMATE CHANGE IN THE ZAMBEZI WATERCOURSE (PIDACC ZAMBEZI)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

Final report

Maputo, September, 2022

By: Eulalia Macome

Table of Contents

Abbreviation

AFDB	African Development Bank
ADVZ/AVZ/VZA	Agencia do Vale do Zambeze/Zambezi Valley Agency
ARA-Centro	Administração Regional de Águas
CAE	Children Abuse Exploitation
CESMP	Contractor Environmental and Social Management Plan
CEDAW	Convention on the Elimination of all Forms of Discrimination against Women
DPDTA	Provincial Directorate of territorial development and Environment
DPP	*Direcção de Planificação e Políticas*
DNE	*Direcção Nacional de Energia*
DNEA	*Direcção Nacional de Extensão Agrária*
ES	Environmental Specialist
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
E&S	Environmental and Social
ESAP	Environmental and Social Assessment Procedures
INIR	*Instituto Nacional de Irrigação*
ISS	Integrated Safeguards System
GBV/SEA	Gender-Based Violence/Sexual Harassment and Abuse
GDP	Gross Domestic Product
GRM	Grievance Redress Mechanism
MADER	Ministry of Agriculture and Rural Development
MTA	Ministry of Land and Environment
OHS	Occupational Health and Safety
PIDACC	Programme for Integrated Development and Adaptation to Climate Change in the Zambezi Watercourse

PIU	Project Implementation Unit
PSC	Project Sterring Committe
SADC	Southern Africa Development Countries
SDPI	Serviços Distritais de Planemaneto e Infra estruturas
RAP	Resettlement Action Plan
TA	Technical Assistance
UNEP	United Nation Environmental Program
VAC	Violence Against Children
WB/WBG	World Bank / World Bank Group

EXECUTIVE SUMMARY

Brief project description

Project components	Project subcomponent	Main activities
Component 1 - Strengthening Integrated Natural Resources Management,	1.1 Establishing an Integrative Landscape Management Approach, watercourse to sub-catchment protection and restoration	building water harvesting systems to improve the water availability to the local population, i.e. multifunctional boreholes, small earth dams, watering points for livestock as well as construction of and rehabilitation of multifunctional solar-powered boreholes for irrigated agriculture, domestic water supply, livestock watering points and micro-industrial use.
	1.2 Promoting Integrated Water Resources Management)	While in the flood prone areas, the project will be building climate proof infrastructures, main drainage structures, dikes and other flood protecting systems. For the later the project will be supplying irrigation kits, construct
Component 2 - Building Communities' Resilience to Climate Change	2.1 Supporting Climate Resilient and Low Carbon Emission Community-level Demand-driven Infrastructure Development	rehabilitate community agriculture markets, construct training centers, provision of small agro-processing machines.
	2.2 Reinforcing Inclusive and Diversified Climate Resilient Livelihoods Support)	
Component 3 - Supporting Adaptive Capacity and Institutional Capacity -Development,	3.1 Strengthening Climate Adaptive Capacity of Communities;	
	3.2 Strengthening the Institutional Foundation for climate resilience and low carbon emission development, Capacity Building, Monitoring & Evaluation, Knowledge Management and Technology Transfer);	training of trainers in nutrition, training women on food processing, and Implement nutrition sensitive interventions in agriculture commodity value chain.
Component 4 Programme		Project management (procurement, financial

Coordination.		

The PIDACC Zambezi was identified through the Pre-feasibility Study, which was concluded in December 2021. The Programme will be achieved through the implementation of investment projects at both the Regional and National/Country levels, within the context of support, coordination, and institutional development. The land use land cover is dominated by forests and bushland, with considerable areas of cropped land and grassland while a portion of the basin is covered by large water bodies, including Lake Malawi/Nyasa/Niassa, Lake Kariba, and Lake Cahora Bassa. Approximately 39% of the territory of the riparian states is classified as forest area. However, climate change and human pressure are driving considerable environmental changes across the basin. For instance, the area of forests is decreasing due to encroaching subsistence agriculture (accounts for 42% of deforestation) and large-scale commercial agriculture (32%). Other deforestation drivers include mining, infrastructure development, and urban expansion. Besides the trend in land-use change, the region also faces land degradation issues, caused by over-cultivation, deforestation, charcoaling, forest fires, inefficient irrigation practices, overgrazing, overexploitation of resources, and climate change and variability (UNEP, 2016). Biomass, chiefly wood, is the main energy source of 80% of the population in the Zambezi Riparian States with average access to the electricity grid being 18.5%. Charcoal production for rural domestic use has limited impact but production for sale to urban dwellers as a source of rural income is a threat in most Zambezi Riparian States causing extensive degradation.

The program will be implemented along of the Zambezi basin being a regional program by nature, but with National implementation. The project will have the following components and subcomponents:

build strong communities that are resilient to climatic and economic shocks in the Zambezi Watercourse, through promoting inclusive transformative investments, job-creation, and ecosystem-based solutions. Based on a transformative approach, which ensures gender equality and social inclusion,

Specific objectives are to

(i) Increase feasible climate resilient community-level demand driven infrastructure that would support livelihoods,

(ii) Develop and improve livelihoods, including job creation, by strengthening agribusiness through investments in water, energy, social, and agriculture (food security and nutrition) sectors,

(iii) Strengthen and build capacity of the communities with the view to avoid, reduce and reverse land degradation and effectively manage water resources in a sustainable manner, and

(iv) Enhance institutional development and adaptive capacity in order to reduce vulnerabilities.

The PIDACC Program cuts across the part of Zambezi basin countries. Mozambique is one of the six countries that will host the project. In Mozambique the program will be implemented in four provinces of the central Mozambique, namely:

- Sofala (Chemba districts),

- Manica (Guro Districts),
- Zambezia (Mopeia and
- Tete (Changara).

Overview of the major environmental and social risks and stakes

The project will be located in 4 three provinces (Tete, Zambezia, Manica and Sofala) and each province selected 1 district to host the project. Based on the Bank procedures the project was subject to the environmental and social screening process and it was categorized under category 2, due to the expected negative impacts that the implementation of some project activities will bring to the environment and society. Therefore, some minor impacts are expected.

The project will bring more positive impacts than negative impacts at the end, because the targeted communities and farmers will have been provided with climate resilient instruments to cope with the extreme weather conditions. The overall implementation of the project components will boost productivity and thus resulting in additional quantity of goods that can be sold at local markets.

The major environmental risk are related with the implementation of the component 1 and 2 (construction activities) namely: soil erosion and contamination due excavation activities and potential of chemical spillages, water contamination misuse of natural water sources vegetation loss due to clearance for establishment of irrigation areas, or drainage , camping sites.

From the social area these are the major risk: health and safety, influx workers and Gender Biased Violence (GBV) related aspects, communicable and emergent (HIV, ITS and COVID 19) disease contamination.

1. Institutional Framework, Laws and regulation/procedures the project will comply with and Bank safeguards policies requirements

The project will have to comply with Mozambican Environmental Laws and Regulations and African Development Bank Rules and Procedures. The constitution of the Republic of Mozambique lays the ground for what is today the applicable environmental and social legal instruments. It provides that all the citizens have the right to a balanced environment and the duty to protect it[1].

The proposed program must be implemented within National and Bank legal and institutional framework that may be relevant to the project throughout its life cycle. Relevant environmental and social instruments and regulations required are presented in the next subsections. These subsections describe the regulations, major provisions, and its relevance for the project.

Environmental Law (Law No. 20/97)- Establishes the basis for environmental management as a pre-requisite for a country's sustainable development. In terms of scope, this applies to public and private activities directly or indirectly affecting the environment. The project

[1] Article 90

conformity with this provision is critical to contribute to the country's sustainable development.

Regulation for Environmental Impact Assessment - ESIA (Decree No. 54/2015)- It defines the fundamental instruments for environmental management, the ESIA, which aims at mitigating the negative impacts that certain projects, in the public and private sectors, may cause to the natural and socio-economic environment, through the undertaking of environmental studies prior to commencement of the projects. **Public Participation methodologies and procedures (Ministerial Diploma No. 130/2006)**-Defines the basic principles related to public participation, methodologies, and procedures. Considers public participation as an interactive process that initiates at the design stage and continues through the lifetime of the project. It defines that Public Participation Process (PPP) for ESIA must conform with the guidelines provided in this Ministerial Diploma.

Air quality

Regulation for Environmental Standards and Effluent Emission (Decree No. 18/2004 (as amended by Decree No.67/2010) - Establishes parameters for the maintenance of air quality. The project shall comply with the air quality standards, considering the admissible emissions by law, so as not to harm the environment.

Water quality

Water user use (Law No. 16/91) –The law provides that any activity with the potential of contaminating or degrading public waters, in particular the discharge of effluent, is subject to a special authorization to be issued by the Regional Water Administration and payment of a fee.

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

Land Use and Rights

Land Policy (Resolution No. 10/95) – It sets out that the State must provide the land for an investments and is responsible for land use and physical planning, although plans can be made by the private sector. Land use rights (Law No. 19/1997) – Establishes the rights of land use, including details on customary rights and procedures for acquisition and use of land titles by communities and individuals. The law recognizes and protects the rights acquired through inheritance and occupation (customary rights and duties of good faith), except for legally defined reserves or areas where land has been legally transferred to another person or institution.

Regulation for the Resettlement Process Resulting from Economic Activities (Decree No 31/2012) –Stipulates rules and basic principles for resettlement processes from the implementation of public or private economic activities. Equally, it provides that the Resettlement Plan is part of the ESIA process and that its approval precedes the issuance of the environmental license. This regulation states that if a project results in physical or economic resettlement, a Resettlement Plan needs to be developed as part of the ESIA process and approved.

Cultural Heritage

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

Biodiversity

Biodiversity protection (Law No. 20/97) – Covers aspects of guaranteeing the protection of biological resources, particularly of plant or animal species threatened with extinction or any similar issue, by their genetic value, ecological, cultural, or scientific, require special attention. Protection is extended to their habitats, especially those built in areas of environmental protection.

Labour Safety

The Labour Law (23/2007) is the main statute governing all aspects of the employment relationship. There is also other derivative legislation on various lateral aspects of the employment relationship (e.g., the legal framework on domestic work. It also determines the minimal wages per sector. The country was also established by Law No. 4/2007 of February 7, the legal framework for social protection. This Law defines the foundation that underpins Social Protection and organizes the Social Protection system.

Gender Biased violence

In Mozambique there is no specific legislation on Gender. However, the Ministry of Gender has developed policies and strategic plans to decrease gender-based inequalities within different sectors.

The National Institute of Disaster and Risk reduction management (INGD) prepared its gender strategy 2016-2020.

This strategy did not clearly include the action against gender biased violence, which has been systematically reported in the rescue camps. To develop a comprehensive approach for the GVB during the emergency the strategy is in revision.

INGD, based on this strategy has indicated gender focal points at national level. With the New institute (INGD), gender issues will be included in the newly established Safeguards Gab net The GBV in this project may be expected among vulnerable people specifically women and young girls as the project will require influx workers due to construction activities, At the operation phase women may be excluded from the benefits of the project, just because there are women, therefore equity issues shall be considered at the early stage.

Climate change

Mozambique remains extremely vulnerable to climate variability and change. Droughts, severe flooding, and coastal storms are increasing in frequency and severity. This has affected

the country's economic performance. Increased variability of weather and climate patterns could slow and even reverse the progress made on poverty reduction in recent years in Mozambique. While uncertainties remain, it seems likely that climate and weather variability will increase exerting important impacts on the water sector and related livelihoods. The environmental legal framework is overall referred to as the need for balanced development and recognized the vulnerability of Mozambique to Climate Change. In 2010 the country approves the *National Climate Change Adaptation and Mitigation Strategy* (NCCAMS), which represents a turning point in Mozambique's response to the challenges of climate change, indicating a clear set of strategic actions to be implemented so that Mozambique can ensure a more prosperous, resilient and sustainable future.

The Bank African Development Bank Environmental policies

Operation safeguard are mechanisms by which the AfDB integrates the environmental and social issues into decision making. It supports participatory approaches and transparency. They provide a set of specialized tools to support development processes as follows. The OSs are intended to: Better integrate considerations of environmental and social impacts ; Prevent projects from adversely affecting the environment and local communities or, where prevention is not possible, minimize, mitigate and/or compensate for adverse effects and maximize development benefits; Systematically consider the impact of climate change on the sustainability of investment projects and the contribution of projects to global greenhouse gas emissions; Delineate the roles and responsibilities of the Bank and its borrowers or clients in implementing projects, achieving sustainable outcomes, and promoting local participation; and Assist regional member countries and borrowers/ clients in strengthening their own safeguards systems and their capacity to manage environmental and social risks.

Framework Environmental and Social Management Plan (ESMP)

The project implementation will be resulting in more positive impacts than negatives, due to the nature of the project. Some negative impacts are expected associated with the construction activities under component 1 and 2 The expected positive impacts will be result from:

Increase water availability and quality for human and animal consumption: construction multifunction borehole will expand the time of water availability for consumption, and will facilitate irrigation for new crops and decrease animal mortality due to few feeding stocks and water during dry season.

Increase production and productivity: the adoption of new agriculture technologies and introduction of new varieties will result in more stable production and increase the results of the agriculture in both drought and flooded areas, Employment **creation**: Employment opportunities will be created during the construction of project infrastructure. **Capacity building and awareness** The project will introduce new technologies and equipment's for farmers. Therefore, is expected the capacity and agriculture services at local level will be improved and strengthened though the provision of material and equipment's. Awareness campaigns and dissemination of best practices will contribute to the vegetation, soil and water conservation.

Mitigation and enhancement measures through an adoption of best practices and implementation of OHS measures. At the level of project, it was prepared this ESMF, which will then have turned into ESMP or manual of the Environmental and Social best practices at subproject level, after the identification of the subprojects.

In general terms the project implementation will have more positive impacts than negative impacts.

(i) Increase water availability for human and animal consumption in in dryness districts of Guro and Changara;
(ii) Increase resilience to climate change events (drought and flood) in the beneficiary communities;
(iii) Increased agricultural activities that will led to improve agricultural production and productivity in all four districts;
(iv) Improved food nutritional status of the beneficiaries as a result of the increase in the quantity of food produced once the project becomes operational;
(v) Improved land conditions due to improved land and water management and conservation activities;
(vi) Improve community resilience to the climate change
(vii) Increased employment opportunities due to increase in economic activities and Capacity building will enhance the knowledge base of the technical officers and local communities hence enhancing their production potentials resulting in improved crop and livestock production.

The negative expected impacts are mainly linked to the construction activities to be carried out under component 1 and 2. These negative impacts are expected to be as follow:

(i) Soil degradation;
(ii) Air and Water pollution;
(iii) Vegetation loss;
(iv) Solid wats management;
(v) Occupational health and safety;
(vi) Community health and safety;

2. Public consultation during the preparation of the ESMF

In developing this ESMF a consultation was conducted with the appraisal team in Maputo with the objective to understand the project components and the activities to be implemented in the field, the scope of work under this assignment and discuss the institutional arrangements and responsibilities on the implementation of the project. This contact was done virtual by zoom meetings.

Due to time constraints the consultation was only conducted in Tete province. Two public meetings were held on 21 and 22 of September 2022 in Tete city and Changara District. The meeting was attended by 41 people representing Governmental institutions at provincial and district level: ARA-centro, INGD_Tete, INAM-Tete, DPDTA, DPAP, SDAE, SDPI, Women association in Changara, ACEagrarios, among others. The main conclusion of the meeting is as following:

- Erosion and drought are among the main environmental risks affecting Changara and Guro. The other two districts of Zambezia and Sofala are mainly affected by rain and floods;
- Need to involve communities in the selection of specific activities to be implemented in the field (selection of varieties to be introduced, water infra-structures etc) . The project shall build a trust with the communities and other stakeholders in the basin ;
- The project shall develop a manual of environmental and social best practices as a blueprint of the project in each of the activities implemented;
- The project shall be inclusive, and include the vulnerable groups/people.

Environmental Procedures

The procedures followed incorporate the requirement of both, relevant national regulation, specially the Environmental Impact Assessment Regulation (Decree 54/2015 of 31 December) and African Development Bank's environmental and social safeguards policies. Screening of subprojects shall commence at the time of project identification when the basic subproject details are known, including nature and scope, proposed location and area, the exact beneficiaries among other available information. The initial screening of subproject components and sites will be completed using the Environmental and Social Screening Form (Annex 1). The outcome of the screening process is the categorization of the subproject. According to the Mozambican EIA regulation, the subproject can be assigned a category (A+, A, B or C).

Category A+ is applied for complex projects with significant and irreversible impacts to social and biophysical environment, while category A is assigned to project that induce adverse social and environmental impacts to living organisms, is implemented in sensitive environmets but with appropriate mitigation measures the impacts can be reversible. These category correspond to category 1 of the AfDB OS 1.

Category B is applied for project that do not affect significantly the biophysical and social environment. This category correspond to category 2 of the AfDB OS 1, where the project are likely to have few, site-specific and largely reversible and readly minimized environmetal and social impacts.

Category C projects correspond to category 3 of the AfDB OS1 and is applied for projects with negligible, insignificant and minimum adverse impacts on the biophysical and social environment.

The Mozambican PIDACC, subprojects are not expected to have any significant environmental and social negative impact, therefore a will be under category C and minor subprojects under category B (depending on the extension and nature of the construction activities expected).

The trainings and capacity building events should be designed to tailor the needs of a specific group of stakeholder and should include:

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

Sensitization - for stakeholders who need to be sufficiently familiar with the issues so that they can make informed and specific requests for technical assistance.
Technical training - for stakeholders who will need to use the ESMF tools, analyze potentially adverse environmental and social impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans. Due to the type of the project activities, is not anticipated a high level of conflicts. The implementing agency will develop a Grievance Mechanism (GM) to handling the project environmental and social related complaints and conflicts

Ministry of Agriculture and Rural Development as a coordinating entity and ZVA as a implementing entity will ensure that the ESMP or Environmental and Social Best practices are developed, disclosed for public consultation and approved, management measures are adopted and integrated during project implementation. At MADER level there is a unity based at the Minister Cabinet that leads with social and environmental safeguards. While the implementing entity, does not have within its structure a unity or department that deals with environmental, social and climate change, although the ADVZ is implementing several projects funded by various cooperating partners and each projects hire E&S specialists. The implementation of the project will be carried out by the Zambezi Valley Authority (GIZ) The PCU will also be responsible for the overall monitoring and supervision of ESMF/ESMP implementation.

The governance of the project a steering committee will be establish ed and the MADER Technical Council will act as Project Steering Committee (PSC). The main objective of this body will to provide oversight responsibility and oversee Project compliance with sector policies and strategies.

The PSC will comprise MADER Permanent Secretary[2] and senior officials from DPP, DNEA, DNP, INIR, DNE, IPEME (*Institute for Promotion of Small and Medium Enterprises*), and GAPI (*Small Scale Investment Support Office*), DNA. The PC will be secretary to the PSC.

The implementation of the PIDACC in Mozambique will be supported by AfDB, the Government of Mozambique and by beneficiaries of this ESMF report. The estimated budget for the implementation of the ESMF is presented in Table 12. It includes costs for Consultancy Services to prepare i) Environmental and Social Assessments for subprojects; ii) Monitoring; iii) capacity building of the ZVA to implement the safeguards instruments; iv) Implementation of the Safeguards measures proposed under this ESMF; v) Training at all level in safeguards. It is important to stress that the implementing entity does not have within its structure a unity or department that deals with environmental, social and climate change, although the ADVZ is implementing several projects funded by various cooperating partners and each projects hire E&S specialists. The discussion held with the ADVZ the was identified the need that the institution starts to build internal capacity to deal with environmental and social safeguards, therefore a substantial amount was allocate for capacity building and monitoring by ADVZ.

[2] MADER at the time does not have a PS

The overall budget for implementation of the ESMF is estimated at US$ 147000 to be divided among the four districts.

#	Item	Unit	Unit Cost		Total	
			Local (MZN)	US$	Local (MZN)	US$
1	Costs for Screening of Sub projects	4	32,000.00	500.00	128,000.00	2,000.00
2	Costs of Preparation of sub project safeguard documents/ Project Briefs ESMP/ ESIA/Stakeholder Engagement Plan etc	4	480,000.00	7,500.00	1,920,000.00	30,000.00
3	Capacity Building and developing of an monitoring framework/training				1,920,000.00	30,000.00
4	Costs of Implementation and Monitoring of Site specific ESMP				3,200,000.00	50,000.00
5	Mid-term audit of ES performance				480,000.00	7,500.00
6	Completion audit of ES performance				480,000.00	7,500.00
6	Regular E&S Supervision/ consultant				1,280,000.00	20,000.00
7	**Total**				9,408,000.00	147,000.00

1. Introduction

The PIDACC Zambezi was identified through the Pre-feasibility Study, which was concluded in December 2021. The Programme will be achieved through the implementation of investment projects at both the Regional and National/Country levels, within the context of support, coordination, and institutional development. The land use land cover is dominated by forests and bushland, with considerable areas of cropped land and grassland while a portion of the basin is covered by large water bodies, including Lake Malawi/Nyasa/Niassa, Lake Kariba, and Lake Cahora Bassa. Approximately 39% of the territory of the riparian states is classified as forest area. However, climate change and human pressure are driving considerable environmental changes across the basin. For instance, the area of forests is decreasing due to encroaching subsistence agriculture (accounts for 42% of deforestation) and large-scale commercial agriculture (32%). Other deforestation drivers include mining, infrastructure development, and urban expansion. Besides the trend in land-use change, the region also faces land degradation issues, caused by over-cultivation, deforestation, charcoaling, forest fires, inefficient irrigation practices, overgrazing, overexploitation of resources, and climate change and variability (UNEP,

2016). Biomass, chiefly wood, is the main energy source of 80% of the population in the Zambezi Riparian States with average access to the electricity grid being 18.5%. Charcoal production for rural domestic use has limited impact but production for sale to urban dwellers as a source of rural income is a threat in most Zambezi Riparian States causing extensive degradation.

The key risks predicted for the Zambezi River Basin related to climate change over the coming century are (i) The Zambezi Basin can expect a significant warming trend of 0.3 - 0.6°C per year, (ii) Temperature increases across the basin will increase open-water evaporation, (iii) Multiple studies cited by IPCC estimate that rainfall across the basin will decrease by 10–15%, (iv) Significant changes in the seasonal pattern of rainfall across the basin are predicted, including delayed onsets, with shorter and more intense rain fall events, (v) All Zambezi Basin countries will experience a significant reduction in average annual stream flow, (vi) Multiple studies estimate that the Zambezi runoff will decrease by 26–40% by 2050, (vii) Increasing water stress is a serious concern in the semi-arid parts of the Zambezi Basin, and (viii) The frequency and severity of extreme weather events (floods and droughts) will increase. Drought risk management is often handled on a large scale through reservoir storage and locally through irrigation schemes and crop varieties throughout the Basin. However, many of the larger reservoirs prioritize hydropower and are not necessarily communicating with downstream water users. Rain-fed agriculture is prevalent in the region and especially vulnerable to drought. Droughts are further complicated by the dry and rainy season timing, where reservoirs are already used to store water during the dry season, and therefore more storage is generally required to combat multi-year droughts. Most of the flood control management occurs in the operation of the two major dams, namely Kariba and Cahora Bassa.

2. Description of the Program

The program will be implemented along of the Zambezi basin being a regional program by nature, but with National implementation. The project will have the following components and subcomponents:

Project components	Project subcomponent	Main activities
Component 1 - Strengthening Integrated Natural Resources Management,	1.1 Establishing an Integrative Landscape Management Approach, watercourse to sub-catchment protection and restoration	building water harvesting systems to improve the water availability to the local population, i.e. multifunctional boreholes, small earth dams, watering points for livestock as well as construction of and rehabilitation of multifunctional solar-powered boreholes

		for irrigated agriculture, domestic water supply, livestock watering points and micro-industrial use.
	1.2 Promoting Integrated Water Resources Management)	While in the flood prone areas, the project will be building climate proof infrastructures, main drainage structures, dikes and other flood protecting systems. For the later the project will be supplying irrigation kits, construct
Component 2 - Building Communities' Resilience to Climate Change	2.1 Supporting Climate Resilient and Low Carbon Emission Community-level Demand-driven Infrastructure Development	rehabilitate community agriculture markets, construct training centers, provision of small agro-processing machines,
	2.2 Reinforcing Inclusive and Diversified Climate Resilient Livelihoods Support)	
Component 3 - Supporting Adaptive Capacity and Institutional Capacity - Development,	3.1 Strengthening Climate Adaptive Capacity of Communities;	
	3.2 Strengthening the Institutional Foundation for climate resilience and low carbon emission development, Capacity Building, Monitoring & Evaluation, Knowledge Management and Technology Transfer);	training of trainers in nutrition, training women on food processing, and Implement nutrition sensitive interventions in agriculture commodity value chain.
Component 4 - Programme Coordination.		

TABLE 1: PROGRAM COMPPONENTS

Environmental and social safeguards requirements including gender issues are priority and have been integrated across the 4 components of PIDACC Zambezi.

2.1 PIDACC Zambezi's Objectives

2.1.1 General objective is to:

Build strong communities that are resilient to climatic and economic shocks in the Zambezi Watercourse, through promoting inclusive transformative investments, job-creation, and ecosystem-based solutions. Based on a transformative approach, which ensures gender equality and social inclusion,

2.1.2 Specific objectives are to

(v) Increase feasible climate resilient community-level demand driven infrastructure that would support livelihoods,

(vi) Develop and improve livelihoods, including job creation, by strengthening agribusiness through investments in water, energy, social, and agriculture (food security and nutrition) sectors,

(vii) Strengthen and build capacity of the communities with the view to avoid, reduce and reverse land degradation and effectively manage water resources in a sustainable manner, and

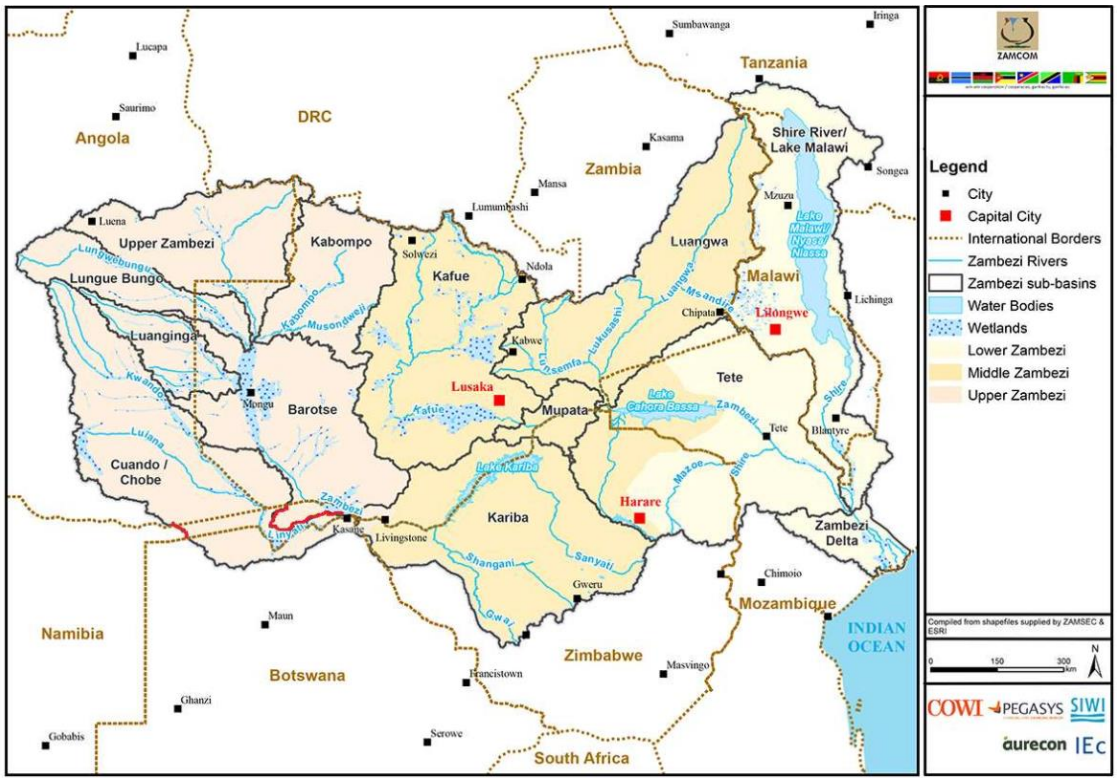
(viii) Enhance institutional development and adaptive capacity in order to reduce vulnerabilities.

2.2 Program Location

The Zambezi basin crosses 8 countries all in the SADC region. The riparian countries are *Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe* are.

Zambezi River (Watercourse) Sub-basins (ZAMCOM 2019)

.



MAP 1: LOCATION OF THE ZAMBEZI BASIN

The PIDACC Program cuts across the part of Zambezi basin countries. Mozambique is one of the six countries that will host the project. In Mozambique the program will be implemented in four provinces of the central Mozambique, namely:

- Sofala (Chemba districts),
- Manica (Guro Districts),
- Zambezia (Mopeia and
- Tete (Changara).

The Zambezi valley in Mozambique is covered by approximately 7 million people while the selected districts are covered by approximately 2.5 million people and are located in the two different climate related aspects of drought and floods. The project will be focusing on activities that will improve climate-resilient infrastructure and promoting climate-resilient income-generating activities and strengthening food security and nutrition. For former and in the drought prone areas the project will be

2.3 Implementation/Institutional Arrangements

The Ministry of Agriculture and Rural Development (MADER) will be the Executing Agency (EA) for the Project which will be implemented in the Zambezi Valley, through MADER's Directorate of Planning and Policy (DPP). will be set up at the MADER, for the day to day effective implementation of the Project activities over a period of five (5) years.

The implementation of the project will be carried out by the Zambezi Valley Authority (GIZ) The PCU will also be responsible for the overall monitoring and supervision of ESMF/ESMP implementation.

The governance of the project a steering committee will be established and the MADER Technical Council will act as Project Steering Committee (PSC). The main objective of this body will to provide oversight responsibility and oversee Project compliance with sector policies and strategies.

The PSC will comprise MADER Permanent Secretary[3] and senior officials from DPP, DNEA, DNP, INIR, DNE, IPEME (*Institute for Promotion of Small and Medium Enterprises*), and GAPI (*Small Scale Investment Support Office*), DNA. The PC will be secretary to the PSC.

<u>Mozambique Component - Institutional Structure/Organogram</u>

[3] MADER at the time does not have a PS

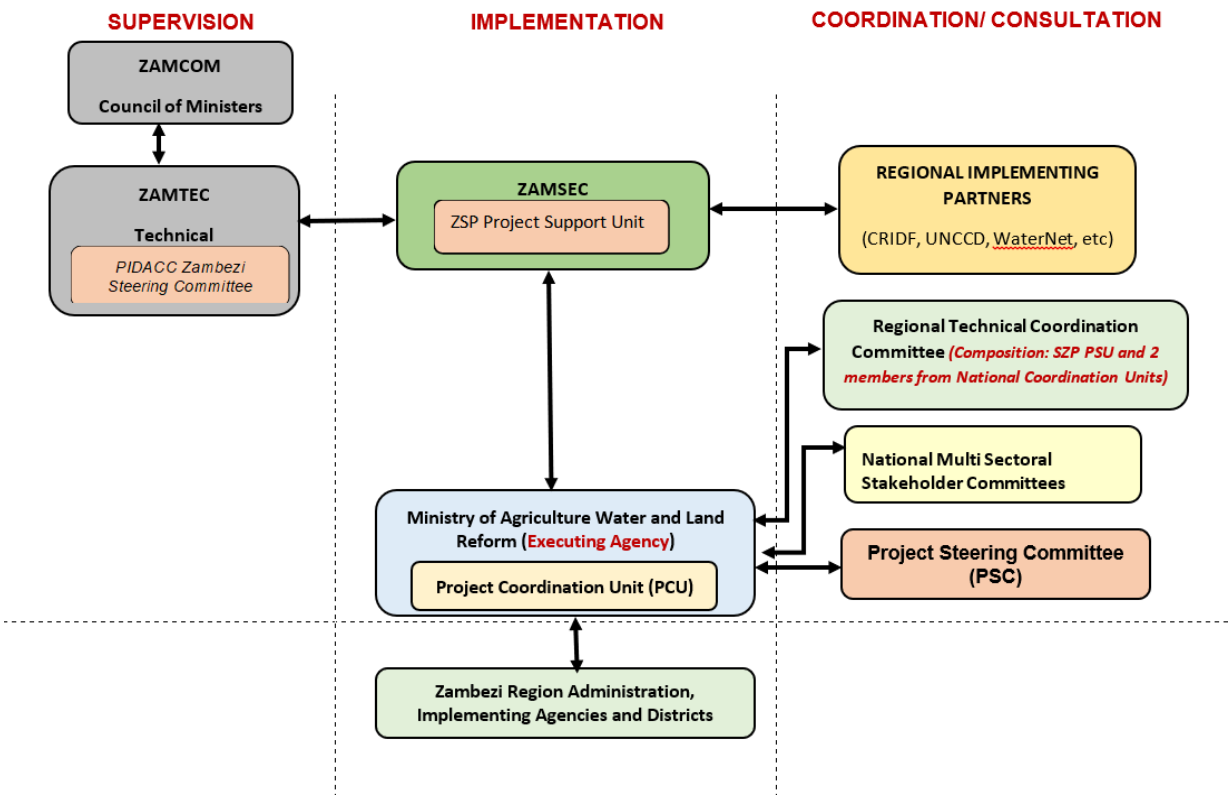


FIGURE 1: PROPOSED PROGRAM INSTITUTIONAL ARRANGEMENT

MADER will be responsible for the coordination of the ESMF. While The Zambezi Valley Authority will be responsible for the date to date implementation of the environmental safeguards, within the project areas. A pre-screening process was already done by the Bank, and the all program is under category 2. Then to fulfil with the Mozambican legislation the sub-project. The Authority will have to submit the sub project to a screening process for the categorization. The process will have to be done to the Provincial Directorate of Land and Environment (DPDTA), for each province. In a case that the sub-project cross two provinces a screening shall be obtained from both provinces. The Zambezi Valley Authority will be responsible to do the Instruction process.

Once the sub-projects are selected, their final design will include the preparation of relevant safeguard instruments required. Safeguard instruments may an Environment and Social Management Plan (ESMP), Manual of Best Practices and a Resettlement Action Plan (RAP), depending on the particular circumstances faced.

The ESMF gives orientation on the methodology for the elaboration of the ESIA, ESMP, and RAP for each sub-project and will also define the role and responsibilities of each entity within a subproject cycle, as defined in the table below:

TABLE 2: ROLE AND RESPONSIBILITY OF STAKEHOLDERS

Stage in Sub-Project Cycle	Responsible Entity	Role and responsibilities
Sub-project Identification	MADER, ZVA	Conduct sub-project screening. Overall coordination implementation of the project ESMF.
	DPDTA	Conduct sub-project screening; determine eligibility and category; and define required safeguards instruments.
	AFdB	Review and confirm sub-project eligibility and category;
Sub-project Preparation (Feasibility Study and Design)	Contractor	Prepare and implement the safeguards instruments (CESMP, RAP).
	Supervision Consultant (Engineer)	Review the safeguards instruments.
Review and approval	MADER, ZVA/DPDTA AFdB	Review and approval of safeguards instruments.
Project Implementation	Contractor	Implement safeguards instruments.
	Supervision Consultant (Engineer)	Monitor and report on the implementation of safeguards instruments.
	ZVA, District administration (SDPI)	Monitor the implementation of safeguards instruments. Manage a Grievance Redress Mechanism (GRM) to resolve community complaints
Operation/ maintenance	MADER and ZVA	Safeguards instruments implementation

To fulfil the task summarized in the above table, a capacity build is necessary for all levels. MADER and ZVA hold some institutional capacity to deal with environmental safeguards within MADER a Safeguard unity/ cabinet exists and ZVA it also has a safeguard team. However, both team may need some capacity on dealing with climate change. At district level the existing capacity to deal with environmental issues may be weak and therefore additional capacity be needed for this level. For the implementation of the environmental Safeguards, it is proposed that the ZVA be reinforced with a contract of environmental specialist with good knowledge for the social and climate change area.

3. Legal Framework

3.1 National legal framework

This chapter provides relevant legal environmental and social instruments applicable to the PIDACC. Mozambique has a comprehensive environmental legal framework that allows the protection of its natural resources. However, the enforcement of the legal framework is a challenge, in a country where extreme weather event occurs with increasing frequency and intensity resulting in the damage of lives and socio-economic infrastructures. The Zambezi basin, is not an exception and in 2019 it was affected heavily by the worst cyclone landing in Mozambique in the last century.

The constitution of the Republic of Mozambique lays the ground for what is today the applicable environmental and social legal instruments. It provides that all the citizens have the right to a balanced environment and the duty to protect it[4]. It also establishes that the state is required to ensure:

- The promotion of initiatives to ensure ecological balance and environmental preservation;
- The implementation of policies to prevent and control pollution and integrate environmental concerns in all sectoral policies to guarantee the citizen the right to live in a balanced environment supported by sustainable development.

The proposed project will be required to observe the legal requirements (both biophysical and social) that may be relevant to the project throughout its life cycle. Relevant environmental and social instruments and regulations required are presented in the next subsections and summarized in the table below. These subsections describe the regulations, major provisions, and its relevance for the project.

TABLE 3: NATIONAL ENVIRONMENTAL LEGISLATION

Legislation	Description	Importance for the project
Resolution No. 5/95)- National Environmental Policy	The instrument has been enacted to ensure sustainable development while maintaining an acceptable balance between socio-economic development and environmental protection	The main policy regulating the social and environmental safeguards in Mozambique
Environmental Law (Law No. 20/97)	Establishes the basis for environmental management as a pre-requisite for a country's sustainable development	The main law regulating the social and environmental safeguards in Mozambique
Regulation for Environmental	Defines the fundamental instruments for environmental management, the ESIA, which aims	The Programme for Integrated Development and Adaptation to

[4] Article 90

Impact Assessment – ESIA (Decree No. 54/2015	at mitigating the negative impacts that certain projects, in the public and private sectors, may cause to the natural and socio-economic environment, through the undertaking of environmental studies prior to commencement of the projects The Scoping Exercise for the Environmental and Social Impact Assessment (ESIA) and the Environmental and Social Management Plan (ESMP) are components of importance in any Safeguards Assessment Process.	Climate Change in the Zambezi Watercourse (PIDACC Zambezi) is not submitted to the Environmental national screening process at this level. But, the implementation of the subprojects/programs with construction activities (water and flood control infrastructures) will be submitted to the screening process based on this legislation. Based on the categorization given by the environmental authorities an ESIA (for A and A+) or ESMP (for B category) or Best Practice manual (for C) will have to be done and a environmental licence be issued.
Regulation on the Environmental Audit Process (Decree No. 25/2011) Regulation for Environmental Inspections (Decree No. 11/2006)	Relates to the need and process for an environmental audit. It indicates that an environmental audit is a documented and objective instrument for management and systematic assessment of the management system and relevant documentation implemented to ensure the protection of the environment. Its objective is to assess compliance of work and operational processes with the environmental management plan, including the environmental legal requirements in force, as approved for a particular project.	The Mozambican legislation requires environmental audit process to verified the level of compliance and non-compliance with the environmental and social safeguards the project is performing. For the Category A and A+ is a mandatory, while for B and C is not mandatory.
Procedures on environmental licensing (Ministerial Diploma No. 129/2006)	Stipulates the environmental license procedures, its format, and outline and contents of an environmental impact assessment report. The ministerial diploma aims to standardize the process and the procedures followed by various players in the environmental impact assessment process	The project safeguards instruments (ESIA, ESMP) reports, should be aligned with the provision of this regulation
Public Participation methodologies and procedures (Ministerial Diploma No. 130/2006)-	Defines the basic principles related to public participation, methodologies, and procedures. Considers public participation as an interactive process that initiates at the design stage and continues through the lifetime of the project. It defines that Public Participation Process (PPP) for ESIA must conform with the guidelines provided in this Ministerial Diploma	At this stage of the design of the project a community participation and a disclosure process will be based on the Bank Safeguards requirements, and extensive to the requirements of the National regulation. Although the project is not yet submitted to the screening

		process, due to the inexistence of any safeguard requirement at this level.
Environmental law (Law No. 20/97) in Decree No. 18/2004.	Establishes the maximum standard of toxic substances allowed for discharge into the air	This law is relevant for the project given the permitted level of emissions by law, so as not to harm the environment
Regulation for Environmental Standards and Effluent Emission (Decree No. 18/2004 (as amended by Decree No.67/2010)	Establishes parameters for the maintenance of air quality; patterns of emission of gaseous pollutants for various industries; and standards for emission of gaseous pollutants from mobile	The project shall comply with the air quality standards, considering the admissible emissions by law, so as not to harm the environment.
National Water policy (Resolution No. 46/2007)	Establishes the specific strategy for the main areas for water and sanitation provision and coverage in rural and urban areas, to improve the quality of life and integrated water resources management. By the resolution (n. º 60/98, September 23) a water tariff policy was established.	This regulates the water pricing based on the concept user-pays and pollutant- pays. The program will finance agriculture activities, which will extract water from the river, which may require payments form the use of water Zambezi river.
Water user use (Law No. 16/91)	The policy seeks to protect ecological balance and environment. The law provides that any activity with the potential of contaminating or degrading public waters, in particular the discharge of effluent, is subject to a special authorization to be issued by the Regional Water Administration and payment of a fee.	The project during the construction phase will require water for the work and at operational phase will also require water for irrigation of agriculture fields.
Water quality for human consumption (Ministerial Diploma n. º180/ 2004)	Defines water quality standards for human consumption and define measures for its control, to protect public health. Any project must meet water quality standards for human consumption.	The program will construct water borehole and other water systems for human consumption. These sources of water shall meet the standards under this regulation.
Environmental Quality Standards and Effluent Emissions Decree No. 18/2004	Defines that when an industrial effluent is discharged into the environment, the final effluent must comply with discharge standards established. The law also incorporates the discharge of domestic effluents. General parameters for residual water discharge for domestic are defined under this	The program will not have direct effects to this law. In any case that a discharge has to be done in the Zambezi river, the water quality discharges must fulfil the parameters in this law.

	regulation. The quality of water to be discharged at the environment shall fulfil standards	
Pollution (Law No. 20/97)	The law forbids the production and deposition of any toxic or polluting substances on soils, sub-soils, water, or the atmosphere, as well as forbidding any activities which are likely to accelerate any form of environmental degradation beyond the legally established limits.	The project needs to include measures to prevent pollution throughout its life cycle. Project compliance with regulation is critical.
Regulation on urban solid waste management (Decree No. 94/2014)	Establishes the legal framework for the management of municipal solid waste. The key objective is to establish rules for the production, collection, or disposal of municipal solid waste to minimize their negative impacts on health and the environment.	Waste management obligations are assigned to Municipal Councils and District Governments in their respective areas of jurisdiction. The project shall comply with this law requirement.
Hazardous Waste Management (Decree No. 83/2014)	Establishes the legal framework for hazardous waste management. The key objective is to lay down rules for the production, collection, or disposal of hazardous waste to minimize the negative impacts on health and the environment. Only registered and licensed entities may collect and transport the waste outside the limits of the facilities.	The project will use hazardous material and also generate hazardous waste from the construction activities and implementation of some sub projects. The project must conform to the regulation's requirements related to the management of hazardous wastes during construction work and operation.
Land Policy (Resolution No. 10/95)	It sets out that the State must provide the land for each family to build or possess their habitation, and is responsible for land use and physical planning, although plans can be made by the private sector.	
Land use rights (Law No. 19/1997)	Establishes the rights of land use, including details on customary rights and procedures for acquisition and use of land titles by communities and individuals. The law recognizes and protects the rights acquired through inheritance and occupation (customary rights and duties of good faith), except for legally defined reserves or areas where land has been legally transferred to another person or institution.	The project compliance with this provision is critical and it should inform the resettlement and compensation process, if applicable.
Regulation for the Resettlement Process Resulting	Stipulates rules and basic principles for resettlement processes from the implementation of public or private economic activities. Equally, it	In any case of an economic displacement it has to be applied.

from Economic Activities (Decree No 31/2012)	provides that the Resettlement Plan is part of the ESIA process and that its approval precedes the issuance of the environmental license. This regulation states that if a project results in physical or economic resettlement, a Resettlement Plan needs to be developed as part of the ESIA process and approved.	
Technical Guideline of Planning and Implementation Process of Resettlement Plans (Ministerial Diploma No. 156/2014)	It provides the operation of the Regulations on the Resettlement Process and facilitates greater involvement and rapprochement between all parties involved, so that the resettlement does not have a social destructive character, but takes the opportunity to develop well-structured and standardized new housing centres. It sets the conceptual framework for the development of Resettlement Action Plans.	The implementation of the project is not expected have a physical displacement.
Technical Monitoring Commission Regulation (Ministerial Diploma No. 155/2014**)**	Establishes the organization and functioning of the actors in the monitoring and supervision of resettlement.	It may have to be involved during the compensation process, if any.
Guidelines for the Expropriation Process Resulting from Territorial Planning (Ministerial Diploma No. 181/2010)	Sets procedures for the expropriation processes resulting from territorial planning, including procedures for the issuance of a declaration of public interest, compensations for expropriation (including calculation methods) and the expropriation process itself. Expropriation of land and land rights within the project area must follow the procedures established in these guidelines.	Same as above
Biodiversity protection (Law No. 20/97)	Covers aspects of guaranteeing the protection of biological resources, particularly of plant or animal species threatened with extinction or any similar issue, by their genetic value, ecological, cultural, or scientific, require special attention. Protection is extended to their habitats, especially those built in areas of environmental protection. This law is in line with the conservation areas (Law No. 16/2014), which stipulates that all activities that could result	The program will be implemented in a very rich ecosystem area, and it may cross some biological sensitive areas. The program shall be implemented in a way that protect these ecosystems and not harm them.

	in changes to land and vegetation cover, or that could disturb flora, fauna, and ecological processes up to the point of compromising their maintenance, are forbidden within national parks, except if required for scientific reasons or management needs. It also indicates that activities can be approved within conservation areas, provided that a management plan is developed and approved.	
Cultural Heritage (Law No. 10/88)	This seeks to protect material and non-material assets of the Mozambican cultural heritage. Material cultural assets include monuments, groups of buildings with historic, artistic or scientific importance, places or locations (with archaeological, historic, aesthetic, ethnologic or anthropologic interest) and natural elements (physical and biological formations with particular interest from an aesthetic or scientific point of view).	This law will be considered in case that an archaeological objects are found during excavation the contractor shall communicate the finding to the appropriate cultural heritage agency, immediately.
Legal framework for social protection (4/2007)	By Law the No. 4/2007 of February 7, the legal framework for social protection was established in the country. This Law defines the foundation that underpins Social Protection and organizes the Social Protection system. The social protection system is structured in three levels, namely: a) Basic Social Security; b) Mandatory Social Security; c) Complementary Social Security. The mandatory social security has the objective to ensure the livelihood of workers who lack or have a decreased capacity to work as well as to ensure the livelihood of surviving family members in case of the death of the aforementioned worker and to provide supplementary conditions for survival. Contributions to mandatory social security are distributed between employers and workers.	All workers (skilled, none skilled, expatriate and Mozambican, shall be hired based by this law and the others labour procedures in place in Mozambique.
Labour Law (23/2007)	Is the main statute governing all aspects of the employment relationship. There is also other derivative legislation on various lateral aspects of the employment relationship (e.g., the legal framework on domestic work). It also determines the minimal wages per sector. In annual basis, it stipulate the minimal wage by sector.	Same as above. The contractor and subcontractors cannot set minimal salary below the approved minimal wage for construction sector.

Labour relations (Law Nº 23 /2007)	This law governs work relations between employers and domestic and foreign workers in all industries. The law includes principles of safety, hygiene and health of workers. Under the law, an employer must provide their employees, good physical condition, environmental and moral work, inform them about the risks of their work, and instruct them about compliance with the standards for hygiene and safety at work. The employer must also provide first aid to workers in the event of accidents, sudden illness, poisoning, or feeling unwell.	This law shall be applied under the project especially to all contractors operating in the rehabilitation of the treatment plant. Under this law, child labour is protected as it does not allow for employment below 18 years old.
Labour inspection (Decree nº 45/2009)	This regulation lays down the rules on inspections, under the control of the legality of work It states the employer's responsibility for the prevention of occupational health and safety risks of the employee. These provisions must be enforced under the project, especially with subcontractor.	Due to the illegal expatriate workers the project shall be open to the inspection/audit from labour institutions.
Protection of Workers with HIV/AIDS (Law nº 5/2002	It sets out general principles that aim to ensure that all employees and job applicants are not discriminated against in the workplace or when applying for jobs, for being suspected of having or having HIV/AIDS. Under the law, an employee who is infected with HIV/AIDS in the workplace, in connection with their professional occupation, in addition to the compensation which one is entitled to have, one must have adequate health care guaranteed to relieve one's health status, according to the labour law and other applicable legislation, funded by the employer.	The project must ensure that workers involved in the project, are aware of the law, and where workers are infected, they shall be placed in positions compatible with their residual capacities.

Gender legislation

Mozambique is a signatory to all relevant international agreements on gender equality, and the empowerment of women is a key component of the country's poverty reduction strategy. For example, Mozambique has ratified the U.N. Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) and its Optional Protocol, as well as the Protocol to the African Charter on Human and People's Rights concerning the Rights of Women in Africa, and the Southern African Development Community's (SADC) Protocol on Gender and Development. The ideal of gender equality is also enshrined in the national Constitution.

Overall, Mozambique has good legislation to promote gender equality, but room for improvement to bolster women's participation, human capital, decision-making power, voice and entrepreneurship's.

In the last years, the Parliament has approved the Family Law 10/2004 of 25 August 2004, the reformed Family Law establishes gender equality. Later on, approved the Law No 29/2009 on Domestic Violence 2009, in 2019 the parliament passes on the Law Against Premature Marriages.

The program will be implemented in areas where the premature marriages is common, therefore for the program to be in line with the national legislation on prevention of premature marriages, it shall not allow that a worker involved with premature marriages be employed or involved with the project in any case.

Climate Change legislation

The environmental legal framework is overall referred to as the need for balanced development and recognized the vulnerability of Mozambique to Climate Change. In 2010 the country approves the *National Climate Change Adaptation and Mitigation Strategy* (NCCAMS), which represents a turning point in Mozambique's response to the challenges of climate change, indicating a clear set of strategic actions to be implemented so that Mozambique can ensure a more prosperous, resilient and sustainable future. Mozambique has been affected by extreme weather events and the Zambezi valley has been suffering from most of these events (heavy rain, floods and drought). The central region of Mozambique (specifically Sofala, Manica and Tete) faces significant challenges related to climate change, including increased flooding, increased risk of tropical storms, increased risk of droughts, all of which exacerbate the vulnerability of local populations. In this regards the project

3.2 African Development Safeguards

All operations financed by AfdB are required to comply with the national regulations of the country where the operation are implemented, including for environmental and social issues.

The Bank's safeguards policies are hinged on a total of 13 crosscutting policies covering a range of issues such as Gender, poverty, civil society organizations climate change and others. The main African Development Bank Safeguard Policy document guiding the preparation of this project is the Integrated Safeguards System (ISS) which was approved by the Bank Board in 2013. The ISS includes a component stipulating the Bank's Environmental and Social Assessment Procedures (ESAP) which guides all steps to be fulfilled by the Bank and any borrowing or grant receiving entity. The main purpose of ISS is to improve decision-making and project results in order to ensure that Bank-financed projects, plans and programs are environmentally and socially sustainable as well as in line with Bank's policies and guidelines. A major environmental assessment task in project lending operations is the screening of projects

to determine to which environmental category a project shall be assigned. The categorization is based on the Project Brief prepared on the basis of baseline information provided by the Borrower, and will be based on the process developed in the ESAP. The Project Brief, which is prepared at pipeline entry stage of a project in its life cycle, shall include contextual information and data on key environmental and social aspects of the project. Projects shall be mandatorily assigned to one of following four categories: (i) Category 1 projects Category 1 projects are likely to induce significant and/or irreversible adverse environmental and/or social impacts, or to significantly affect environmental or social components; (ii) category 2 Category 2 projects are likely to have detrimental site-specific environmental and/or social impacts that are less adverse than those of Category 1 projects. Likely impacts are few in number, site-specific, largely reversible, and readily minimized by applying appropriate management and mitigation measures (iii) Category 3 projects require no impact assessment; (iv) Category 4 projects involve investment of Bank's funds through Financial Intermediaries (FIs) in subprojects that may result in adverse environmental and/or social impacts.

The ESMF aims to enhance the project benefits and (in order of priority) prevent, minimize, mitigate, or compensate for adverse impacts. The ESAP is applied concurrently with Mozambique's regulation for environmental protection, although the Mozambican legislation those not have any safeguard documents at the level of project/program preparation.
Operation Safeguards (OS) are mechanisms by which the AfDB integrates the environmental and social issues into decision making. It supports participatory approaches and transparency. During the course of developing of the ESIA/ESMP, OS applicability are analyzed in line with the GoM requirements for the Environmental prescriptions. Based on the process of screening and categorization under this regulation -Bank's OS 1, the Bank has categorized this program as category 2 entailing the development of the ESMF and the applicable procedures. The project is expected to have positive environmental and social impacts, with relatively minor and localized negative impacts. The ESIA/ESESMF has been developed to ensure environmental and social due diligence for the project. Based on this, the table below identifies and justifies the Bank OS that will be triggered the activities described above. The African Development Bank (AfDB) developed a set of Operational Safeguards namely:

TABLE 4: AFDB OPERATIONAL SAFE GUARDS TRIGGERED BY THE PROJECT

Operational Safeguard	Triggered	Justification
OS 1: Environmental and Social Assessment	Yes	The policy is triggered due to the physical interventions that will be implemented during the implementation of the project components. The project expect to have minor construction activities under component 1 and 2. The construction

		activities will be require soil and other natural resources.
OS 2: Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation –	No	The policy is not triggered. Under this project is not expected any land expropriation. However, expansion of agriculture areas (vegetation cleaning and soil preparation) my result in minor resettlement issues.
OS 3: Biodiversity and Ecosystem Services –	No	Due to the dimension of the project this OS is not expected to be triggered. However, some minor vegetation clearance may be happen.[5]. The project activities proposed will reduce the impacts over biodiversity degradation through bushfire control measures
OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency –	No	This OS is targeted because the project will stimulate the use of low carbon production technology and use of clean energy (solar power)
OS 5: Labor Conditions, Health and Safety	Yes	This OS will be targeted due to the construction activities that will be done.

The OS enables Borrowers to better manage project risks as well as improve environmental and social performance, consistent with good international practices.

These risks are associated with climate change, biodiversity, community health, , occupational health and safety, and ways to make sure that disadvantaged or vulnerable individuals and groups have access to project benefits. They strengthen national environmental and social management systems, and support dialogues on capacity development. It also enhances transparency, design and implementation through ongoing stakeholder engagement and information disclosure by developing stakeholder engagement plans and disclosing environmental and social documents. Within the Mozambican environmental safeguards public disclosure and engagement is regulated under the public auscultation regulation.

The program will also contribute to the implementation of the Sustainable Development Goals, which Mozambique as subscribed, The main contribution of the project are presented in the below table:

[5] With the intervention on the agriculture activities, it is envisage that smallholder farmers may increase their production areas from the 0.5 ha up to 9 ha

TABLE 5: CONTRIBUTION OF THE PROJECT TO SUSTAINABLE DEVELOPMENT GOALS

Sustainable development goal		Contribution of project activities to SDG specific targets	
	End poverty in all its forms everywhere	↑	Project activities: Program capacity building, including women and youth Relevant SDG targets: 1.5By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	↑	• Project activities: Provision of high value and flood and drought tolerant seeds and inputs • Conservation Agriculture/micro basin • *Promotion of adoption of agriculture conservation practices* Relevant SDG targets: 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
	Ensure healthy lives and promote well-being for all at all ages	→	Not relevant

Sustainable development goal		Contribution of project activities to SDG specific targets	
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	→	Non-relevant
	Achieve gender equality and empower all women and girls	↗	Project activities: training of trainers in nutrition, training women on food processing, and Implement nutrition sensitive interventions in agriculture commodity value chain. Relevant SDG targets: **5.1** End all forms of discrimination against all women and girls everywhere **5.5** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
	Ensure availability and sustainable management of water and sanitation for all	↑	Project activities: **Increase provision of water for consumption and animal uses by construction of boreholes,** Relevant SDG Targets: **6.6** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, **rivers**, aquifers and lakes **6a.** By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, **wastewater treatment**, recycling and reuse technologies **6.b** Support and strengthen the participation of local communities in improving water and sanitation management
	Ensure access to affordable, reliable, sustainable and modern energy for all	→	Non-relevant

Sustainable development goal		Contribution of project activities to SDG specific targets	
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all		The proposed project is not directly linked to the SDG 8. Minor contribution can be considered for the target: **8.8.** Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation		Project activities: **Construction of resilient infra structures along the zambezi basin to protect from floods** The project activities will have contribution to the SDG Targets **9.a.** Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States
	Reduce inequality within and among countries		Non-relevant
	Make cities and human settlements inclusive, safe, resilient and sustainable		The Project activities: **Construction of Flood water protection infrastructure** Mainor contribution to the SDG Targets **11.5.** By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
	Ensure sustainable consumption and production patterns		Non Relevant for the project
	Take urgent action to combat climate change and its impacts		Project activities: **Construction of flooding protection infrastructures** **13.1:** Strengthen **resilience** and **adaptive capacity** to climate-related hazards and natural disasters in all countries

Sustainable development goal		Contribution of project activities to SDG specific targets	
	Conserve and sustainably use the oceans, sea and marine resources for sustainable development	→	Not Relevant for the PIDACC
	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	→	Project activities: **The program will facilitate the restoration the zambezi basin ecosystem of the ecosystem** The project activities have a minor contribution to the target: **15.1:** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and **inland freshwater ecosystems** and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements
	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	↗	Project activities: Capacity building activities
	Strengthen the means of implementation and revitalize the global partnership for sustainable development	↗	Relevant targets: **17.3:** Mobilize additional financial resources for developing countries from multiple sources

↑ Major contribution to the SDG ↗ Moderate contribution → Minor contribution / not relevant

4. Environmental and socio economic baseline

4.1 Physical Description

Climate

The climatic condition of the river basin varied from arid in the west through semi-arid and sub-humid in the central to the eastern zone. From historical observation of 1901-2014, the basin is characterized by unstable rainfall region, high seasonality, and interannual variability due to El Nino Southern Oscillation causing frequent droughts and floods (ZAMCOM, 2018).

The mean annual rainfall is 950 mm, the mean annual runoff is 850 m^3/s with the northern part wetter receiving more than 1250 mm per annual mostly from November to March and the southern part drier receiving 500 mm to 750 mm per annual. Meanwhile, during the same period, the basin has warmed by 0.7°C on average with mean monthly temperature for the coldest month across the basin varied from 13 °C in July for high elevation (northwest Zambia) to 23 °C for low elevation, mean daily temperature for the warmest months of October-November range from 23°C in high elevation areas to 31°C in low elevation areas. This increases water, hydropower, and agriculture climatic risks across the basin causing a significant threat to the regional socio-economic development (ZAMCOM, 2018). Furthermore, the Sixth Assessment Report of the Intergovernmental Panel in Climate Change (IPCC, 2021) across the east south and west southern Africa indicates the (i) Observed decreases in mean precipitation, (ii) Observed and projected increases in heavy precipitation and pluvial flooding, (iii) Observed and projected increase in aridity, agricultural and ecological droughts, (iv) Observed increase in meteorological drought, projected increase in meteorological droughts from 1.5°C, higher confidence at higher GWLs, and (v) Projected increases in fire weather conditions; increases in mean wind speed; increase of average tropical cyclone wind speeds and associated heavy precipitation and of the proportion of category 4-5 tropical cyclones.

A velocidade média de vento na zona costeira varia entre menos de 4 e mais de 8 Km/h. O País tem sofrido ciclones tropicais que movimentam, horizontalmente, massas de ar quente e húmido que provocam grandes regimes de precipitações, com maior frequência ao longo da costa, nas regiões do centro e norte. Este fenómeno, ocorre entre Outubro e Abril (Leanne Wilson, 2007).

About the Zambezi Valley

The Zambezi Valley covers 4 Provinces (Tete, Manica, Sofala and Zambezia) and 34 districts. The total area is 225 000 km2 (about 27.7% of the country's surface). The total population in Central is about 4.9 million inhabitants (25% of Mozambican Population, 56% of the population of 4 provinces). The Zambezi Valley covers the greater part of the four central provinces of Zambezia, Tete, Manica and Sofala, namely:

- The whole Tete province, including the capital, Tete City, and 12 districts;

- About 55% of the 105.008 Km2 from Zambézia province, including Quelimane city, and 10 out of 16 disctrit: Chinde, Inhassunge, Maganja da Costa, Milange, Mocuba, Mopeia, Morumbala, Namacurra and Nicoadala.
- About 43% of the 61.537 sq from Manica Province, including four of the nine districts: Barué, Guro, Macossa and Tambara; e
- About 61% of the 67.415 sq from Sofala Province, comprising seven of the twelve districts: Caia, Chemba, Cheringoma, Gorongosa, Maringwe, Marromeu and Muanza.

Vegetation

The lower Zambezi in Mozambique is the most productive and biologically diverse tropical floodplains in Africa. It is typified by a broad floodplain, often with many parallel channels and shifting sandbanks, while the coastal portion includes extensive grasslands and freshwater swamps, dunes and mangroves.

The vegetation of the Zambezi Basin is very varied; almost half of the basin is classified by White as wetter or drier miombo woodland, part of the Zambezian biome. Miombo is a type of woodland dominated by trees with a well- developed grass layer. Mosaics of various types of woodland, dry forest with grassland, and open woodland dominated by various species of Acacia. Swamp and floodplain vegetation types cover only a small part of the basin, but can be of significant economic importance for fishing, materials for crafts and for livestock grazing.

The Mt Gorongosa–Urema Trough–Cheringoma Plateau–Zambezi Delta area is extensive but covers an enormous diversity of habitats from mountain to mangrove (Tinley 1977), not found in such proximity elsewhere on the continent. Mt Gorongosa, although just outside the Zambezi Basin, supports a wide range of montane and forest species, and the valley floor of the Gorongosa National Park has, in the recent past, supported large numbers of wildlife. The Cheringoma Plateau, clothed in miombo woodland and dry forest containing many unusual species, rises up on the other side and then gently descends to the extensive grasslands of Marromeu, coastal dunes and mangrove swamps. Over this large area not only can viable populations of a multitude of species survive, but the ecological processes that sustain such a landscape can continue to operate.

4.2 Methodology for the preparation of the ESMF

For the preparation of the ESMF, the consultant adopted the following methodology:

Literature review:

The literature review focused on: (i)Review of relevant documents of the project to get the understanding of the project activities and its scope; ii) Review the relevant national legislation and the African Development Bank Policies that the project has to conform with; iii) Review any other relevant document for example other ESMF designed in Mozambique, biophysical and Scio-economic reports and maps of the project location. Information gathered at this stage were used to conduct the consultation process.

The Consultation Process

A consultation process is a requirement both for the Bank safeguards as well as the Mozambican legislation, during the preparation of any safeguard's instruments, this aim to engage local key stakeholders and involve them in the revision of the draft findings of the ESMF.

The purpose of consultations was: (i) to generate a good understanding of the project by all stakeholders; (ii) to enhance ownership of the project by local leadership, the community and local farmers; (iii) to understand people's and agency expectations about the project; (iv) to understand and characterize potential environmental, social and economic impacts of the project; (v) to enhance local benefits that may accrue from the project; and (vi) to enable stakeholders involved in the project to provide views. In addition, site-specific investigations were also conducted to gain insight to the likely impacts of the programme on the environment.

In developing this ESMF a consultation was conducted with the appraisal team in Maputo with the objective to understand the project components and the activities to be implemented in the field, the scope of work under this assignment and discuss the institutional arrangements and responsibilities on the implementation of the project. This contact was done virtual by zoom meetings.

Due to time constraints the consultation was only conducted in Tete province. Two public meetings were held on 21 and 22 of September 2022 in Tete city and Changara District.

.


The meeting was attended by: 41 one people, 27 in Tete City and 14 in Changara district. The meeting was attended by representatives of the following institutions:

TABLE 6: LIST OF CONSULTED INSTITUTIONS

Level of consultation	**List of Stakeholders**
National	ARA; INGD
Provincial	ARA Zambezi (or centro); INGD (at provincial level) DPAP; DPDTA; NGO on water conservation, agriculture production; Producers association;
District	SDPI (environmental and water section); SDAE Famers association; Women and Youth organization, if exists

The main conclusion of the meeting is as following:

- Erosion and drought are among the main environmental risks affecting Changara and Guro. The other two districts of Zambezia and Sofala are mainly affected by rain and floods;
- Need to involve communities in the selection of specific activities to be implemented in the field (selection of varieties to be introduced, water infra-structures etc) . The project shall build a trust with the communities and other stakeholders in the basin;
- The project shall develop a manual of environmental and social best practices as a blueprint of the project in each of the activities implemented;
- The project shall be inclusive bringing the vulnérable people

Site visit was done in Changara. The rationale of these extensive consultations is to solicit views of a cross section of affected people at provincial, district, and central level.

This ESMF does not provide site-specific details for the sub projects, as these will be screened to ensure that they are eligible for the project financing and then subject to specific field surveys and EIAs to carried out under the guidance of this ESMF.

5. Impact evaluation

The approved subprojects under the national legislation shall not exceed the African Development Bank category 2. The screening process to be undertaken by DPDTA the subprojects will, therefore, fall under category C, or B depending on the magnitude of environmental and social impacts and level of resettlement if any.

The generic risk and impact assessment on environmental and social features, at this stage of project preparation was done considering the environmental and social components that are likely to be affected by the program activities per component. The impact assessment will be done for each component. However, components with activities that when implemented result in negative environmental and social impacts, will have major attention and a mitigation measures will be designed. Is stressed that the program will have some construction activities (component 1 and 2) on flood water construction infrastructure, small irrigation schemes, water reservoirs and multi-function boreholes), these activities will impose some negative impacts to the environment and socio economic features during the construction phase, Positive impacts are expected to increase during the operation phase, but for component 3 and 4, which can be considered soft activities (capacitation, training etc) the positive impacts raise soon the activities area implemented. In overall, during the operation the project will contribute to the reduction of environmental and socio economic negative impacts of the climate events in the region and increase the resilience of the communities to cope with them.

Extreme climate events that affects the zambezi river basin may result in losses of economic assets and human death, from the ecological site it may result in reduction of species and destruction of sensitive ecosystem downstream at the zambezi mouth at the end affects the productivity of the mangrove and other sensitive ecosystems.

So, mitigation measures have to be taken into consideration to avoid negative impacts on the program and enhancement measures to rise the positive expected positive impacts.

5.1 Potential environmental and social impacts and mitigation measures

The project and its sub-projects may cause environmental and social impacts specially under component 1 and 2 of the PIDACC. In these two components is expected a construction activities related with community resilience and flood protection infra structures. The project activities under this component that may cause environmental and social impacts include:

(i) Building water harvesting systems to improve the water availability to the local population,

(ii) Building climate proof infrastructures, main drainage structures, dikes and other flood protecting systems.

The scale and duration of civil works for construction or rehabilitation of the proposed infrastructure under component 1 and 2 are unknown at this moment. Although the construction of the proposed infra-structures is expected to be of small scale. The magnitude and significance of the impacts are expected to be moderate to low.

Direct environmental impacts on physical environmental (soil, water, vegetation etc.) will likely happen due to the excavation and dredging activities, accessing and opening quarries and borrow pits, space for batch plants, work camps, and laydown areas.

Most of these works will generate temporary and localized known construction impacts related primarily to soil movements which may cause air pollution/dust, noise, vibration, and access restriction, improper disposal of construction related waste; temporary pollution of soil and surface waters due to accidental spillage of fuel from construction activities; safety hazards including worker safety; damage to natural habitats, aquatic fauna, or existing vegetation, and impacts to physical cultural resources. Most of these impacts are related to construction activities. The expected impacts should be properly managed during the construction phase by the contractor and closely supervised by the PIU and the supervision engineer.

Considering the dimension of the infrastructures a small to medium size works camps for workers will be needed to accommodate influx workers or job seekers may create minimal conflicts. . From the production perspective negative impacts will be expected if the pests increases due to introduction of in the irrigation sites. In overall the implementation of the component ii is expected to have more beneficial impacts.

The preliminary identification of Project potential environmental and social impacts was done considering the projected components/activities and the environmental and social receptors that are likely to be affected by the Project activities. Although it is not possible to determine precisely the impacts of various interventions of sub-projects at this stage, general impacts that can be outlined for the project components are described below:

Component 1: *Strengthening Integrated Natural Resources Management,*

TABLE 7: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF COMPONENT 1

Project sub-components	Areas of intervention	Environmetal impacts	Sources of impacts
1.1 Establishing an Integrative Landscape Management Approach, watercourse to sub-catchment protection and restoration • *Sustainable Land Management Framework and Land Use Planning* • Reforestation and Fire Control • Conservation Agriculture/micro basin • *Promotion of adoption of agriculture conservation practices* *Development of a watershed management approaches*	building water harvesting systems multifunctional boreholes, small earth dams, watering points for livestock construction of and rehabilitation of multifunctional solar-powered boreholes for irrigated agriculture, domestic water supply, livestock watering points and micro-industrial use.	Soil erosion (-)	During the construction of dikes and other infrastructures, it is expected that a substantial soil be used for that and excavated soil will be exposed to agents of erosion (wind, rain);
		Air and noise pollution (-)	Machinery used for excavation and other construction activities may emit pollutants into the air and cause unacceptable noise levels
		Water and soil pollution (-)	Inadequate maintenance of construction equipment's may cause spill that can pollute the soil and water
		Waste pollution (-)	Workers camps and construction debris may cause waste pollution if measures are not taken to avoid it
		Health and safety (-)	Occurrence of accidents to workers on-site, pedestrians, and machine operators or passengers during construction activities

			During construction works, the interaction between the workers and the communities may cause transmissible diseases (HIV/SIDA and COVID 19)
		Biodiversity loss (-)	The program will be implemented within the Zambezi basin, and some sensitive areas may be affected. The activities of construction may lead to biodiversity loss and disruption of fauna within animal routes. The presence of construction workers and movement in the vicinity of these areas, may cause pressure over the fish resources and/or overexploitation of lake river biodiversity.
1.2 Promoting Integrated Water Resources Management)	Implement Soil moisture storage techniques using soil and water conservation measures in 3 communities and access by 200 women *Construct community-based water harvesting systems*	Capacitate communities (women) on Soil and water conservation techniques (+); See negative impacts above at 1.1	Training session and uses of new technique

Component 2: *Building Communities' Resilience to Climate Change*

TABLE 8: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF COMPONENT 2

Project sub-components	Areas of intervention	Environmetal impacts	Sources of impacts
2.1 Supporting Climate Resilient and Low Carbon Emission Community-level Demand-driven Infrastructure Development	*Distribute solar pumped irrigation kits*	Improve production and productivity (+); Use of clean energy sources (+) Negative impacts associated with construction activities (-)	Use of good agricultural practices will lead to improve production and productivity consequently improve farmer's livelihoods and nutritional status;
	Construct 3 multifunctional boreholes using solar panels	Increase availability of water for human and animal consumption (+)	
	Technology transfer	Improve knowledge and consequently production and productivity due to the use conservation agriculture practices learned (+)	Better agricultural practices
Reinforcing Inclusive and Diversified Climate Resilient Livelihoods Support)	• provision of high value and flood and drought tolerant seeds and inputs;	Improve climate change resilience and food nutritional (+++)	

Project sub-components	Areas of intervention	Environmetal impacts	Sources of impacts
	• Support 20 community nutrition education in agriculture production systems through social behavioral change communication (SBCC); • Implement nutrition sensitive interventions in agriculture commodity value chain 30 Training sessions of farmers on land management	Increase nutricional status and behavior of communities (++)	

Component 3: *Supporting Adaptive Capacity and Institutional Capacity -Development,*

TABLE 9: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF COMPONENT 3

Project sub-components	Areas of intervention	Environmetal impacts	Sources of impacts
Strengthening Climate Adaptive Capacity of Communities;	• Agro-forest techniques Promote conservation agriculture through promotion of mulching, composting for soil nutrient enrichment, minimum/zero tillage, appropriate crop sequencing and rotation mechanisms: reforestation and fire control.	**Improve Soil conservation and nutrition (++)**	

Strengthening Institutional Foundation for Climate Resilience and Low Carbon Emission Development, Capacity Building, and Knowledge Management	• Capacity building in climate change management, that include in-house and cross-cutting studies Promote knowledge management, program visibility and IEC (information, education and communication)	Ownership (-)	Not including all relevant stakeholders could hamper the expected outputs of the project
			The risk of low sustainability of Project activities will remain high if relevant stakeholders do not exercise ownership of the project from design and during implementation phases

Component 4: Programme Coordination and Management

TABLE 10: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF COMPONENT 3

Project sub-components	Areas of intervention	Environmetal impacts	Sources of impacts
Program Coordination and Management	Establish and support Project Coordination Unit (PCU), within MADER (PCU staff – *Project Coordinator, Accountant, M&E Specialist, Procurement Specialist, Environmental & Social/E&S Safeguards Specialist, and Support Staff*). • Carry out Project coordination activities, including supervision missions.	Ownership (-)	The risk of low sustainability of Project activities will remain high if relevant stakeholders do not exercise ownership of the project from design and during implementation phases

	• Participate in progress-review Regional meetings (ZAMCOM). • Procure works (community-level), goods and services. • Facilitate establishment of Project Steering Committee (PSC) and support its activities. Facilitate 5 financial audits and 5 procurement audits.		

6. Description of Environmental and Social impacts and mitigation measures

6.1 Positive impacts

The project will bring a considerable number of positive outcomes from an economic and social point of view. The overall impact of the project implementation is expected to result into positive impacts on the environment as well as for the socio-economic status of the communities in the targeted districts. The project itself aims to increase resilience of the communities suffering from extreme climate condition and disasters In summary the project positive impacts are as follow:

(viii) Increase water availability for human and animal consumption in in dryness districts of Guro and Changara;

(ix) Increase resilience to climate change events (drought and flood) in the beneficiary communities;

(x) Increased agricultural activities that will led to improve agricultural production and productivity in all four districts;

(xi) Improved food nutritional status of the beneficiaries as a result of the increase in the quantity of food produced once the project becomes operational;

(xii) Improved land conditions due to improved land and water management and conservation activities;

(xiii) Increased employment opportunities due to increase in economic activities and Capacity building will enhance the knowledge base of the technical officers and local communities hence enhancing their production potentials resulting in improved crop and livestock production.

Employment creation

Employment opportunities will be created during the implementation of the project. at the construction phase of the infrastructure is expected that temporary employments be created, the number of employment to be created are not yet known, but the contractors will procure non skilled workers in the region, giving therefore opportunities for the young people. A more permanent works is expected to be created for the operation and management of the infra-structures. During this phase a more semiskilled worker will be needed and the project will provide training for them.

Enhancement measures

- The Contractor shall procure 100% of its unskilled workers within the project area and give similar opportunities to women and young people;
- During the operation phase of the food processing unities and water management infrastructure, opportunities shall be given to women;

- The contractor shall be sensitive to women working condition;
- The contractor is forbidden, under this project, to employ people under 18 years old. In any case this happen the contractor will be prosecuted according to the Mozambique Law.

Improved economic situation and food security

The project is expected to assist famers/ population with new production technology to boost production of commercialized crops and income of the farmers and thus resulting in additional quantity of goods that can be sold at local markets. It is envisaged that increased productivity will help to improve incomes of targeted beneficiaries. With the implementation of component 1 and 2, construction of water protection infrastructure along the Zambezi Valley and water provision in drought areas, failure of crop due to floods and water scarcity will be reduced. Therefore, making possible to irrigate small plots and introduce more resilient crops. Under component 3 the project will create enabling environment for improve production and consumption by providing technical assistance on nutrition, food processing, etc.

Enhancement measures

- The contractor shall procure goods in the region;
- The workers shall be stimulated to procure goods in the area;
- PIU shall trained the farmers to used water for irrigation;
- PIU shall guarantee crop inputs early to plan correctly the crop season;

Improve water availability

The project intervention will create new infrastructure provide potable water to some villages in the targeted districts and contribute to the reduction of water related diseases such as diarrheas and reduce the workload of woman and youth for fetching water.

Enhancement measures

- PIU shall assist the communities in water management procedures;
- The communities water management bodies shall design the code of conduct for the water users;
- In a case of fish production, the water managers shall estipulate the fishing season;

Capacity building and awareness

The project under component II will introduce new technologies and new varieties . Therefore, is expected that farmer's capacity and agriculture services at local level will be improved and strengthened though the provision of material and equipment's. This assistance

will improve the ability of farmers to deal with negative impacts of drought and enhance their resilience through the implementation of best practices. Awareness campaigns and dissemination of best practices will contribute to the vegetation, soil and water conservation.

Climate resilient

The project overall objective is reducing the risks of climate-related disasters and their impacts on the livelihoods of the most vulnerable by constructing more resilient communities against climate events. Therefore, the project will bring positive impacts for the climate adaption and mitigation aspects.

6.2 Negative Impacts

During the project implementation negative impacts may occur due to the construction activities. The project is likely to generate negative impacts during its implementation. These negative impacts will be produced from a number of activities in the infrastructure development and agriculture development components of the project.

Soil degradation (Erosion and pollution)

Soil erosion will occur on the project site due to disturbance of soil strata/structure caused by land preparation and construction activities. Water harvesting infrastructures (earth dam) will impact on soil resources as it implies soil movements for land leveling, dredging and soil compaction.

Slight risks of salinity are present in most alluvial soils especially in the drought area mainly because of high evapo-transpiration with low rainfall and the presence of saline and/or sollic lacustrian and estuarine deposits.
While in the valley construction activities may result in compaction, which will result in low infiltration and exacerbate the run off during run season.

Mitigation measures

- Minimize heavy machinery movements and other equipment and away from designated transportation and operational areas;
- Unnecessary vehicular and machinery movements should be avoided as much as possible;
- Reclaim and re-vegetate excavation sites once work is completed to reduce run off;
- Backfilling and compacting excavated areas immediately after excavation to limit exposure of loose soils;
- The contractor should avoid running heavy equipment during rainy season, when opening the earth dam/drainage and back filing dikes and make the irrigation drainage system;

- To avoid erosion around the small dams the contractors should plant grass and some shrubs that will secure the soil and decrease the run off;
- Constructing retaining walls, in the small dams, to enclose excavated loose soils and ground cuts with steep slopes.

Water quality

The proposed construction activities on water harvesting, farming and processing may affects the quality of existing water resources due to water pollution from hazardous material used for the construction activities (petrol, oil etc.) and wastewater. Some hydrological impacts might occur related with water availability during the dry season. There are some possible negative impacts on reduction of flow with the use of gravity schemes and lowered water table.

Pollution could also come from heavy use of agricultural chemicals during the implementation of the project some of which may lead to eutrophication. There will be need to have these well addressed during the project implementation. This aspect will be countervailed by the adoption of conservation techniques.

Mitigation measures

- A clause requiring the contractor to take all reasonable precautions to prevent spillages and leakage of materials with the potential to pollute soil and underground water resources should be included in the contract documentation;
- When possible, the contractor should assist the community, providing water to the more vulnerable people in the event of an emergency situation (no water in the community wells or boreholes);
- Apply soil and water conservation measures to minimize spillage and run-off of chemicals in waterbodies.
- All water and other liquid waste products shall be collected and disposed of at locations on site or off site and in a manner that shall not cause nuisance or pollution;
- Ensure adequate and regular checks on the equipment in use to ensure they are well maintained and in good working condition to prevent leaking oils and fuels;
- Refuelling should be done in safe locations where there is no likelihood of spillages;
- Put measures to minimize leaching and chemical run-off through appropriate soil and water conservation measures.

Air Pollution

Under Components 1 and 2 of the project infrastructure development will be done, some earthworks will occur as part of the construction/rehabilitation of irrigation schemes and water harvesting structures in all districts. These activities may contribute to raising the level of dust and noise in the area. Additional sources of air pollution could be expected from the equipment used to construct the irrigation system such as emission of ash, noise, dusty and

air quality. The construction activities mostly the excavation and transportation of construction materials are likely to generate a significant amount of dust as well as emitting smoke and fumes from engines and oil spills that will lead to pollution of air, water and other environmental resources.

Mitigation measures

- When working close to settlement a care shall be taken to avoid dust dispersion, conducting part of the work when people are not at home. Close to schools the contractor shall watering the soil;
- The contractor shall have provided for washing and as toilets in the vicinity of the works site for construction workers;
- The project implementers shall take all necessary measures to ensure that the operation of all mechanical equipment and construction processes on and off the site shall not cause any unnecessary or excessive noise, taking into account all applicable environmental requirements.
- When operating close to residential and sensitive areas such as nurseries, schools or medical facilities the contractor's working hours shall be limited to daylight hours;
- The workers in dusty areas should be provided with requisite protective equipment such as dust masks and dust coats for preventive and protection purposes;
- The movement and speed of the construction machineries and vehicles should be controlled and properly managed;
- The removal of vegetation should be avoided and denuded surfaces should be adequately re-vegetated;
- Most noisy machinery should be fitted with proper silencers to minimise noise emissions;
- The amount of blasting in the quarries should be controlled where necessary;
- Ensure the construction work takes the shortest time possible, in addition, the activities generating dust should be carried out in calm weather;
- Ensure the noise levels are kept at the minimum acceptable levels and the construction activities are confined to the working time limits.

Vegetation Loss

The project implementation will result in limited level of vegetation clearance increases as more land is brought under cultivation. There is anticipated increase in clearing of vegetation through the process of expanding land for irrigation agriculture, construction of earth dams, construction of market infrastructure. The clearing of vegetation and the subsequent loss of habitat is likely to lead to loss of biodiversity especially of organisms that are prevalent in the micro-areas.

However, the crops will also result in some level of vegetation cover on a seasonal basis.. Many people in these districts are aware of the need of the dry grass for animal feeding.

Mitigation measures

- Where possible, clearing of vegetation, particularly of indigenous trees needs to be avoided as much as possible during construction, and the clearing needs to be carried out only where necessary;
- where clearing is done, land should be landscaped and reclaimed by planting more trees and other forms of vegetation;
- where erosion may occur due to vegetation loss, erosion control measures need to be put in place
- avoid clearing and construction within key sensitive habitats such as wetlands, culturally protected areas, unique and special habitats; and (ii) where possible, buffer the special, sensitive and ecologically important habitats.

Solid Waste management

During the construction phase heavy equipment will be used and some potentially hazardous waste such as diesel and oil will be stored in the project area. The contractors undertaking the works will need to ensure safe storage of the products and adequate disposal of any waste.

Mitigation measures:

- Put in place appropriate waste management mechanisms for both solid and wastewater;
- Educate and sensitize the population on being mindful of and responsible for their own environments.
- The Contractor shall be required to prepare and submit a Plan for waste control and
- The Contractor should include in the waste management plan, at least the following:
    - Sufficient containers (preferably resistant to worms and appropriate for the weather conditions) on the work sites for the disposal of solid waste produced daily;
    - Collection of rubbish and waste generated daily by the staff;

.

Health and safety

Implementation of project can pose some risks to the safety of the workers and others around the project area. And part of the activities can bring hazards that decrease the quality of health of workers.

Mitigation measures

- Before commencing work, the Contractor will be required to identify potential hazards for each work task;
- Provisions for emergency responses are to be included in the Contractor ‘s site safety plan which is to include nomination of a person who will be immediately contacted in case of an accident occur;
- The contractor ‘s site safety plan will include provision for a safe work environment and provide safety measures, training and protective equipment to all workers including hand, head, eye and ear protection and safety footwear;
- Turning off, disconnecting, isolating, and de-energizing (Locked Out and Tagged Out) machinery with exposed or guarded moving parts;
    - All chemical products shall be stored in proper area and shall be marked with warning signals;
    - Storage of chemicals shall not be accessible for strangers;
    - Keeping the number of employees exposed, or likely to become exposed, to a minimum;

Health and Sanitation

Health and safety of workers and other people around the project shall be one of the most important aspects to be considered by the contractor. The project will be implemented within area that is endemic to Malaria and HIV/AIDS. The spread of HIV/AIDS is likely to increase, especially during infrastructure development and construction, when workers from outside the region are brought into to it to live for long periods without their respective spouses. During the project cycle interaction with 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. Nowadays, COVID-19 pandemic brings additional treat to health.

Mitigation measures

- The contractor shall implement protective measures to control malaria within the camping site for example: Malaria spraying, avoid having stagnant water, so on.
- 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.
- Provide treatment for workers who are infected.
- Provision of sufficient, good quality and free condoms.
- The Contractor shall provide supply of running water for its workers, wash water, water for toilets.

Community Health and Safety

Mitigation measures

- Information campaigns on STDs among the workers and local community;
- Education about the transmission of diseases;
- All Contractor, Subcontractor and Engineer Workers must implement social distancing by maintaining a minimum distance 1.5 meters from other worker;
- Reduce to minimal the face to face meetings, critical situations requiring in-person discussion must follow social distancing and the number allowed by the law. meetings in open space must be considered.
- Locate campsite away from sensitive sites like villages.
- Quarries in the proximities of settlement must not be used (less than 500 m).
- Neighbouring sensitive land users are informed of unusual events or problems that may affect amenity, how long the impact will go on and the actions initiated to mitigate the impact.
- Avoid burning of residual crop and other wastes, which creates harmful air emissions that may adversely impact surrounding communities.

Increased risk of GBV and SEA

The implementation of the project will likely result to influx of people in the construction sites resulting in potential for Gender Based Violence (GBV) and Sexual Exploitation and Abuse (SEA). The influx workers, because they are far from home and need to socialize, may hasten the introduction and/or increased expression of vices such as prostitution, gambling, alcoholism, and drug use, which can have significant negative social impacts and consequences. Increase in disposable income for workers and communities working the project could also result to GBV/SEA incidences. Such incidences may arise in situations where large numbers of contractor workers interact with poor communities, where household representatives that receive project benefits are forced to surrender the cash to spouses, where benefits may be used to lure adolescents into unsafe sexual practices, or in cases of forced sexual relationships in return for favours. The community dialogue and awareness raising will be carried out in the communities to make sure people potentially affected by the project identify the different entry points to the referral pathway if they are victims of SEA (including specifications about the role of the GRM).

Mitigation measures

The contractor is required to:

- The contractor shall develop and implement the project's Codes of Conduct (COC), GBV Action Plan, Grievance Redress Mechanism (GRM) and implement accordingly throughout the project implementation period and respective penalty policy, as mentioned subchapters above.

- The contractor shall prepare a C-ESMP that includes a detailed GBV Action Plan t; identify and map locations of high risk, such as major prostitution areas;
- All employees shall attend an induction training course prior to commencing work on site to ensure they are familiar with the Contractor's commitments to the project's Codes of Conduct, ESMP, and other standards, such as ESHS and OHS standards,
- Establish and operationalize GRM whose approach is sensitive to issues of GBV and SEA.
- Information and awareness raising campaigns for community members, specifically women and girls.
- Provision of information to host community about the contractor's policies and Worker Code of Conduct (where applicable).
- Provision of cultural sensitization training for workers regarding engagement with local community.
- Consultations with and involvement of local communities in project planning and implementation.
- Awareness-raising among local community and workers.

Influx workers and employment

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

Mitigation measures

- Share the workers required for the project locally (especially unskilled staff);
- Mandatory and regular training for workers on required lawful conduct in host community and legal consequences for failure to comply with laws;
- The contract shall avoid being accused of Children Abuse and Exploitation by implementing the following measures:

    - Avoid employing under aged (less than 18 years) workers and this should be included in the Contractors Code of Conduct.
    - Take strict measures against employment of children.
    - Use National IDs to verify age of employees.
    - Conduct community sensitizations on child labour.

- Establishment of a Grievance Redress Mechanism (GRM) for workers and host community to report workers' misconduct and complaints/reports on gender-based violence or harassment through the GRM;
- Monitoring and supervision, and, as needed, adaptive management actions;

- Provision of opportunities for workers to take advantage of entertainment opportunities away from rural host communities.

Climate Change

Climate change has result in more intense and frequency of the extreme weather events in the last decades. A combination of increased hot days and precipitation weakens the agriculture production, the communities to survive need to adopt an adaptation and coping mechanisms. the project area is along the Zambezi basin, which suffers from climate change extreme events of drought and floods. For agriculture activities drought and flooding are the most stressing events, which results in crop failures. Flood and drought are cyclical observed the project area. Apart of the loss on the agriculture production, these climatic events affects the duration of the infra structure to be constructed.

Mitigation measures

- Adopt climate resilient procedures and material to construct dikes to protect the costal line from wind, cyclones and storms;
- Investments in climate resilience agricultural infrastructure such storage facilities for commodities susceptible to climate hazards In addition to water management and drought resistant techniques.
- provide technical support to farmers on smart agriculture and productivity enhancement.
- For irrigation schemes, placed the irrigation equipment in a location that can be protected from flood;
- Adopt irrigation equipment, agro processing equipment, water pump that are energy saver;

6.3 Cumulative Impacts

The sub-project sites will be screened for cumulative impacts, although is not expected that this new project compete with the previous one, as the districts select other communities, not closed to the previous. But the lesson from the previous project will be used to upscaling the new project achievements.

The Bank has recently funded a number of Project interventions in support of the agriculture and rural development sector in Mozambique, namely: i) The Post Cyclone IDAI Emergency Recovery and Resilience Program; ii) the Drought Recovery and Agriculture Resilient Project; iii) the Value Chain and Youth Empowerment; iv) Project Baixo Limpopo Irrigation and Climate Resilient project (BLICR): v) the Massingir Dam and Smallholder Rehabilitation

Supplementary II Project; vi) the Sustainable Land and Water Management Project (SLWRMP); and vii) The Emergency Humanitarian Relief Assistance Related to the 2019 Cyclone. From the above list, only the Sustainable Land and Water Management Project and the Massingir Dam Emergency Supplementary II Project have been closed. Therefore, lessons from the previous projects were used to leverage the impacts of this project. Main lesson is how to address the inter-linked challenges of adverse impacts of climate change, rural poverty, food insecurity and land degradation, and provided climate resilient (CR) infrastructure for increased agricultural productivity respectively; the technologies and methods successfully implemented will be adapted to the new project context. Within the Valley some projects are also being implemented by the ACEAGRARIOS to create a resilience of the communities of Changara and Marara District in Tete Province.

7. PROCEDURES FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF SUBPROJECTS

The process of evaluate the environmental and social impacts of subprojects, starts with a screening which will take place once sub-projects are identified but prior to implementation. The procedures followed incorporate the requirement of both, relevant national regulation, specially the Environmental Impact Assessment Regulation (Decree 54/2015 of 31 December) and African Development Bank's environmental and social safeguards policies. Comparing the EIA process established in Mozambique (Decree Nr. 54/2015) with the African Development Bank's OS1 on Environmental Assessment indicates correspondence between the two. Preparation of any Environmental and Social Assessment will be carried out in consultation with relevant stakeholders, sector Ministries, Provincial and District Services, Non-Governmental organization acting in the project area, potentially affected and interested persons. The PIDACC subprojects shall be subject to a review and screening process so that the required level of environmental and social assessment is determined.

7.1 Environmental and Social Screening and categorisation

The objective of the Environmental and Social Screening step is to ensure that proposed subprojects are subject to the appropriate type and extent of environmental and social assessment, crucial to ensuring compliance with OS1 and are in line with the Mozambican procedures for the environmental and social process. Screening of subprojects shall commence at the time of project identification when the basic subproject details are known, including nature and scope, proposed location and area, the exact beneficiaries among other available information.

The initial screening of subproject components and sites will be completed using the Environmental and Social Screening Form (Annex 1). The screening form, will facilitate the i) Identification of potential environmental and social impacts; ii) Determination of their significance; iii) Assignment of the appropriate environmental category; iv) Determination of appropriate environmental mitigation measures and; v) Need to conduct an Environmental and Social Impact Assessment (ESIA) where required.

The outcome of the screening process is the categorization of the subproject. According to the Mozambican EIA regulation, the subproject can be assigned a category (A+, A, B or C).

Category A+ is applied for complex projects with significant and irreversible impacts to social and biophysical environment, while category A is assigned to project that induce adverse social and environmental impacts to living organisms, is implemented in sensitive environmets but with appropriate mitigation measures the impacts can be reversible. These category correspond to category 1 of the AfDB OS 1. The ESIA for this projects should be conducted by specialized independent consultants registered in the Ministry of Land and Environmet. The approval of these types of projects is done at central level by the Ministry of Land and Environment (MTA).

Category B is applied for project that do not affect significantly the biophysical and social environment. For this, a Simplified Emvironmetal Assessmet should be prepared by independent consultant for consideration and approval by Provincial Services of Environment (*Serviços Provinciais de Ambiente*- SPA) at the specific province (Sofala, Tete, Manica or Zambezia). This category correspond to category 2 of the AfDB OS 1, where the project are likely to have few, site-specific and largely reversible and readly minimized environmetal and social impacts.

Category C projects correspond to category 3 of the AfDB OS1 and is applied for projects with negligible, insignificant and minimum adverse impacts on the biophysical and social environment. The projects do not require an environmental and social impact assessment, but they would require adherence to Good Environmental and Social Management practices (Annex 2), 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) and in parallel with AfDB OS1. However, it is important to stress that the Mozambican PIDACC, subprojects are not expected to have any significant environmental and social negative impact, therefore a will be under category C and minor subprojects under category B (depending on the extension and nature of the construction activities expected).

7.2 Environmetal and social assessments

As stated erlier, the screening process will dictate the category of each subproject and the level of assessment that should be undertaken. If the subjects fall under category A+ or A, are not elegible for financing, while if the project are in category B or C, they should undergo to the simplified environmental or social assessemt process or environmental and social management plan will be suficient.

For activities classified as Category B by the SPA, the MADER/AVZ Safeguard Team shall prepare Terms of Reference for the appointment of an independent certified consultant to carry out the Simplified ESIA, including drafting the ESMP and conducting the public participation process. According to the EIA regulation Decree 54/2015 (Art. 23) only consultants registered with the Environmental Assessment Authority (MTA) may carry out environmental assessment studies in Mozambique. Consultants must present a valid registration certificate issued by MTA prior to contract award. The assigned consultant must preapare the Terms of Reference (ToR) for the study that should be submitted to the AfDB environmental and social safeguard specialist for review and issue of a no-objection response before submission to SPA for approval.

After the approval of ToR, the identification and evaluation of potential impacts is conducted, including the public participation of interested and affected stakeholders. The environmental and social safeguard team at MADER/AVZ review the simplified ESIA and submit to AfDB

for no-objection prior to submition to SPA. The simplified ESIA should include the environmental and social management plan that the contarctor should adere to.

Before the start any subproject, subject to the ESMP, the Contractor shall prepare and submit to MADER/AVZ for approval, a specific Contractor's ESMP (C-ESMP), based on the ESMP attached to the Contract.

7.3 Review and approval

The environmental and social report including the ESMP is submitted to the Provincial Services of Environment, where the Environmental and Social Specialist in collaboration with the Provincial Project Coordinators, 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.

Based on the results of the review process, and discussions with the relevant stakeholders and potentially affected persons, the Environmental and Social Specialists, in case of subprojects 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.

7.4 . 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. Theprocess also allows for rethinking the project's technical aspects.

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 PIU
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 project implementers 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 nontechnical 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.

In compliance with both the GoM regulation and AfDB guidelines, before a subprojects 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, AVZ delegate in each province, SPA, SDPI) 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 AfDB for approval and disclosure in Maputo. Especially as part of ESIAs/ESMPs and RAPs public consultation and participation processes, Mozambican guidelines also have similar pre-requisites, which should be strictly followed under the Project.

8 Training and capacity building requirements

Capacity building and training constitute an integral component of ESMF and contribute to its successful implementation. 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. Thus, adequate resources should be allocated to ensure effective implementation of the ESMF. Accordingly, for the ESMF to be effectively operationalized, capacity building specifically at community, district or even at provincial level will be undertaken to ensure that the personnel are exposed to rapid training in the management of environmental and social issues. Capacity building will enhance the stakeholders' ESMF management capacity by allowing real application of the critical practices such as screening impacts, scoping assessments, planning mitigation options, public consultation to assess feasibility and acceptability options, application of mitigation measures, management of impacts and monitoring. Therefore, the training and capacity building will provide to the stakeholders appropriate knowledge and skills to implement the ESMF's procedures and guidelines.

8.1 Training and capacity building

The trainings and capacity building events should be designed to tailor the needs of a specific group of stakeholder and should include:

- Awareness raising - for stakeholders who need to appreciate the significance/ relevance of environmental and social issues throughout the project life cycle.
- Sensitization - for stakeholders who need to be sufficiently familiar with the issues so that they can make informed and specific requests for technical assistance.
- Technical training - for stakeholders who will need to use the ESMF tools, analyze potentially adverse environmental and social impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans.

The training, awareness-raising and sensitization requirements for various groups of stakeholders is outlined below taking into account that specific groups have their own needs:

- Linkages between environmental, social and natural resource management and sustainable livelihoods;
- Local environmental assessment legislation and relevant policies;
- Identification of impacts of sub-projects and suitable mitigation measures;
- Land acquisition and access to resources through resettlement planning and compensation;
- The implementation of the ESMF, its procedures, resources and forms;
- Methods of community involvment;
- Potential environmental and social impacts of sub-projects;
- Project Management;

- The use of environmental and social screening checklist and assignment of environmental categories;
- Integrating environmental and social management aspects into the implementation of the project activities;
- Reporting;
- Project components supervision and monitoring, etc.

A training plan will be developed by the PIU team and will be adjusted based on the stakeholders needs. Detailed agenda and specification of resource needs (venue, trainers, materials, etc.) for each type of training activity will be worked out at the time of actual implementation.

Technical assistance

In addition to training described above, in most cases, government officials, communities and extension teams will require technical assistance of two types with the objectives of i) General technical assistance to ensure that local government authorities and extension team receive experienced advice and mentoring to assist them carry out their responsibilities. These TA should be given to project implementation unit personnel, the public servants at Provincial (SPAE and SPA) and District level (SDPI and SDAE) so that they improve the skills and knowledge to better implement and monitor the project activities and this ESMF; ii) Specific technical assistance to support local authorities, extension teams and communities in preparing and approving more challenging subproject, where specific knowledge is required.

9. Implementation arrangements and institutional responsibilities

The project will be coordinated by the Ministry of Agriculture and Rural Development and implemented by the ZVA in all provinces. A strong inter institutional mechanism at the implementation level has to be established, as recommended by the consultation process carried out in Tete City. The Zambezi basin management in Mozambique, is on interest of various institutions represented at local level. Therefore, ZVA will have to establish a mechanism that all interested parties be for o good implementation. The roles and responsibilities are described in the table 11.

TABLE 11: ROLES AND RESPONSABILITIES IN THE ESMF IMPLEMENTATION

Activity	Institional responsibilities	Assistance/Collaboration
Sub-project preparation	Beneficiaries, SDAE, SDPI	PIU and AfDB
Sub-project Screening	SPAE,ZVA Hired Consultant	PIU
Environmental and Social Categorization	DPDTA in each province	
Conduct the simplified ESIA study	Consultant hired by ZVA	PIU
Review of simplified ESIA and ESMP reports	ZVA/MADER	PIU, AfDB SPAE SDAE, SDPI
Approval of the safeguards instruments and ESMPs of subprojects and issue a license	SPA	
Implementation of ESMPs	Contractors and Beneficiaries	
Public consultation	AVZ and Hired Consultant	District/Local authorities
Monitoring of safeguards implementation	MADER, ZVA, AfDB, PIU	AfDB

Ministry of Agriculture and Rural Development as a coordinating entity and ZVA as a implementing entity will ensure that the ESMP or Environmental and Social Best practices are developed, disclosed for public consultation and approved, management measures are adopted and integrated during project implementation. At MADER level there is a unity based

at the Minister Cabinet that leads with social and environmental safeguards. While the implementing entity, does not have within its structure a unity or department that deals with environmental, social and climate change, although the ADVZ is implementing several projects funded by various cooperating partners and each projects hire E&S specialists. The discussion held with the ADVZ the was identified the need that the institution starts to build internal capacity to deal with safeguards instruments internal and also coordinating the various specialists link to each project. Therefore, ADVZ.
And also, at local level, as recommended by the consultation meetings held in Tete, there is a need to capacitate the implementing entity to better coordinate the implementation of this ESMF with all interested parties and institutions.

At regional level a Project Steering Committee shall be established to provide strategic guidance to implementation of the project including oversight for safeguards and the implementation of this ESMF.

AfDB will provide oversight on all matters related to safeguards, ensure that the Compliance Review and the Stakeholder Response Mechanisms are operational during the lifetime of the project and Provide technical guidance on implementation of this ESMF and administrative assistance in recruiting and contracting expert safeguards services (as required), as well as monitor adherence of each subproject to the ESMF and AfDB policies and procedures.

Project Implementing Unit will be required to:

- Supervise and manage implementation of measures defined in this ESMF.
- Assign specific responsibilities for implementation of this ESMF, including monitoring, and community consultations on the draft management plans to a staff member(s) of the PIU.
- Maintain relevant records associated with management of environmental and social risks, including updated Screening Procedure, impact assessments, a log of grievances together with documentation of management measures implemented.
- Report to the MADER, the Project Steering Committee, AfDB on the implementation of the ESMF.
- Ensure that all service providers are informed of their responsibilities for the day to day compliance with the ESMF.

At district level, available staff consisting of key stakeholders in the district including traditional authorities, Village Committees, district farmers association and program Managers will be key in collecting data, monitoring/reporting on compliance of due diligence mechanisms set forth the ESMF. Further, ESMPs will also describe the roles and responsibilities of different stakeholders in the implementation of those plans. Those new roles and responsibilities will be assessed and integrated, as appropriate, as part of the participatory decision making and implementation proceedings of the project.

10 . Cost estimate

The implementation of the PIDACC in Mozambique will be supported by AfDB, the Government of Mozambique and by beneficiaries of this ESMF report. The estimated budget for the implementation of the ESMF is presented in Table 12. It includes costs for Consultancy Services to prepare i) Environmental and Social Assessments for subprojects; ii) Monitoring; iii) capacity building of the ZVA to implement the safeguards instruments; iv) Implementation of the Safeguards measures proposed under this ESMF; v) Training at all level in safeguards. It is important to stress that the implementing entity does not have within its structure a unity or department that deals with environmental, social and climate change, although the ADVZ is implementing several projects funded by various cooperating partners and each projects hire E&S specialists. The discussion held with the ADVZ the was identified the need that the institution starts to build internal capacity to deal with environmental and social safeguards, therefore a substantial amount was allocate for capacity building and monitoring by ADVZ.
The overall budget for implementation of the ESMF is estimated at US$ 147000 to be divided among the four districts.

TABLE 12: COST ESTIMATES

#	Item	Unit	Unit Cost		Total	
			Local (MZN)	US$	Local (MZN)	US$
1	Costs for Screening of Sub projects	4	32,000.00	500.00	128,000.00	2,000.00
2	Costs of Preparation of sub project safeguard documents/ Project Briefs ESMP/ ESIA/Stakeholder Engagement Plan etc	4	480,000.00	7,500.00	1,920,000.00	30,000.00
3	Capacity Building and developing of an monitoring framework/training				1,920,000.00	30,000.00
4	Costs of Implementation and Monitoring of Site specific ESMP				3,200,000.00	50,000.00
5	Mid-term audit of ES performance				480,000.00	7,500.00
6	Completion audit of ES performance				480,000.00	7,500.00
6	Regular E&S Supervision/ consultant				1,280,000.00	20,000.00
7	**Total**				9,408,000.00	147,000.00

11. References

1. African Development Bank Group. December 2013. Integrated System of Safeguards. Policy Statements and Operational Safeguards.
2. African Development Bank Group .November 2015. Environmental and Social Assessment procedures.
3. African Development Bank Group. May 2022. Aid momaire of the PIDACC program
4. Government of Mozambique. 2012. Regulation of the Resettlement Process Resulting from Economic Activities (Decree 31/2012 of August 8)
5. Government of Mozambique. 2015. (Decree 54/2015 of 31 December)
6. Government of Mozambique. 2006. Public Participation General Directive (Diploma 130/2006).
7. Government of Mozambique. 2007. Cultural heritage Law (Decree 10/88 of 22 December).
8. Government of Mozambique. 2013. Climate Change Straategy for period 2013 to 2025.
9. Government of Mozambique. 2007. Labour Law (Decree 23/2007 of 1 August).
10. Government of Mozambique. 2002. HIV/SIDA Law (Decree 5/2002 of 5 February).
11. Government of Mozambique. 2020. Estatuto Orgânico do Ministério da Agricultura e Desenvolvimento Rural-MADER (Resolução 2/2020 of 13 March).
12. Instituto Nacional de Estatísitica. 2017. Recenseamento Geral da população e Habitação. INE.
13. Master Plan For Water Resource management in Mozambique. 2017.
14. MTADER 2018. National Forest Inventory. MTADER. Maputo.
15. MTADER 2015. Strategy and Action Plan for the Conservation of Biological DIVERSITY in Mozambique (2015-2035). MTADER. Maputo.
16. MICOA 2009. The National Report on Implementation of the Convention on Biological Diversity in Mozambique. MICOA, Maputo.

12 ANNEXES

Annex 1: Environmental and Social Screening form

Annex 2: Environmental and Social Management Good Practices Guide

Annex 3: Environmental and Social Management Plan Template

Annex 4: Inspection and Supervision of Environmental and Social Measures in Civil Works Template

Annex 5: Public consultation report

ANNEX 1: ENVIRONMETAL ANS SOCIAL SCREENING FORM

PART A: GENERAL INFORMATION

Project Name	
Estimated Cost ( )	
Project Site	
Project Objectives	
Proposed Main Project Activities	
Name of Evaluator/s	
Date of Field Appraisal	

PART B: BRIEF DESCRIPTION OF THE PROPOSED ACTIVITIES

Provide information on activities, type and scale, describe how the activities will be carried out, and include a description of support/activities and resources required

PART C: SCREENING FORM FOR IDENTIFICATION OF AFDB OSS TRIGGERED AND IDENTIFICATION OF APPROPRIATE SAFEGUARD INSTRUMENT

AfDB OSs	Triggered		If YES (Reason/details)	Safeguard Instrument/Document Needed

	Yes	No		
OS1				
OS2				
OS3				
OS4				
OS5				

Guidance: ***The guidance for subproject categorization and triggering OSs is available in the AfDB ESAPs document (Annex 2 with Special focus on the Environmental and social screening checklist)***

Conclusion and Safeguards Instruments Required

The subproject is classified as a Category _____ project as per AfDB's ESAP, and the following safeguard instruments will be prepared:

1. _____
2. _____
3. _____
4. _____
5. _____

PART D: ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION OF THE SUB PROJECT SITE BRIEF DESCRIPTION

Category of Baseline Information	**Brief Description**
GEOGRAPHICAL LOCATION	
* Name of the Area	
* Proposed location of the project (Include a sitemap of at	
least 1:10,000 scale / or coordinates from GPS)	
LAND RESOURCES	
* Topography and Geology of the area	

* Soils of the area	
* Main land uses and economic activities	
WATER RESOURCES	
* Surface water resources (e.g., rivers, lakes, etc.) quantity and	
Quality	
CLIMATE	
* Temperature	
* Rainfall	
SOCIAL	
* Number of people potentially impacted	
* Type and magnitude of impacts (i.e., impact on land, structures, crops, standard of living)	
* Socio-economic overview of persons impacted	

PART E: SCREENING CRITERIA FOR IMPACTS DURING SUBPROJECT IMPLEMENTATION, AREAS OF IMPACTS AND IMPACTS EVALUATION AND POTENTIAL MITIGATION MEASURES

1. **Is this sub-project site/activity within and/or will it affect the Following environmentally sensitive areas?**

Areas of Impact				**Impact Evaluation**	**Mitigation Measures/ Remarks Potential**
		Yes	No	Extent or coverage (on site, within 3-5km or beyond 5km)	**Significance** (Low, Medium, High)
1.1	National parks and game Reserve				
1.2	Wetlands				
1.3	Productive traditional agricultural /grazing lands				
1.4	Areas with rare or endangered flora or fauna				

1.5	Areas with outstanding Scenery/tourist site				
1.6	Within steep slopes/mountains				
1.7	Dry tropical forest				
1.8	Along lakes, along beaches, riverine				
1.9	Near industrial activities				
1.10	Near human settlements				
1.11	Near cultural heritage sites				
1.12	Within prime groundwater recharge area				
1.13	Within prime surface runoff				
1.14	Will the sub-project use international water sources?				

2. Will the implementation and operation of the sub-project within the selected site generate the following externalities/costs/impacts?

Areas of Impact				**Impact Evaluation**	**Mitigation Measures/ Remarks Potential**
		Yes	No	Extent or coverage (on site, within 3-5km or beyond 5km)	**Significance** (Low, Medium, High)
2.1	Deforestation				
2.2	Soil erosion and siltation				
2.3	Siltation of watercourses,				
2.4	Environmental degradation arising from Mining of construction materials				
2.5	Impacts to birds species				
2.6	Increased exposure to chemical pollutants				
2.7	Hazardous wastes				
2.8	Nuisance - smell or noise				
2.9	Reduced water quality				
21.10	Increase in costs of water treatment				
2.11	Soil contamination				
2.12	Loss of soil fertility				
2.13	Salinization or alkalinisation of soils				
2.14	Reduced flow and availability of water				
2.15	Long-term depletion of water resource				
2.16	Incidence of flooding				
2.17	Changes in migration patterns of animals				
2.18	Introduce alien Animals plants and				
2.19	Increased incidence of plant and animal diseases				

3. **Will the implementation and operation of the sub-project activities within the selected site generate the following socio- economic costs/impacts?**

Areas of Impact				**Impact Evaluation**	**Mitigation Measures/ Remarks Potential**
		Yes	No	Extent or coverage (on site, within 3-5km or beyond 5km)	**Significance** (Low, Medium, High)
3.1	Loss of land/land acquisition for human settlement, farming, grazing				
3.2	Loss of assets, property, houses, agricultural produce				
3.3	Loss of livelihood				
3.4	Require an ARAP				
3.5	Loss of cultural sites, graveyards, monuments				
3.6	Disruption of social fabric				
3.7	Interference in marriages for local people by workers				
3.8	Potential spread of STIs and HIV and AIDS, due to migrant workers				
3.9	Increased incidence of communicable diseases				
3.10	Health hazards to workers and communities				
3.11	Conflicts over use of natural resources e.g. water, land, etc.				
3.12	Conflicts on land ownership				
3.13	Disruption of important pathways, roads				
3.14	Increased population influx				
3.15	Loss of income generating Capacity				

ANNEX 2: ENVIRONMETAL AND SOCIAL MANAGEMENT GOOD PRACTICES GUIDE

This guide contains measures to be applied by Contractors and Subcontractors during construction activities. It shall be adapted for other activities and include any site specific environmental or social issue.

1. INTRODUCTION

Provide an overview of the subproject, environmental and social context and the purpose of this Environmental and Social Management Good Practices.

2. DESCRIPTION OF ACTIVITY

Describe the activity, the construction works required, the activities associated with the operational phase and planned decommissioning information. Include project components that may have an environmental or social impact, including:

3. KEY ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

List and describe impacts based on the list provided in Section 5.2.

4. ORGANIZATIONAL STRUCTURE AND RESPONSABILITIES

List the key positions involved in project management, execution and supervision, specifically relating to the ESHS matters (including Contractor, Supervisor (ex. SDPI), PIU Safeguard and Finance).

Define responsibilities for each position.

5. MANAGEMENT RECOMMENDATIONS (example for Civil Works)

1. Prior to the Start of Works

- The Contractor shall visit the work site with the subproject proponent and the Safeguard Assistant
- With the Safeguard Assistant, Contractor shall meet with local authorities, community leaders and residents living next to the project site to:
    - introduce the Contractor to the authorities/community leaders and community,

- Provide information about works' duration and schedule, o Provide information about required work force (foreigner and opportunities for locals),
- Define the recruitment process, which shall be transparent and nondiscriminatory (eg. on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability or political convictions). Recruitment of women shall be promoted.
- Make any request to access or use community infrastructure (such as water supply), land or natural resources (eg. Sand, firewood),
- Raise awareness about the risks associated with the construction activities and the need to limit access to the work area to third parties and domestic animals,
- Raise awareness about the opportunities for engagement with the contractor, and
- Establish a grievance redress mechanism.

- Define area for site establishment (including workers' accommodation, storage, workshop and the worksite itself):
  - Preference shall be given to already disturbed areas, o 'No-go' areas shall be clearly identified and marked. These shall include areas with large trees (>200 mm in diameter at chest height), cultivated lands or fruit trees, wetlands, grave sites or any sensitive environment or social site/area identified by the Safeguard Assistant,
  - Proximity to schools, health posts and households with vulnerable families (such as elderly, household members with chronic diseases) shall be avoided,
  - The worksite shall be clearly identified, and hazardous areas clearly marked (red tape / barricading of risk areas).
- Define access route and entry point to the worksite avoiding damage to households and associated structures, cultivated lands, fruit trees or any other potential source of income. In case of damage, the Contractor will be responsible for the payment of compensation to the affected peple.

2. Labour and Working Conditions

- Recruitment of children (under 18 years old) or forced labour are prohibited.
- Contractor shall enter into written contracts with all workers, defining tasks, responsibilities, duration of contract, hours of work, wage, and other relevant aspects included in the Labour Law,
- Contractor shall provide personal protective equipment (PPE) for all workers (helmets, boots, gloves, etc) as per the nature of the assigned job/tasks, at no cost to the worker. Contractor will train workers on the correct use of PPE and enforce its use,
- Contractor shall provide the relevant work tools and equipment, in good working condition, at no cost to the worker (eg. hammer, saw, toolbox),

- Contractor shall provide relevant Health and Safety training to workers so that they understand the risks and required precautions,
- Contractor shall provide the following to workers:
    - Dedicated accommodation facilities for non-local workers, with adequate ventilation and thermal conditions, to promote the health, safety and well-being of workers;
    - Dedicated cooking and eating facilities (with shade, food storage and food preparation counters);
    - Potable water supply;
    - Suitable sanitation facilities, adequate for the number of staff on site, in order to minimize impacts on environmental quality and public health and ensure privacy. The use of portable chemical toilets is recommended (whenever possible) at a ratio of 1 toilet per 15 workers. Where portable toilets are not available, at a minimum, improved latrine(s) should be built. Separate washing facilities shall be established (so as not to overload the latrine put).
- Drugs and alcohol shall be prohibited on the construction site. Workers suspected to be under the influence of any such substances shall not be permitted on site – no entry to the accommodation facilities and no access to the work site.
- All workers shall have access to onsite sanitation facilities.
- Contractor shall sensitize workers to convey attitudes of respect and nondiscrimination and prohibit attitudes of sexual harassment (such as prohibiting the use of language or behaviour, in particular towards women or children, that is inappropriate, harassing abusive, sexually provocative, demeaning or culturally inappropriate) and prohibit violence or exploration (such as prohibition of the exchange of money, employment, goods or services for sex, including sexual favours or other forms of humiliating, degrading or exploitative behaviour). Disciplinary action shall be taken where violations of the above occur.

3. Community Health and Safety

- Contractor will take steps to reduce risks to community members (especially children), placing warning signs and limiting access to the work area, keeping hazardous products in closed storage / warehouse and making provisions to prevent accidents involving vehicles and machinery (ex: instruct and enforce drivers to reduce speed in populated areas).
- Contractor shall ensure that neighbouring communities are sensitized of the risks posed by the activities and the care which shall be taken by community members (especially with regards to children and domestic animals).

4. Hazardous Substances, Fuel Storage and Maintenance Activities

- Hazardous substances should be covered from rain and sun, in locked storage areas, and placed on concrete floors (or at least in an area lined with strong plastic sheets). Contractors are encouraged to build bunded concrete floors to capture spills.
- Ensure that all equipment maintenance activities, including oil changes, are conducted within demarcated maintenance areas, adequately lined (eg. where oil changes take place) or using appropriate containment trays (such as a drum cut lengthways).
- Used oils shall not be disposed to the ground or into a water body. Contractors are encouraged to collect used oil, contaminated rags and others in clearly marked containers (such as drums) for removal from site.

5. Water supply

- Abstractions from natural water resources (e.g. springs, streams, lakes) shall be previously approved by the Safeguard Assistant, the SDPI, following consultation with local leaders.

6. Aggregates

- All aggregates required for construction of foundations or platforms shall be from permitted / licensed quarries.

7. Vegetation Clearance

- Contractor shall ensure that all negotiations and compensation for land, crops, trees, houses, grave sites and other relevant items have been satisfactorily completed before the work site is cleared.
- No soil, vegetation or construction material shall be dumped in wetlands or water bodies.
- No burning of vegetation to clear the site will be permitted.
- The Contractor shall suspend works and notify the Supervisor if any previously unidentified graves or artefacts of archaeological or cultural significance are uncovered during site clearance. Work shall be stopped while the appropriate authorities are notified. Work may only re-commence once authorities have inspected the site and given approval to proceed.

8. Noise Control

- The Contractor shall keep noise levels within acceptable limits and construction activities shall, where possible, be confined to normal working hours.

9. Dust Control

- Dust is regarded as a nuisance when it reduces visibility, soils private property, is aesthetically displeasing or affects palatability of grazing. Dust generated by construction related activities must be minimised.
- The Contractor shall be responsible for the control of dust arising from activities.

- Control measures shall include regular spraying of working/exposed areas with water at an application rate that will not result in soil erosion or runoff.
- The removal of vegetation shall be avoided until such time as clearance is required and exposed surfaces shall be re-vegetated or stabilised as soon as practically possible.
- The excavation, handling and transport of erodible materials shall be avoid under high wind conditions.
- Where possible, soil stockpiles shall be sheltered from the wind.
- Vehicle speeds shall be limited to minimise the generation of dust on site and on access roads.

10. Sediment Control

- Ground disturbance shall be reduced to a minimum.
- When on a sloping site, Contractor shall trap sediment onsite using brush or silt fences.
- Runoff / water shall be diverted around the construction sites or disturbed areas, using ditches.

11. Waste Management

- The site is to be kept clean, neat and tidy at all times.
- To reduce the amount of waste, the Contractor is encouraged to find local uses for safe left over materials and packaging (ex: timber wastes can be used by community as firewood, empty drums may be triple rinsed and donated for storage). This shall be negotiated and agreed with local leadership to confirm need and agree on a process of distribution of materials.
- Contractor shall ensure the:
    - Provision of sufficient bins (preferably vermin and weatherproof) at the camp and work sites to store the solid waste produced on a daily basis.
    - Contractors are encouraged to promote waste separation. o Collection of refuse and waste generated by workers on a daily basis. o Bio-degradable waste shall be composted on site (buried in dedicated shallow ditches and covered with vegetable matter and soil.
    - Contractor is encouraged to recycle part of the waste stream subject to appropriate recycling facilities being available within reasonable travel distance.
    - Identification of an appropriate site for depositing waste generated during the construction contract (eg. local borrow pit already in use for waste deposition, appropriate area near the work site for burial and cover of waste in dedicated pits).
    - Hazardous waste such as used oil, batteries, etc. shall be kept separately and must be removed from the site by the Contractor prior to the end of the

construction period. Contractors are encouraged to channel all hazardous waste to the nearest available facility (Maputo and Beira). o No stockpiled waste is to be left on site after the work is completed.

12. Fire Prevention and Control

- The Contractor shall take all reasonable and precautionary steps to ensure that fires are not started as a consequence of project activities on site.
- Open fires within the conservation areas are prohibited.
- The Contractor shall ensure that there is basic fire-fighting equipment available on site. This shall include, but not be limited to:
- Rubber beaters when working in grass/bush areas.
- At least one fire extinguisher of the appropriate type when welding or other 'hot' activities are undertaken.
- Flammable materials should be stored under conditions that will limit the potential for ignition and the spread of fires.
- The Contractor shall ensure that all site personnel are aware of the fire risks and how to deal with any fires that occur. This shall include, but not be limited to regular fire prevention talks.

13. Restoration

- Rehabilitation shall be required for all areas disturbed by the works.
- The Contractor should implement a programme of progressive rehabilitation, i.e. once works are complete in particular areas.
- Restoration will include, at a minimum, removing unused materials, rubble and foundations, ripping any compacted ground to loosen soil, spreading topsoil evenly over the former site and re-establishing grass cover.
- Rehabilitation of all temporary access tracks, haul roads and any other disturbed areas outside of the approved working areas to their original condition.

14. Decommissioning of the Site

- On completion of the Contract, the Contractor shall decommission the worksite. This shall include the following:
    - Removal of all remaining structures, services, facilities, unless sold or handed over to the community.
    - Removal of all remaining construction rubble and waste, to be disposed of at an appropriate site.
    - Reinstatement and rehabilitation of all remaining disturbed areas, including temporary access routes, turning circles, parking areas, etc.

ANNEX 3: ENVIRONMETAL AND SOCIAL MANAGEMENT PLAN TEMPLATE

This template is relevant for any subproject under the SPAZ Project which requires a stand-alone ESMP. Use this template as a guide for preparing an ESMP that will satisfy AfDB safeguards policy OS 1 Environmental Assessment and the EIA Regulations (54/2015).

1. INTRODUCTION

Provide an overview of the subproject, environmental and social context and the purpose of this ESMP.

2. PROJECT DESCRIPTION

Describe the subproject, the construction works required, the activities associated with the operational phase and planned decommissioning information. Include project components that may have an environmental or social impact, including:

- Types of materials required during construction (aggregates, fresh water)
- Source and transportation of materials during construction
- Waste management (solid and liquid waste) – construction and operations
- Hazardous materials management
- Labour management practices
- Proposed improvements or benefits resulting from the subproject which will accrue to the local community, environment and economy.

Provide an overview of project timelines.

Include a map of the general area.

(Take into consideration the information already provided in the Environmental & Social Checklist prepared for the subproject and complement/detail/update, where possible).

3. ENVIRONMENTAL AND SOCIAL BASELINE

Describe the project location and land use (agricultural land, residential), closest dwelling(s), water body that will receive drainage, natural habitats (protected areas, significant or relevant ecosystems, flora and /or fauna in the area.).

Describe the community, formal and community leadership structures, describe any unique aspects of culture and language. Describe the existing social services such as education, health, law and order as well as economic activities (commerce, trading). Provide information on existing land titles. The social context should also describe occupations and sources of livelihood, gender roles and issues, land tenure and connections to land, and the socioeconomic conditions, including any commentary on poverty, vulnerability due to gender, ethnicity or culture group, age or disability in the community, resource allocation and access and income distribution, where relevant.

4. LEGAL AND INSTITUTIONAL CONTEXT

Provide an overview of the relevant laws, regulations and policies and how this ESMP provides the relevant information in support of an environmental approval.

Provide an overview of how the ESMP meets the requirements of the World Bank safeguard policies.

Provide an overview of the key institutions with jurisdiction over the subproject.

5. SIGNIFICANT IMPACTS AND MITIGATION

Provide an overview of the significant environmental and social impacts associated with the subproject and indicate how the project will manage these to incorporate applicable safeguards policy and regulatory requirements.

6. ORGANIZATION AND MANAGEMENT STRUCTURE

Identify and define the responsibilities and authority of the various persons and organisations that will be involved in the sub-project.

7. MANAGEMENT MEASURES

List the key environmental and social impacts, per relevant project phase, and indicate recommended management measures and responsibility for ensuring measures are met.

Examples are provided below in italics.

CONSTRUCTION PHASE			
Activity	**Impact / Risk**	**Mitigation**	**Responsibility**
Work Camp and Work Site Establishment	*Loss of natural vegetation, loss of physical and economic activities, change in natural water drainage, soil & water contamination, community health & safety*	*Work site selection shall take in account environmental & social aspects:* - *Preference shall be given to already disturbed areas,* - *'No-go' areas shall be clearly identified and marked. These shall include areas with large trees (>200 mm in diameter at chest height), cultivated lands or fruit trees, wetlands, grave sites or any sensitive environment or social site/area identified by the Safeguard Assistant,* - *Proximity to schools, health posts and households with vulnerable families (such as elderly, household members with chronic diseases) shall be avoided,* - *The worksite shall be clearly identified, and hazardous areas clearly marked (red tape / barricading of risk areas).*	*Contractor, LMU Safeguard Assistant and SDPI*
Labour Recruitment	*Employment of locals*	- *Promote the recruitment of local workers, including women.* - *The recruitment process shall be transparent promote the recruitment of women and be non-discriminatory (eg on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability or political convictions)*	*Contractor*
OPERATIONAL PHASE			

Activity	Impact / Risk	Mitigation	Responsibility
DECOMMISSIONING PHASE			
Activity	**Impact / Risk**	**Mitigation**	**Responsibility**

8. MONITORING MEASURES

Define and list the key indicators that will be monitored to track progress in managing known environmental and social risks and impacts. List responsibilities for monitoring.

Examples are provided below in italics.

CONSTRUCTION PHASE				
Environmental & Social aspect/impact	**What** (will be measured)	**How** (it will be measured)	**When** (it will be measured)	**Responsibility**
Vegetation clearing	*Extent of clearing – mature trees left in place where possible.*	*Visual observation by Environmental Officer.*	*Daily during vegetation clearing.*	*Contractor*
Air quality	*Dust (PM10)*	*Passive samplers deployed on site.*	*Samplers to be deployed prior to start of activities. Samplers to be read daily.*	*Contractor*
OPERATIONAL PHASE				
Environmental & Social aspect/impact	**What** (will be measured)	**How** (it will be measured)	**When** (it will be measured)	**Responsibility**
DECOMMISSIONING PHASE				
Environmental &	**What** (will be measured)	**How** (it will be measured)	**When** (it will be measured)	**Responsibility**

Social aspect/impact				

9. INSTITUTIONAL ARRANGEMENTS

Provide an overview of the key roles and responsibilities for ensuring that the objectives of this ESMP are met. Include organizational charts detailing key positions and their responsibilities.

10. CAPACITY BUILDING AND TRAINING

Describe the activities and equipment that are required for the SAPZ project to support the proponent and subproject contractors and others to implement the recommended environmental and social management measures:

- Equipment purchases (personal protective equipment, monitoring equipment etc.)
- Training (workshops, formal training, health and safety training)
- Consultancy fees / Technical assistance (workshops, on-the-job training, monitoring services).

11. STAKEHOLDER ENGAGEMENT AND GRIEVANCE MECHANISM

Develop a high-level stakeholder engagement / consultation plan and provide records of what was carried out, who participated (men and women) and what the outcomes were, and how the feedback was incorporated into the final ESMP.

12. REFERENCES

List relevant documents and information consulted in developing the ESMP.

13. ANNEXES (supporting information, technical reports, specialist studies, records of key meetings, records of key correspondence, etc.)

Include supporting documents that will provide greater understanding of the project and its impacts, and planned mitigation measures.

ANNEX 4: SUPERVISION AND INSPECTION OF IMPLEMENTATION OF ENVIRONMENTAL AND SOCIAL MEASURES IN CIVIL WORKS *TEMPLATE*

TYPE OF ACTIVITY: CIVIL WORKS

This guide contains measures to be applied by Contractors and Subcontractors in construction activities. It shall be adapted for other activities and include any site specific environmental or social issue.

Mitigation Measure	**Indicator to verify**	**Compliance**		**Observations**
		YES	**NO**	
Camp Site				
Accommodation for workers	Verify its conditions			
Access to potable water	Verify the water source and treatment if required (chemical or boiling)			
Suitable sanitation facilities	Verify its conditions			
Work Site				

Labour				
written agreements with all workers,	Check written contracts			
Solid Waste Management				

Noise, Dust, Odour, others				
	Consult the neighbors' to check if is there any grievance			
Hazardous Substances, Fuel Storage and Maintenance Activities				

Social				

ANNEX 5. ***REPORT OF PUBLIC CONSULTATION***

REPORT OF PUBLIC CONSULTATION OF THE PROGRAMME FOR INTEGRATED DEVELOPMENT AND ADAPTATION TO CLIMATE CHANGE IN THE ZAMBEZI WATERCOURSE (PIDACC ZAMBEZI)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

(ESMF)

I. Introduction

Public consultation is a viable instrument to address stakeholders' anxieties/expectations and have their support. Communities of the proposed project areas may be anxious that they will lose their livelihoods due to the project activities that may hamper their production (e.g. farmers may lose production. The main role of a consultation is to inform the stakeholders about the project and the impacts that may cause and also helps identify impacts, sources of vulnerabilities, the households and groups likely to be affected and appropriate measures to address issues.

Public consultation for an Environmental process is regulated under the Public Consultation Directives approved by MTA (Ministerial Diploma 130/2006 and Decree 54/2015). In addition, as per African Development Bank requirements, the project will ensure continuous engagement with all relevant parties, and vulnerable groups in particular throughout project implementation. The project-affected communities shall be continually consulted by the Project Management (including supervision and monitoring personnel) to identify upcoming needs, constraints and priorities and discuss success/mobility needs as well as the levels and kinds of services needed, or what kind of environmental corrective measures need to be pursued during the different phases of the project implementation.

The reports produced within the scope of the ESIA, are documents of public nature, must be available for public consultation in order to assure wide dissemination and participation of all interested parties, including CSOs, relevant institutions, etc.

To maintain social balance and confidence with the local people, disclosure of information related to the project is essential. The information to be disclosed refers to the Environmental Safeguards instruments, timetables, as well as the grievance redress mechanism and procedures. The Environmental Impact Assessment authority is responsible for making these documents available for consultation at central and provincial levels.

Information dissemination in the subproject level must be an integral part in all environmental and social impact assessment activities during the initial phases of project preparation, until conclusion of the project.

Information campaigns through media and other means, interviews with APs to identify issues for resettlement, compensation and grievance redress mechanisms, focus group discussions, seminaries and workshops and Socioeconomic baseline survey, are activities that must be regular prior and during the project.

II. Objective of the public consultation

The objective of the consultation was: to identify, in general, the main environmental and social risks of the project and to discuss the proposed measures to avoid or reduce such impacts.

III. Comments on the meeting

Two public meetings were conducted in Tete province on the 21 and 22 of September 2022 in Tete city and Changara District. The meeting was attended by:

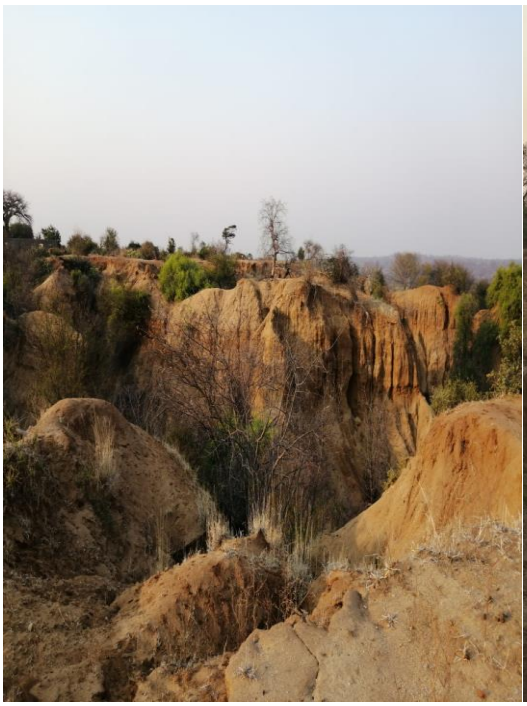
Location	Number of participants	Women	Male
Tete City	27[6]	7	20
Changara	14	2	12
Total	41	9	32

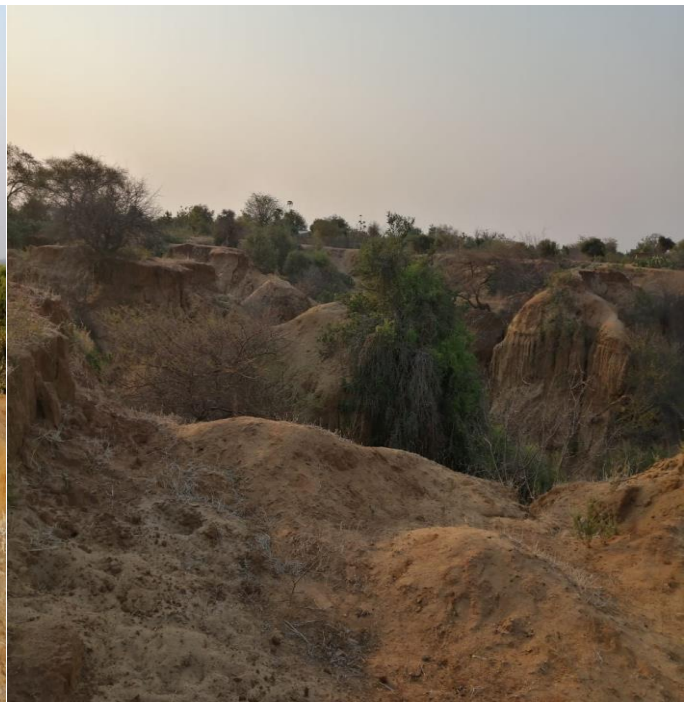
Consultation process in Changara

On the 21 of September, the consultant hold a meeting in the Changara district the consulted institutions include: SDPI, SDAE, NGO (ACEAgrarios) and representative of the producers association and women association, based in Changara.

[6] With 5 people from AVZ in Manica and other areas participating virtual

The consultation starts with the presentation of the project and main objectives of the consultation. The participants welcomed the project to the district and stressed that the Changara district is one of the major producer of beef meet and goat in the province. The main climate event that affects Changara is drought and due to this cyclic event communities and animals suffers from water storage. The participants identified erosion as the main environmental risk in the district as it can see in the above picture.





The participants stressed that the project may contribute to exacerbate or bring responses to the erosion. The program includes afforestation program, thought agroforestry technics to decrease the level of soil and vegetation degradation.

The participants stressed that the project activities related with adaptation to climate changes shall also bring responses to the erosion problems. Changara is one of the main animal producer in the province, the project shall bring solution not only to increase production, but also to reduce the animal caring capacity.

In relation to the gender issues within the project, Mrs Helena Simone, representative of the women association in Changara welcomed the program and share her experience on women involvement in such other related programs. Bringing water close to the communities it will reduce the time that women spent to collect water. The nutritional and agricultural component of PIDACC will require that women be involved from the beginning of the project, as it is part of her productive role at community. Therefore, women, young and children shall be among the beneficiary of the project and voice of these groups shall be taken into consideration for a success of the program.

She also shares her experience, on dealing with nutritional is a apart of being a beneficiary with the provision of water close to her home, may also participate in nutritional activities. She also shares the experience working with school children (boys and girls) providing school lunch to them, it resulted in increasing nutritional status of the children, reduction in level of school drop off, at the end the children became a champion of change at their homes on the improvement of nutritional food consumption by all family.

ACEagrarios, a service provider working with a WFP project share their experience, based in their project on how to create a resilience fr climate adaptation within communities. In their experience capacity building and ownership are key factors of success.

The district recommended that a water reservoir be developed after a compressive study, as in changara transpiration is high. It is also important that communities be involved in the selection of the areas to benefit from the water and flood control infrastructures as well as the management aspects related to it.

Consultation process Tete City

On the 22 of September, the consultant holds a second meeting in Tete City, with virtual connection for other participants. The meeting was attended by representatives at provincial level of the Government (ARA-Centro, INGD, AVZ, SPA/DPDTA, DPAP, NGO, Farmers representative, Civil society, among others) , see the list of participants under annex 1.

During the discussion the representative of WFP stressed the need for a coordination of the activities with the various stakeholders at provincial and district level. The AVZ –Tete Delegate referred that the meeting was a starting point to coordinate effort will all stakeholders working along the Zambezi Valley.

The participants also referred that within selected communities it is important to involve their representatives during the implementation phase. But, stressed that the project shall have mechanisms to deal with conflicts due to non-clear selection process by the community leaders.

The question to understand the district selection procedures because the districts are affected by floods and drought which result in scarcity of agriculture products. It was explained that the project brings measures to deal with drought and flooding risk, based on that was selected 4 districts (2 looking for drought and 2 for flooding issues).

communities if the project the main environmental risk observed in this area. The goat increases the level of natural erosion due to the soil geology.

In term of the participation of the institutions was requested the inclusion of the of INAM. And also requested that be included a baseline study on nutritional status on the selected districts.

From the environmental and social point of view it was recommended that the project prepare the manual of environmental and social best practices.

The was a request to include not only aspects related with human nutrition, but include animal nutrition aspects.

After these comments, which are comments to improve the project activities and outcome which may be implemented during the selection of the subprojects.

After that the AVZ delegate considered the meeting closed.

Tete, 23 of September 20222

REPÚBLICA DE MOÇAMBIQUE

AGÊNCIA DE DESENVOLVIMENTO DO VALE DO ZAMBEZE

MINISTÉRIO DA AGRICULT DESENVPOLVIMENTO RU

Projecto de Desenvolvimento Integrado e adaptação as Mudanças Climáticas na Bacia do Rio Zambe

Quadro de Gestão Ambiental e Social (QGAS)

Lista de Presenças da auscultação pública – Distrito de Changara (Província de Tete) 2				
Nome	**Instituição**	**Cargo/função**	**Contacto**	**Email**
DIOTREFES H. SAIZE	ACEAGRARIOS	SUPERVISOR	877248305	[illegible]@yah
OMAR ABDULA JUSSA	ACEAGRÁRIOS	OFICIAL BACIAS H[illegible]	874232850	OmarAbdulajussa@gm
Cuamba Reis	ACEAGRARIOS	M & A	848860386	cuambareis793@
[illegible]	SDAE-Chga	Supervisor	824930632	[illegible]
MANUEL DOM LUIS	ACEAGRARIO	DIRECTOR Executivo	849377[illegible]	manuelalfine[illegible]@gmail.c
Rosario Bacapitane	Sociedade Civil	membro	845087380	Rosariobacapitane.com
Arnaldo Fato Santo	SDAE	Tec. SDAE	846110596	[illegible]@gmail.com

Cristiano B. Seedodo	SDPI	Director	848215276	cristianoseed
Américo Betelane	Associação	V. presidente	850762835	Vice P
Mafio Sitoe	Associação	Presidente	843260804	Presid
Helena Simone	Associação	Presidente	866665254	Presi
Eduardo Mucavele	Agencia Z.	Chefe dept	847393974	edumucavele
Isac S. T. Samuel	ADZ-Tete	Tecnico Delg.	848882471	isactsamuele
Eulália Hossue	MADER	tecnica	823933194	eulaliahoca
		VIRTUAL		
ALCÍDES NHAMATATE	ADVZ	Chefe dept	842324672	alcidesnhamatate
JOSE CARDOSO	"	Director	842295957	jsmcardoso7@g
SALOMÃO CHAUQUE	"	Chefe dept	874352040	sjchauque6@gm
RICARDO JORGE	"	Delegado Monice	847444212	Ricardomlourenco
MARGARIDA BECHARDA	"	tecnica	843109438	becharda56@gm

REPÚBLICA DE MOÇAMBIQUE

AGÊNCIA DE DESENVOLVIMENTO DO VALE DO ZAMBEZE

MINISTÉRIO DA AGRICUL DESENVOLVIMENTO RU

Projecto de Desenvolvimento Integrado e adaptação as Mudanças Climáticas na Bacia do Rio Zamb

Quadro de Gestão Ambiental e Social (QGAS)

Lista de Presenças da auscultação pública – Cidade de Tete **Data 22/09/22**				
Nome	**Instituição**	**Cargo/função**	**Contacto**	**Email**
Nuno Pinto Novo	ADVZ	Delegação	866006800	npintonovo@hotmail.c
Eduardo Mucavele	ADVZ	Chef.Depart. SEAE	877865690	edumucavele@gmail.com
Albino Cossa	ADVZ	Técnico	875060156	albinodavidc@gmail.com
Manuel Chirrizane	ADVZ	Técnico	871079235	Chirrinzane.manuel@gma
Eulália Macome	MADER	Consultora	823933194	eulalialucasmacome@gma

Jaime Guambe	INAM	Delegado	863292032	guambejaime@gua
Inês Cadeado	Serviços prov.de Infraestrut	Chefe R.A.J.	848124285	inasaca@gmail.c
Constantino A.J.	Serviços Prov.Ambient	Che DPIO Ambient	846056262	addoconstantino@yah
ADELSON CASSAMO	SPAE	Chefe do DDR	844270580	[illegible]
	Dirc.Prov de Terra,Desenv			
Inocência chimpingo	Territ e Ambient	Técnica	872478282	ichimpingo795@gm
Ofelia Nhaca	DPIC	Inspectora	846975890	[illegible]
[illegible]	DPAP	Chefe Dept	824562850	[illegible]
	ARA Zambeze			
Portário Bernardo	INGD	Tecnico	845777512	[illegible]
Florêncio Alves	PMA	Técnico	847110777	florencio.alves@wf
Cuamba Reis	ACE Agrários	M & A	848860386	cuambareis795
[illegible]	Sociedade Civil	Oficial	840219080	as.capitao[illegible]gmail
Manuel Domingos	Aceagrarios	Direct. Exec.	849337721	manuela[illegible]@gma
Edson Manuel	Aceagrarios	Tecnico	867575088	edson.[illegible]25@gmail
Inocência chimpingo	Dire			
Noemia Godinho	ARA - Centro, IP	Técnica	825298508	noemiagodinho@[illegible]
Isac Tsamuel	ADZ - Tete	Técnico	846882471	Isactsamuel@hotma