Government of Republic of Malawi

Ministry of Agriculture

MALAWI FOOD SYSTEMS RESILIENCE PROGRAM ADDITIONAL FINANCING (P181652)

ENVIRONMENTAL & SOCIAL MANAGEMENT FRAMEWORK.

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Environmental and Social Management Framework

This is an update of an already existing ESMF that was initially approved and disclosed in March, 2023 under MFSRP and is being updated under MFSRP - AF. MFSRP- AF Project is still in line with the parent project setup and the project components have remained the same in nature. This update mainly focussed on the project description.

Executive Summary

1. Background Information

The Ministry of Agriculture (MoA) is implementing the Malawi Food Systems Resilience Program (MFSRP). This is a six-year project supported by the World Bank through the International Development Association (IDA), Global Agriculture and Food Security Program (GAFSP) and Multi-Donor Trust Fund (MDTF). The MFSRP, also referred to as AGCOM 2, is part of the World Bank's regional program, with a Multiphase Programmatic Approach (MPA).

The MFSRP builds upon many years of successful experience in implementing the Malawi Agricultural Commercialization (AGCOM) Project, referred to as AGCOM1 in this document, the Agricultural Productivity Program for Southern Africa and the Agricultural Sector Wide Approach Support Project (ASWAp SP).

MoA is now proposing an Additional Financing (AF) to increase the resilience of food systems and the country's preparedness for food insecurity in project areas and, in case of an eligible crisis or emergency, to respond promptly and effectively. The AF is not bringing new activities rather, it will scale up existing activities and the number of beneficiaries within the same geographical areas; and enhance the existing digital agriculture system including a new payment system for the agriculture input subsidy (AIP). As such, the ESMF will be used for both the parent MFSRP and the new AF.

2 Justification for Environmental and Social Management Framework

The proposed rehabilitation and reconstruction work under both MFSRP and MFSRP-AF have the potential to generate several negative impacts to the environment. The rationale for developing the framework is based on the consideration that all subprojects will only be identified and prepared during the implementation of MFSRP. Therefore, detailed site investigations will be carried out as part of identifying specific project activities and related designs at the selected locations to ascertain the precise nature of the environmental and social impacts. The ESMF will provide the necessary background for environmental and social considerations, a checklist of potential issues of the project activities to be considered and built into the design of the project so that socially sustainable implementation can take place, including environmental and social screening of subprojects and guidance on the preparation of specific assessments and plans.

3 Aim and Objectives of Environmental and Social Management Framework

The ESMF is intended to be used as a practical tool during subproject formulation, design, implementation and monitoring in the MFSRP and the AF. While this ESMF document has been prepared to identify the potentially negative impacts of the MFSRP and the AF Project, the specific objectives are:

- To describe components of the proposed MFSRP and the AF

- To recommend and update as necessary the environmental and social screening process for project sites and sub-project activities for environmental and social considerations.
- To review environmental policies and procedures of the Government of Malawi in implementation of MFSRP and the AF
- To forecast the potential environmental and social impacts of project activities.
- To develop generic environmental management plans with recommended mitigation measures for addressing negative externalities during project implementation.
- To recommend appropriate capacity building and budget resources for environmental safeguards and monitoring in the project.

4 Study Approach and Methodology

Implementation of the MFSRP and AF will be undertaken in line with the Government of Malawi and World Bank Environmental and Social Framework (ESF).

Preparation of the ESMF involved several steps, including review of applicable legislations, consultation (public participation), field visits, impact assessment and management, and reports development. Literature review involved review of the relevant project documents, socioeconomic profile for project districts, previous environmental and social project documents. The review was also done of the World Bank Environmental and Social Framework as well as other related World Bank guidelines. Consultations were an important component of an environmental and social assessment process because they reduce anxiety and concerns likely to be brought about by proposed project so that it is more acceptable by people and government authorities. The consultation and participation methods for the consultation process varied depending on the stakeholder and the information being sought. Generally, Participatory Rural Appraisal (PRA) methods were applied that allowed for a wider participation of stakeholders within a short period of time. The varied approach ensured that there were an open and interactive communication between the consultant and stakeholders, minority groups, women, youth, and other vulnerable groups so that all affected groups were fairly represented. The baseline information included socioeconomic information, biodiversity status, topographic, hydrological and landscape, ambient noise level and water quality. Additionally, the physical and biological (terrestrial and aquatic ecology) information was augmented with stakeholder consultations. Socioeconomic baseline information was obtained from District Social Economic Profiles (SEP), and reports from the National Statistical Office.

5. Project Components

The proposed Additional Financing (AF) will support the Food Systems Resilience Program for East and Southern Africa- Phase 3 to Republic of Malawi, by increasing the resilience of food systems and the country's preparedness for food insecurity in project areas and, in case of an eligible crisis or emergency, to respond promptly and effectively to it. The AF will serve three purposes namely, to (i) restructure the project to retroactively reflect the reallocation of US$16 million of budgeted project funds to the CERC; (ii) scale up existing project activities, thereby expanding the number of beneficiary households and stakeholders and strengthening National Agricultural Management Information Systems (NAMIS); and (iii) undertake efforts relating specifically to the government's possible reform of the AIP. In relation to AIP reform, the AF will support the design and implementation of pilot initiatives that will test different ways of repurposing AIP funds in ways that improve public spending efficiency and align

agricultural stakeholders' incentives with the aim of moving toward food systems resilience and sustainability. Like the umbrella Food Systems Resilience Program of which it is a part, the Malawi FSRP has six components, all of which are under implementation.

6. Summary of Potential Negative Environmental and Social Impacts.

Main sources of significant environmental and social impacts would be from development of last mile public infrastructure – feeder roads, rehabilitation of irrigation schemes and construction of electricity and portable water infrastructure. Some potential negative environmental and social impacts from the MFSRP and the AF are as follows:

a) Increase in movement of migrant labour force in rural areas of Malawi triggering labour influx. Migrant labour-force will be used on various commercial farms and various irrigation schemes involved in production of cash crops. Construction of last mile service infrastructure (feeder roads, rehabilitation of irrigation schemes, construction of electricity and portable water infrastructure) will also enhance movement of migrant workers from one place to another. The movement of non-local workers into an area, can likely lead to negative consequences such as increased demand and competition. This anticipated labor influx can strain local social and health services due to increased population and demand for social services. This increased demand can lead to competition for resources, including goods and services, resulting in price hikes and crowding out local consumers. The ecosystem and natural resources may face greater demands due to labor influx. This can affect water availability, waste management, and other social conflicts including cultural differences between the incoming labor force and local communities leading to social conflicts. These tensions may arise or escalate, affecting community dynamics, additionally, illicit behaviours and crime rates may rise in turn increasing the risk of infectious diseases spreading within and between communities.

b) Increase in spread of HIV and AIDS and other communicable diseases in project sites and their areas of impact. The use of migrant workers within commercial farms and in construction works (feeder roads, electricity and portable water infrastructure) in various parts of the country would provide additional risks of spread of HIV and AIDS in the area due to likely incidents of sexual interaction between migrant workers and local partners within project sites. In addition, increased disposal income would enhance male workers to be engaged in extra – marital sexual intercourses with local partners and thereby increase the spread of HIV and AIDS and other sexually transmitted infections.

c) Increase in rate of deforestation within the sub-project areas. This impact would result from bush clearing during development of construction or rehabilitation of rural warehouses by productive organisations, construction of feeder roads and expansions of small-scale irrigation schemes. In addition, extraction of poles for construction of camp sites, and the extraction of firewood by migrant workers, would increase deforestation.

d) Increase in rate of soil erosion and siltation of rivers or streams from the project sites and districts. Civil works in construction of rural warehouses, civil works in

rehabilitation of feeder roads, rehabilitation of irrigation schemes would escalate soil erosion by surface run off.

e) Pollution to water resources from petroleum products. One source of pollution would be from leaked oils and diesels from construction vehicles and machinery especially during construction or rehabilitation of rural warehouses and construction of feeder roads. The other source would be from application of excessive and harmful pesticides within irrigation schemes.
f) Risks of spread of alien plants and diseases in some parts of the districts. This risk would come as a result of use of contaminated equipment such as front-end loaders, dozers, graders, tractors and vehicles during civil works by contractors. Another source of alien pests and diseases to the area would be migrant workers to project site. Some migrant workers may transmit seeds of alien plants and may also bring communicable diseases (such as scabies) to the area.
g) Increase in multiplication of mosquitoes and spread of malaria in the districts. Most of districts in rift valley floor and within lakeshore plains are among areas with high malaria incidences in Malawi. Pools of stagnant water within borrow pits around would enhance the multiplication of mosquitoes throughout the year. Increase in density of mosquitoes throughout the year would increase the risks of spread of malaria among workers, women, and children within project sites.
h) Risks of water logging with the causes of water logging would be poor drainage of soils of small-scale irrigation schemes, application of excess water to irrigation schemes and excess fertilisers.
i) Continuous application of fertilisers to crops in the irrigation scheme may increase the risk of salinization.
j) Human exposure and poisoning from agro chemicals. Some workers and staff at the estates may be exposed to harmful pesticides and other agro-chemicals in course of work. The exposure may lead to some health risks such as skin irritation.
k) Risks of child labour in construction or rehabilitation of rural warehouses and small-scale irrigation schemes involved in cash crop may attract children to be engaged in gainful piecework. Some commercial farmers may opt for cheap labour through employment of children. Children are often paid significantly lower wages than adult workers. By hiring children, farmers can reduce labor costs and increase their profit margins

7 Environmental and Social Screening Process for Sub-projects

The Malawi Environment Management Act (2017) and the Guidelines for Environmental Impact Assessment in Malawi (1997) prescribe steps for Environmental Impact Assessment for development projects in Malawi. However, these instruments do not contain guidelines regarding the screening, identification, assessment, and mitigation of localised impacts of small-scale investments, where the project details and specific project sites are not known. The extent of environmental work that might be required, prior to the commencement of construction or rehabilitation of rural warehouses, construction of feeder roads and rehabilitation of the sub-projects will depend on the outcome of the screening process by District Environmental Sub Committee (DESC).

8 ESMF implementation arrangements

The implementation of the ESMF is the responsibility of the Ministry of Agriculture (MoA) through Project Implementation Unit (PIU). This section describes the implementation arrangements of the ESMF and subsequent site-specific ESMPs. PIU and governmental institutions are to benefit from the project, and their regulatory and advisory roles will be needed, recognised, and utilised when necessary. For example, those public institutions that are important at the preparatory stage (mainly for technical advice and regulatory information provision) will include the Malawi Environmental Protection Authority (MEPA), who will support screening of sub-project and categorisation, and eventually monitoring the implementation of the sub-projects ESMPs; Ministry of Agriculture (MoA) will provide support in the selection of sub-projects and other related project interventions; the local authorities such as the offices of the District Environment Office, District Labour Office and other District Environmental Sub-Committee (DESC). Local government councils have long-established relationships with beneficiaries' communities and, therefore, can play a role, for example, in convening and facilitating discussions between the project and stakeholders. The stakeholder roles and responsibilities in ESMF implementation are presented in subsequent sections.

9 Capacity Building

Capacity building for effective implementation of the environmental and social safeguard requirements is a key element of the ESMF. Capacity building for environmental and social safeguard management will need to be carried out at all tiers of the project. At the district level, it is envisaged that the DESC will need capacity building. The orientation of the DESC will be a sub-set of the orientation of District Executive Committee on proposed project works in the districts. At the construction site, PIU will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers. The various aspects that are covered under the capacity building will include general environmental and social awareness, key environmental and social sensitivities of the area, and key environmental and social impacts of the program, ESMP requirements, OHS aspects, and waste disposal.

10 Conclusion and Recommendation

The proposed Project has potential to significantly improve smallholder production, productivity and income in the country. An improvement in the income of the Smallholder farmers will translate to improved food security as they now will have cash to secure other needs. The implementation of MFSRP will provide considerable economic opportunity for material or equipment suppliers, construction contractors and agriculture professionals. The project overall will not have any apparent significant environmental impacts if the recommended mitigations are carried out.

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List of Acronyms

ADD	Agriculture Development Division
AGCOM	Agriculture Commercialisation
AIDS	HIV and Acquired Immunodeficiency Syndrome
APPSA	Agricultural Productivity Programme for Southern Africa
ASWAP SPII	Agriculture Sector Wide Approach - Support Project II
BBSS	Biological and Behavioural Surveillance Survey
CERC	Contingency Emergency Response Component
CGRC	Community Grievance Redress Committee
CHAM	Christian Health Association
COMESA	Common Market for Eastern and Southern Africa
CSA	Climate Smart Agriculture
DANR	Director of Agriculture and Natural Resources
DC	District Commissioner
DEC	District Executive Committee
DESC	District Environmental Sub-Committee
DGRC	District Grievance Redress Committee
EDO	Environmental District Officer
EHSGs	Environmental, Health, and Safety Guidelines
EMA	Environment Management Act
EPA	Extension Planning Areas
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESS	Environmental and Social Standards
FGD	Focus Group Discussions
FI	Financial Intermediaries
FINES	Financial Inclusion and Entrepreneurship Scaling Project
FM	Finance Management
Foyode	Forum for Youth and Development
GBV	Gender-based Violence
GDP	Gross Domestic Product
GRM	Grievance Redress Mechanism
GVH	Group Village Head
HIV	Human Immunodeficiency Virus
IDA	International Development Association
IFC	International Finance Corporation
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
IPF	Investment Project Financing
MBS	Malawi Bureau of Standards
MEPA	Malawi Environment Protection Authority

MICS	Malawi Multiple Indicator Cluster Survey
MITC	Malawi Investment Trade Centre
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MoL	Ministry of Lands
MoTI	Ministry of Trade and Industry
MS	Malawi Standard
NAIP	National Agricultural Investment Plan
NASFAM	National Smallholder Farmers' Association of Malawi
NEP	National Environmental Policy
NGOs	Non-governmental Organisations
NGRC	National Grievance Redress Committee
NICE	National Initiative for Civic Education
NPGRC	National Project Grievance Redress Committee
NSO	National Statistical Office
OSH	Occupational Safety and Health
PBA	Performance-Based Allocation
PIU	Project Implementation Unit
PMP	Pest Management Plan
PO	Producer Organisation
PPD	Public Private Dialogue
PRA	Participatory Rural Appraisal
PSC	Project Steering Committee
PTC	Project Technical Committee
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SEA	Strategic Environmental Assessment
SEP	Stakeholder Engagement Plan
SMEs	Small and Medium Enterprises
T/A	Traditional Authority
TWGs	Technical Working Groups
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development
WGRC	Workers' Grievance Redress Committee

1 Introduction on the Project

1.1 Background Information

The Ministry of Agriculture (MoA) is implementing the Malawi Food Systems Resilience Program (MFSRP), a six-year project funded by the World Bank. The MoA is seeking an Additional Financing of $61 million to enhance food system resilience and preparedness for food insecurity in Malawi. This funding will scale up existing activities, expand the number of beneficiaries, and improve the digital agriculture system. It will also address any potential environmental and social impacts triggered by the project. This framework will therefore be used for both the parent project (P177816) and the MFSRP-AF (P181652).

1.2 Proponent and Implementing Agency

The proponent of the proposed MFSRP and the MFSRP AF is Government of Republic of Malawi. Contact details and addresses of the proponent are as follows:

Proponent Name:	Secretary for Agriculture, Ministry of Agriculture
Postal address:	P.O. Box 30134, Capital City, Capital Hill, Lilongwe 3, Malawi.
Telephone:	265-01-789 033
Facsimile:	265-01-789 390
E-mail:	agric@gov.mw.net

A Project Implementation Unit is already based in Lilongwe, and it will coordinate the overall implementation of the MFSRP and MFSRP AF. The PIU will continue to be supported by sectoral ministries, and these will include Ministry of Agriculture (MoA) in collaboration with Ministry of Trade and Industry (MoTI), and Ministry of Lands.

1.3 Justification for Environmental and Social Management Framework

The proposed rehabilitation and reconstruction work under Malawi FSRP AF has potential to generate several negative impacts to the environment. The rationale for developing the framework is based on the consideration that all subprojects will only be identified and prepared during the implementation of MFSRP and the AF. Therefore, detailed site investigations will be carried out as part of identifying specific project activities and related designs at the selected locations to ascertain the precise nature of the environmental and social impacts. The ESMF will provide the necessary background for environmental and social considerations, a checklist of potential issues of the project activities to be considered and built into the design of the project so that socially sustainable implementation can take place, including environmental and social screening of subprojects and guidance on the preparation of specific assessments and plans.

This ESMF will also serve as the guideline for the staff designated by the implementing agencies to oversee and monitor the social safeguards compliance of the project components coming under their implementation responsibility. The ESMF will be a living document and will be reviewed and updated periodically as needed. This document is not an environmental

and social assessment of the project, but a framework to upstream environmental and social considerations design and implementation of the various sub-projects of the project. This ESMF provides an overall guidance on environmental screening and management for various sub-projects. The justification for this framework is from the following reasons:

a) Civil works under the MFSRP and the AF would be many and cover various parts of the country. Construction or rehabilitation of rural warehouses, construction of feeder roads, and electricity and portable water facilities in rural areas would certainly enhance some negative impacts such soil erosion, dust emissions, loss of trees, contamination of land from spillage of oils and diesels, discharge of both solid and liquid wastes.
b) Construction or rehabilitation of rural warehouses and development or rehabilitation of small-scale irrigation schemes in the country would certainly enhance the uptake and use of various forms of pesticides for management of pests and diseases on cash crops.
c) The specific locations of rural warehouses, construction of feeder roads, construction of electricity and portable water facilities are not known now as land sites would be selected at a later stage by the implementing agencies. However, based on previous experiences of similar commercial agriculture and infrastructure related projects, the proposed construction or rehabilitation of rural warehouses and feeder roads would generate considerable environmental and social impacts within the project sites. Some potential negative impacts are increase in migrant workers on commercial farms and construction camps, increase in spread of HIV and AIDS and other sexually transmitted infections, clearance of trees, enhance soil erosion, dust emissions and emissions of gaseous from project equipment. Other environmental impacts would include noise nuisance from project vehicles on the site, contamination of land from spillage of oils and diesels, generation of solid and liquid wastes from workers during construction and operational stages.
d) Operational activities of rural warehouses and small-scale irrigation schemes would generate a range of negative environmental impacts and effects. These would include soil erosion, water logging and salinization of soils, increase in multiplication of water borne diseases, loss of biodiversity from use of pesticides, poisoning from pesticides and spread of invasive plants.

1.4 Aim and Objectives of Environmental and Social Management Framework

The ESMF is intended to be used as a practical tool during project formulation, design, implementation, and monitoring in MFSRP and the AF Project. This document will be followed during project preparation and implementation for ensuring environmental and social integration in planning, implementation, and monitoring of project supported activities. For ensuring good environmental management in the proposed MFSRP and the AF Project, the ESMF will provide guidance on pre-investment works or studies (such as environmental and social screening, environmental and social assessment, environmental and social management plans, etc.), provide set of steps, process, procedure, and mechanism for ensuring adequate level of environmental and social consideration and integration in each investment in the project-cycle; and describes the principles, objectives and approach to be followed to avoid or

minimise or mitigate impacts. While this ESMF document has been prepared to identify the potentially negative impacts of the MFSRP and the AF Project, the specific objectives are:

a) To describe components of the proposed MFSRP and the AF Project.
b) To recommend environmental and social screening process for project sites and sub-project activities for environmental and social considerations.
c) To review environmental policies and procedures of the Government of Malawi in implementation of MFSRP and the AF Project.
d) To forecast the potential environmental and social impacts of project activities.
e) To develop generic environmental management plans with recommended mitigation measures for addressing negative externalities during project implementation.
f) To recommend appropriate capacity building and budget resources for environmental safeguards and monitoring in the project.

1.5 Users of the Environmental and Social Management Framework.

The Environmental and Social Management Framework contains useful information on the procedures for environmental and social screening for sub-projects, potential environmental and social impacts; measures for addressing the negative impacts, recommended environmental and social rules for contractors. In addition, the framework contains useful information on list of required statutory approvals or licences which need to be obtained to ensure that the implementation and management of the project follows sound environmental management practices stipulated in various policies and pieces of legislation in Malawi. Such information will be useful in planning, implementation of the proposed sub-projects. In this regard, the report will be useful to the following implementing agencies, Ministry of Agriculture, Ministry of Local Government, Malawi Investment and Trade Centre, Ministry of Trade, Industry and Tourism, Ministry of Lands, Malawi Environment Protection Authority, district councils, project consultants, project construction contractors. In addition, the framework will be useful to non-governmental organisations and civil society organisations, development partners such as World Bank during support missions.

1.6 Technical Approach in Preparation of Environmental Framework

Implementation of the MFSRP and the AF will be undertaken in line with Government of Malawi and World Bank Legal Safeguards requirements. The assignment approach involved several steps, including review of applicable legislations, consultation (public participation), field visits, impact assessment and management, and reports development. The different steps have been detailed and explained below in the sections.

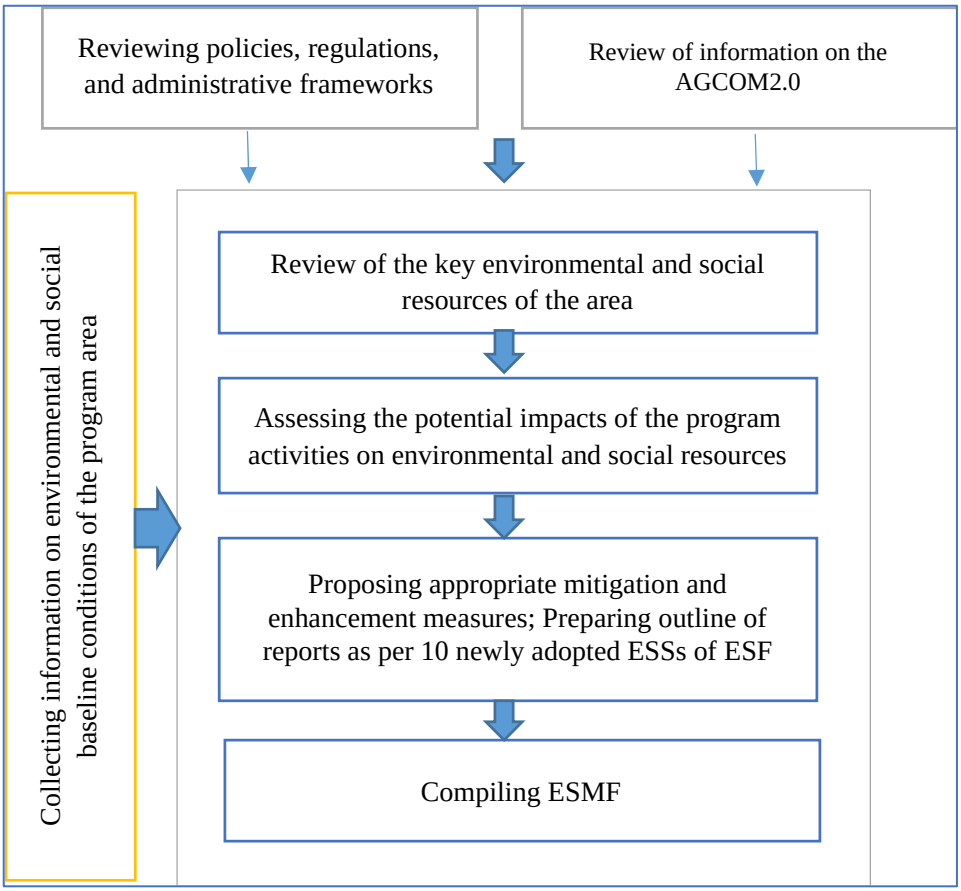

Figure 1-1: ESMF Preparation Approach

1.6.1 Desk Studies

Literature review involved review of the relevant project documents, socioeconomic profile for project districts, previous environmental and social project documents. The review was also done of the World Bank Environmental and Social Framework as well as other related World Bank guidelines. Some selected national documents, policies, and pieces of legislation were reviewed, and focused on review of Acts and their subsequent policies and strategies. Pertinent legal frameworks or Acts included, but not limited to, the Environment Management Act, Forestry Act, Irrigation Act, Water Resources Act, Water Works Act, National Roads Act, Public Health Act, Occupational Safety, Health and Welfare Act, Employment Act, New Land Laws, and Malawi Standards. The relevant policies and strategies reviewed included National Environment Policy, Malawi National Land Policy, National Water Policy, Livestock Policy, National Fertiliser Policy, Irrigation Policy, Climate Change Policy, Sanitation Policy, HIV&AIDS policy, National Gender Policy, Youth Policy, Agriculture Policy, Disability Policy, Malawi 2063, among other pieces of relevant legislation and policies.

1.6.2 Stakeholder Consultations

Consultations are an important component of an environmental and social assessment process because they reduce anxiety and concerns likely to be brought about by proposed project so that the project is more acceptable by people and government authorities. Consultations also

help to incorporate views of local communities, government officials and different stakeholders on ways of avoiding or mitigating adverse or negative impacts and enhancing the positive impacts. The consultant held an initial series of stakeholder consultations throughout the study period and the drafting of the ESMF for the MFSRP and AF.

The consultation and participation methods for the consultation process varied depending on the stakeholder and the information being sought. Generally, Participatory Rural Appraisal (PRA) methods were applied that allowed for a wider participation of stakeholders within a short period of time. The varied approach ensured that there were an open and interactive communication between the consultant and stakeholders, minority groups, women, youth, and other vulnerable groups so that all affected groups were fairly represented.

1.6.2.1 National Level Stakeholder Consultations

At national level the consultations focused on the project implementing institutions but also targeted selected civil society institutions. The consultations mainly utilised the key informant interviews methodology and the key informants at national level are indicated in Table 1-1 with relevance for selection.

Table 1-1: Stakeholders to be consulted at National Level

SN	Stakeholder Institution	Relevance to Project
1	Project Implementation Unit (PIU) Experts	Project coordinators
2	Malawi Environment Protection Authority (MEPA)	Responsible for enforcement of the Malawi Environment Management Act
3	Ministry of Labour	Responsible for enforcement of the Malawi Labour Laws
4	Ministry of Agriculture	Project implementer
5	Ministry of Trade and Industry (MoTI)	Project implementer
6	Ministry of Lands	Project implementer
7	Malawi Bureau of Standards (MBS)	Project implementer
8	Malawi Investment and Trade Centre (MITC)	Project implementer
9	Ministry of Water and Sanitation	Mandated to monitor the country's water resources
10	Ministry of Local Government	Promotes local governance

1.6.2.2 1.6.2.2 District Level Stakeholder Consultations

Consultations were undertaken in selected districts as based on the country's Agricultural Development Divisions (ADDs), which are structured along an agro-ecological division. There are eight ADDs – three in the Southern Region (Shire Valley ADD, Blantyre ADD and Machinga ADD), three in the Central Region (Lilongwe ADD, Salima ADD and Kasungu ADD) and two in the Northern Region (Mzuzu ADD and Karonga ADD). Each ADD has specialists in crop production, animal health and veterinary services, agricultural extension and advisory services, research and technical services, and land resources conservation. Table 1-2 presents the districts selected for consultations in the various ADDs.

Table 1-2: Sampled Districts to be consulted

SN	Name of ADD	Sampled District
1	Mzuzu ADD	Mzimba North, Nkhatabay
2	Karonga ADD	Chitipa
3	Lilongwe ADD	Lilongwe West
4	Salima ADD	Salima Ntcheu
5	Kasungu ADD	Ntchisi
6	Shire Valley ADD	Chikwawa
7	Blantyre ADD	Thyolo, Mwanza
8	Machinga ADD	Machinga

At district level, respective ministries were consulted through the decentralised structures, and these are presented in Table 1-3. The consultations were KII for individual officers and a round-table meeting for consultations with various committees.

Table 1-3: District Level Stakeholders

SN	Stakeholder Institution	Mode of Consultation
1	District Environmental Sub-Committee (DESC)	Round-table meeting
2	District Grievance Redress Committee	Round-table meeting
3	Director of Agriculture, Environment, and Natural Resources	Key informant interview
4	Environmental District Office	Key informant interview
5	District Forestry Office	Key informant interview
6	District Labour Office	Key informant interview
7	Chief Agriculture Office	Key informant interview
8	District Community Development Office	Key informant interview
9	District Agribusiness Office	Key informant interview

1.6.2.3 1.6.2.3 Community Level Stakeholder Consultations

Community level meetings utilised FGDs that were conducted to focus on project beneficiary that were existing Producer Organisations (POs) and beneficiaries of the Contingency Emergency Response Component projects. The sampled POs from each district and their value chains are presented in Table 1-4. This method allowed a reflection of potential project beneficiaries' viewpoints thus clarifying issues and enabling the study team to gain more insights into potential issues of concern.

Table 1-4: Sampled producer organisations and CERC projects to be consulted

Name of District	Producer Organisation	Value Chain	CERC Project
Mzimba North	Mzuzu Livestock	Piggery	
	Emoyeni Club	Groundnuts	
Nkhatabay	Livuwo	Irish potatoes	

	Kamuzu View Cooperative	Fisheries	
Chitipa	Misuku Bananas	Bananas	
	Tubepoka	Coffee	
Lilongwe West	BHG Youth	Fruit tree nursery	
	Chalera Mushroom	Mushroom	
	Retired Army Wives	Poultry	
Salima	Salima Dairy	Dairy	
	Chiluwa ǁ Honey Processing and Marketing Cooperative	Honey	
Ntcheu	Chuma Chilimthaka Smallholder Farmers Association	Soya beans	
	Gala	Fish	
Ntchisi	Highlands Macadamia	Macadamia	
	Nambamba Seed Multiplication	Soya	
Chikwawa	Minyali	Cotton	Namigozo Irrigation Scheme
	Katunga Maseya Cane Growers Cooperative	Sugarcane	
Thyolo	Mphuka Farmers	Beans	Mphuka Irrigation Scheme
	Mtendere Tea	Tea	
Mwanza	Makhuthu Youth Club	Honey	
	Namitembe Irrigation Scheme Association	Horticulture (Tomatoes)	
Machinga	Forum for Youth and Development (Foyode)	Rice	Rehabilitation of Phandilo Irrigation Scheme (UD)Feeder Road
	Chisomo Women	Poultry	

1.6.3 <u>Baseline Data</u>

The baseline information included socioeconomic information, biodiversity status, topographic, hydrological and landscape, ambient noise level and water quality. Additionally, the physical and biological (terrestrial and aquatic ecology) information was augmented with stakeholder consultations. Socioeconomic baseline information was obtained from District Social Economic Profiles (SEP), and reports from the National Statistical Office (2018 Malawi Population and Housing Census, Malawi Multiple Indicator Cluster Survey 2019-20 (MICS) Survey Findings Report, Quarterly Statistical Bulletins for 2021 & 2022, Integrated Household Panel Survey 2019, Fifth Integrated Household Survey 2019-2020, and Malawi Biological and Behavioural Surveillance Survey (BBSS) - 2019-2020. The methods used for collecting the other baseline information was mainly based on existing district and country reports obtained from districts, ADDs, key informant institutions and other published documents.

2 Project Description and Implementation of Activities

2.1 Overview of MFSRP AF

The proposed AF will support the Food Systems Resilience Program for East and Southern Africa- Phase 3 to Republic of Malawi by increasing the resilience of food systems and the country's preparedness for food insecurity in project areas and, in case of an eligible crisis or emergency, to respond promptly and effectively to it. The AF will serve three purposes namely, to (i) restructure the project to retroactively reflect the reallocation of US$16 million of budgeted project funds to the CERC; (ii) scale up existing project activities, thereby expanding the number of beneficiary households and stakeholders and strengthening National Agricultural Management Information Systems (NAMIS); and (iii) undertake efforts relating specifically to the government's possible reform of the AIP. In relation to AIP reform, the AF will support the design and implementation of pilot initiatives that will test different ways of repurposing AIP funds in ways that improve public spending efficiency and align agricultural stakeholders' incentives with the aim of moving toward food systems resilience and sustainability.

Like the umbrella Food Systems Resilience Program of which it is a part, the Malawi FSRP has six components, all of which are under implementation.
Component 1: (Re-)Building Resilient Agricultural Production Capacity. This component is developing national and regional information systems and agricultural technologies and services serving small farmers and other agrifood system stakeholders.
Component 2: Supporting the Sustainable Development of Natural Resources for Resilient Agricultural Landscapes. In alignment with Malawi's National Irrigation Policy and Master Plan, and using a landscape approach, this component is financing the rehabilitation of medium- to large-scale irrigation schemes infrastructure and gender responsive technical assistance for the management of their catchment areas.
Component 3: Getting to Market. This component is supporting producer organizations (POs), productive alliances (PAs), and last mile infrastructure in order to improve agrifood producers' access to domestic and international markets and enhance physical and economic access to sufficient, safe, and nutritious food.
Component 4: Promoting a Greater Focus on Food Systems Resilience in National and Regional Policymaking. This component is building the government's institutional and technical capacity to reform policies relating to agricultural commercialization and climate resilience with a focus on both policy development and implementation capacity. Some of the regulatory documents to be prepared or updated include the agricultural research policy, the horticulture strategy, the contract farming policy, the livestock breeding strategy, the apiculture strategy, and the e-commerce strategy.
Component 5: Contingent Emergency Response Component has supported the government's procurement of 24,500 MT of fortified maize flour in support of the government's National Lean Season Response Plan.
Component 6: Project Management.

2.2 Project Management and Implementation Arrangement

Four main structures will be established at national level to facilitate smooth implementation of MFSRP. The structures include project implementation unit, project steering committee, project technical committee, and partnership between International Development Association and International Finance Corporation. At local level, implementation of MFSRP and the AF

will be implemented through an existing decentralised framework. District Agriculture Development Officer and district councils will coordinate the implementation of sub-projects under the supervision of the project implementation unit.

2.2.1 Project Implementation Unit

The implementation of the project will be under the supervision of Ministry of Agriculture, and Ministry of Trade and Industry. The existing MFSRP PIU will oversee day to day project management, coordination of implementation, monitor progress and account for utilisation of AF project funds. The PIU will be headed by the project coordinator, and include the following key professionals: procurement specialists, finance management specialist, monitoring and evaluation specialist, agribusiness specialist, institutional development specialist, irrigation or civil engineer/, and environmental or social development specialist. All the PIU staff will comprise of experienced professionals to be recruited through a competitive process.

2.2.2 Project Steering Committee

Project steering committee will be established to provide overall strategic guidance and comprise of Ministry of Agriculture (MoA) in collaboration with Ministry of Trade and Industry (MoTI), Ministry of Lands, Malawi Bureau of Standards (MBS), Malawi Investment and Trade Centre (MITC) and Ministry of Finance (MoF) -, all at Principal Secretary (PS) level or delegated - and representatives from private sector and farmers. The PSC will be chaired by the PS for Agriculture, and co-chaired by PS for Ministry of Trade. The PSC will be the highest oversight body responsible for providing general policy guidance to the project. The project Coordinator will serve as secretary to the PSC, which will meet bi-annually.

2.2.3 Project Technical Committee

Project Technical Committee will be established under the PSC and comprise of implementing agencies of the project (private sector, financial institutions, producer organisations representatives, directors of relevant implementing Ministries and government departments, brokers, and relevant productive alliance service providers). The PTC will provide technical oversight of project implementation. This structure will be chaired by the Director of Planning in the Ministry of Agriculture and co-chaired by Director of Planning in Ministry of Trade. The PIU will function as the secretariat for both the PSC and the PTC. The PTC will meet on a quarterly basis in the initial years but later bi-annually.

The project will also utilise existing policy dialogue forums to improve dialogue and coordination. Such platforms include Joint Sector Reviews (under Agriculture Sector Wide Approach), Technical Working Groups (Commercial Agriculture and Market Development of ASWAP, and other relevant TWGs under National Exports Strategy). The project will also utilise existing Public Private Dialogue (PPD) forum and other relevant commodity platforms.

2.2.4 Partnership of International Finance Corporation and International Development Association.

The project will be implemented in collaboration with the International Finance Corporation (IFC) and other development partners. IFC will provide advisory services on operations of agribusiness work and required tools for ensuring an effective linkage between off takers and producer organisation. The World Bank and Government of Malawi will undertake joint implementation support missions on a bi-annual basis to provide guidance to project implementation teams.

Figure 2-1: Implementation Arrangements of the project

2.3 Institutional Arrangements on Implementation

There are five main institutions responsible for implementation of Malawi FSRP. These are (a) the Ministry of Agriculture; (b) Ministry of Industry, Trade (MoTI); (c) Ministry of Lands; (d) Malawi Investments and Trade Centre (MITC); and (e) Productive Alliance Stakeholders. The following paragraphs highlight key roles for each of the institutions:

2.3.1 The Ministry of Agriculture

Ministry of Agriculture will have overall responsibility for implementation of the project. It will work hand in hand with its respective government departments to coordinate specific activities of the project. The Land Resources and Conservation Department will be responsible for ensuring integration of climate smart agriculture, while Department of Agricultural Extension will ensure strong integration of gender within the project. The Trade and Marketing Unit which sits in the Department of Planning of Ministry of Agriculture will be responsible for supporting marketing environment of the agricultural commodities while working closely with the Ministry of Trade and Industry. At the implementation level, the project will work with respective District Councils and work closely with respective POs.

2.3.2 Ministry of Trade and Industry

Ministry of Trade and Industry will co-lead the implementation of the project and be responsible for promotion of trade and private sector development, particularly championing to create a conducive environment for marketing and trade of commodities. It will work closely with its department for private sector development in promoting efforts by off takers to strengthen linkages between POs and off takers. On the latter, the cooperative unit of the Ministry of Trade will support strengthening horizontal linkages to make sure that various producer organizations in form of cooperatives are properly registered and conform to the expected standards. The Ministry will participate and Co-chair the PSC meetings (PS level) and PTC (at Director Level).

2.3.3 Malawi Investment and Trade Centre (MITC)

Malawi Investment and Trade Centre as trade and inward investment promotion agency will provide specialised support to investors in all prioritised sectors for industrialising Malawi and promoting and facilitating export products and services of Malawi. Within the context of recently enacted land bills, the agency has been given the mandate to avail land for commercial investments in the agriculture sector.

Malawi Investment and Trade Centre will therefore work closely with Ministry of Lands to unveil the access to land bottleneck to promote agricultural commercialisation. As a one stop centre, the MITC will also facilitate in linking foreign buyers and investors to Malawian products. Ministry of Lands will create a conducive environment to promote access to land as well as tenure security. As part of Operationalisation of the new land bills, particular focus will

be made to strengthen land tenure security particularly to vulnerable women and youth, while also ensuring efficiency and utilisation of idle estates.

2.4 Potential Land Acquisition Requirements for Project Activities

The proposed MFSRP AF will be implemented in rural areas of the country where 85% of Malawi's population reside. Much of land in rural areas of Malawi is customary land tenure. Customary land tenure means that land is owned by families through cultural inheritance. Land holding sizes have declined over the last twenty years in rural areas due to rapid population growth.

The proposed MFSRP and the AF has high potential of land acquisition for project activities. There are three project components which would require land acquisition from households for the project related activities: These are:

a) Customary land will be acquired for construction or rehabilitation of rural warehouses for productive organisations (farmers clubs or cooperatives). In this project, smallholder farmers will mobilise and consolidate various pieces of gardens to optimise farm mechanisation and enhance production of viable cash crops for viable exports. It is envisaged that most commercial farms will be in the region of 5-10 hectares.
b) Customary land will be acquired for construction of rural warehouses and last mile public infrastructure. Last mile public infrastructure will include feeder roads, rehabilitation of small-scale irrigation schemes and construction of electricity and portable water facilities.
c) Customary land will be acquired for rehabilitation works and expansion of small-scale irrigation schemes in some selected rural areas of Malawi.

Detailed procedures for land acquisition for construction or rehabilitation of rural warehouses and for feeder roads rehabilitation of irrigation schemes and construction of facilities for electricity and portable water has been outlined in resettlement policy framework. In essence, land acquisition and compensation procedure must be in line with provisions of Land Acquisition, Restrictions on Land Use and Involuntary Resettlement standard (ESS 5) of the World Bank Group.

2.5 Project Affected People

Project affected people (PAP) refers to those households or members of society directly affected, socially and economically, by a project construction as a result of: (i) The appropriation of land and other assets causing relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood, whether or not of the affected person; and persons must move to another location; and (ii) The restriction or denial of access to legally designated pieces of land that result in adverse impacts on the livelihood of the economically or physically displaced persons.

At this stage, we cannot specify the total number of households to be affected by the land acquisition for rural warehouses, feeder roads, or irrigation schemes. However, the likely displaced (economically or physically) persons can be categorised into three groups: (i) individuals; (ii) households; and (iii) vulnerable groups or people.

a) ***Individuals:*** This category refer to those people with personal property or businesses and may be affected in form of losses of their personal assets, land, property, or access to natural and/or economical resources as a result of land acquisition for construction or rehabilitation of rural warehouses or construction of feeder roads and other facilities.

b) ***Households:*** A household is affected if one or more of its members is affected by the project activities, either by loss of property, land or access, or is otherwise affected in any way by project activities. In case of this project, some household may lose family gardens, family wells, family trees and fruit trees, family winter gardens, family houses, and family livestock kraals among others. A family is affected because of loss of source of livelihoods to members of the family.

c) ***Vulnerable groups of people:*** Vulnerable groups refer to underprivileged members of the society. Most of vulnerable groups are resource poor people. In implementation of project of this nature, vulnerable groups may be made worse off if they are not protected from undue negative risks. In rural areas of Malawi, vulnerable groups who may be affected by land acquisition and loss of properties may include the following:
    i) *Unmarried women:* These women may be dependent on sons, brothers, or others for support. Since an affected individual can name the person with whom he or she is linked to in dependency as part of the household, resettlement will never sever this link.
    ii) *Elderly:* Elderly people farm or work if they are able. Their economic viability may de-pend on how much land they farm or how much they produce, because by producing even small amounts of food to "exchange" with others, they can subsist on cooked food and generous return gifts of cereal from relatives, friends, and neighbours. Losing land will affect their economic viability.
    iii) *People living with HIV AND AIDS*: Some parts of rural areas of Malawi, where the Malawi Commercialization Project will be implemented have relatively high percentages of the poor and total population are living with HIV or are terminally ill with AIDS. Many are beneficiaries of numerous health programs from government, international organisations, and NGOs. These will require special attention to enable them benefit from the project.
    iv) *Orphans:* There are a considerable number of orphaned children in Malawi due to impacts of HIV and AIDS on parents. These children today fall into three categories of care: (i) those being looked after by an uncle, aunt, grandparents, or other close relative; (ii) those being looked after by the government, local authorities, or NGOs; and (iii) those living alone and providing for themselves and other siblings. These children are more vulnerable since they are often "voice-less"; they have no parents to defend or stand up for them and they are

considered too young to be heard. Orphaned children engage in any form of economic activity to provide for themselves and their siblings, including selling paraffin or water, artisanal mining, and exploitative employment, among others.

v) *Female-headed households:* These households may depend on sons, brothers, or others for support. However, there are also cases where women are the main breadwinner in their household even when the men have remained with the family. Women therefore need relatively easy access to farm inputs in project of this nature. In some case, some women have no for-mal rights to land and lose such pieces quite easily. Special considerations must be made on land acquisition for construction or rehabilitation of rural warehouses to minimise displacement of female headed households during land acquisition for commercial farms.

vi) *Child headed households or youths:* Child headed households and youth are vulnerable be-cause most of them are voiceless. During land acquisition for commercial farms or land for feeder roads, children or youths may lose family houses or land to commercial farmers and may not get assistance to repose their properties land. In addition, some women farmers are discriminated in technical support and provision of agricultural inputs in rural areas.

These groups are identified as particularly vulnerable to ensure that they are included in the socioeconomic and baseline studyso that: (i) they are individually consulted and given the opportunity to participate in the project activities under MFSRP (ii) their resettlement or compensation are designed to improve their pre-project livelihood; (iii) they receive special attention to ensure that their pre-project livelihood is indeed improved upon; (iv) they are given technical and financial assistance if they wish to make use of the grievance mechanisms of the project; and (v) decisions concerning them are made in the shortest possible time.

3 Environmental and Social Baseline of Malawi

Malawi is endowed with diverse natural resources, which include some of the most fertile soils, forest and water resources which accommodate diverse species of flora, fauna and fish resources. The purpose of this chapter is to provide an overview of the conditions of this environmental and social situation in the country. This is necessary to understand the existing pressure and risks posed by the proposed rehabilitation or reconstruction works on the already fragile environmental components of Malawi.

3.1 Physical Environment

3.1.1 Geomorphology

Malawi is a landlocked country in southeast Africa, which lies wholly within the tropics, between latitudes 9° and 18°S, and longitudes 32° and 36°E. It occupies a thin strip of land between Zambia and Mozambique protruding southwards into Mozambique along the valley of the Shire River. In the north and northeast, it also shares a border with Tanzania. The Great Rift Valley runs through the country from north to south, and to the east of the valley lie Lake Malawi making up over three-quarters of Malawi's eastern boundary. The Shire River flows from the south end of the lake and joins the Zambezi River further south in Mozambique. Mountainous sections surround the rift valley and to the south of Lake Malawi lie the Shire Highlands. In this area, the Zomba and Mulanje mountain peaks rise to respective heights of 2,134 and 3,048m.

The Great Rift Valley traverses the country from north to south. In this deep trough lies Lake Malawi (also called Lake Nyasa), the third-largest lake in Africa, (587km long and 84km wide) comprising about 25% of Malawi's area. The surface of Lake Malawi is located at 457m above sea level, with a maximum depth of 701m, which means the lake bottom is over 213m below sea level at some points. The Shire River flows from the south end of the lake and joins the Zambezi River 400 kilometres south in Mozambique. West of the Great Rift Valley, the landforms high plateaus, generally rising 914 to 1,219m above sea level. In the north, the Nyika Uplands rise as high as 2,438m. South of the lake lies the Shire Highlands, with an elevation of 600–1,600 meters, rising to elevations of 2,130 and 3,002m at the Zomba Plateau and Mulanje Massif respectively. In the extreme south, the elevation is only sixty to ninety metres above sea level.

3.1.2 Geology

Most of the country is underlain by Precambrian to Lower Palaeozoic crystalline basement rocks. These are unconformable overlain in places, particularly in the north and south, by more recent sedimentary rocks or volcanic rocks. There is extensive Quaternary alluvium in valley bottoms and the rift floor plain (Ó Dochartaigh, et al 2018). The main structural feature is the rift valley, which was formed by a subsidence fault during the Upper Mesozoic and Cenozoic and is still active. Lake Malawi and the Shire Valley lie on the floor of the rift valley (UN

1989). Table 3-1 provides an outline of the geology of Malawi while Figure 3-1 provides geological formations in Malawi.

Table 3-1: Geological Environments of Malawi

Key Formations	Period	Lithology
Unconsolidated		
Alluvial and lacustrine deposits	Quaternary	Clays, silts, sands and occasionally gravels, deposited in the floor of the rift valley, and along the lakes in the major valley floors (UN 1989). The lithology of the deposits is highly variable. They occur particularly in several basins along the rift valley shore, including at Karonga and Salima- Nkhotakota lakeshores and the in upper and lower Shire Valley (Chavula 2012). They vary in thickness along Lake Malawi, tending to increase closer to the lakeshore to a maximum of 60 m. In the centre of the Shire Valley, alluvium is 40 to 80 m thick, and reaches 150m thick in the lower Shire Valley (UN 1989).
Cretaceous to Quaternary sedimentary rocks		
Sungwa, Chiwondo, Chitembe, Dinosauric and Lupata	Cretaceous to Quaternary	These sedimentary rocks are found in small, narrow, elongated basins in the north of the country, running parallel to the shores of Lake Malawi. They include loosely consolidated sandstones and unconsolidated sands, sandy marls, clays and conglomerates, but are dominated by aeolian desert sandstones, with abundant evaporite deposits in a limestone matrix (UN 1989).
Igneous		
Intrusive plutonic rocks	Jurassic	These occur in the Chilwa region in the south, and comprise granitic and syenitic plutonic rocks.
Stormberg volcanic rocks	Jurassic	A series of basaltic lava flows, interbedded with layers of sandstone and tuff (UN 1989).
Karoo		
Karoo sedimentary series	Permian-Triassic	Karoo sedimentary rocks crop out in the north of Malawi, in north-south trending basins, and also to the southwest of the Shire Valley. They lie unconformably on crystalline basement. The base of the sedimentary sequence comprises conglomerates, sandstones, argillaceous rocks and coal seams; at the top of the sequence are arkosic sandstones, marls and more argillaceous rocks. The rocks are largely well cemented by calcite. They can be over 3500 m thick (UN 1989).
Basement Complex		
Crystalline Basement	Precambrian to Lower Palaezoic	Dominantly gneiss and granulite; also, some metamorphic schists, quartzites and marbles (UN 1989). The Mafinga and Mchinjin groups in the north and east comprise mainly unmetamorphosed sandstones and conglomgerates. Across the whole basement complex are outcrops of intrusive igneous rocks, such as the Nyika and Dzanalyama granites, syenites, and pegmatite and dolerite dykes (UN 1989).

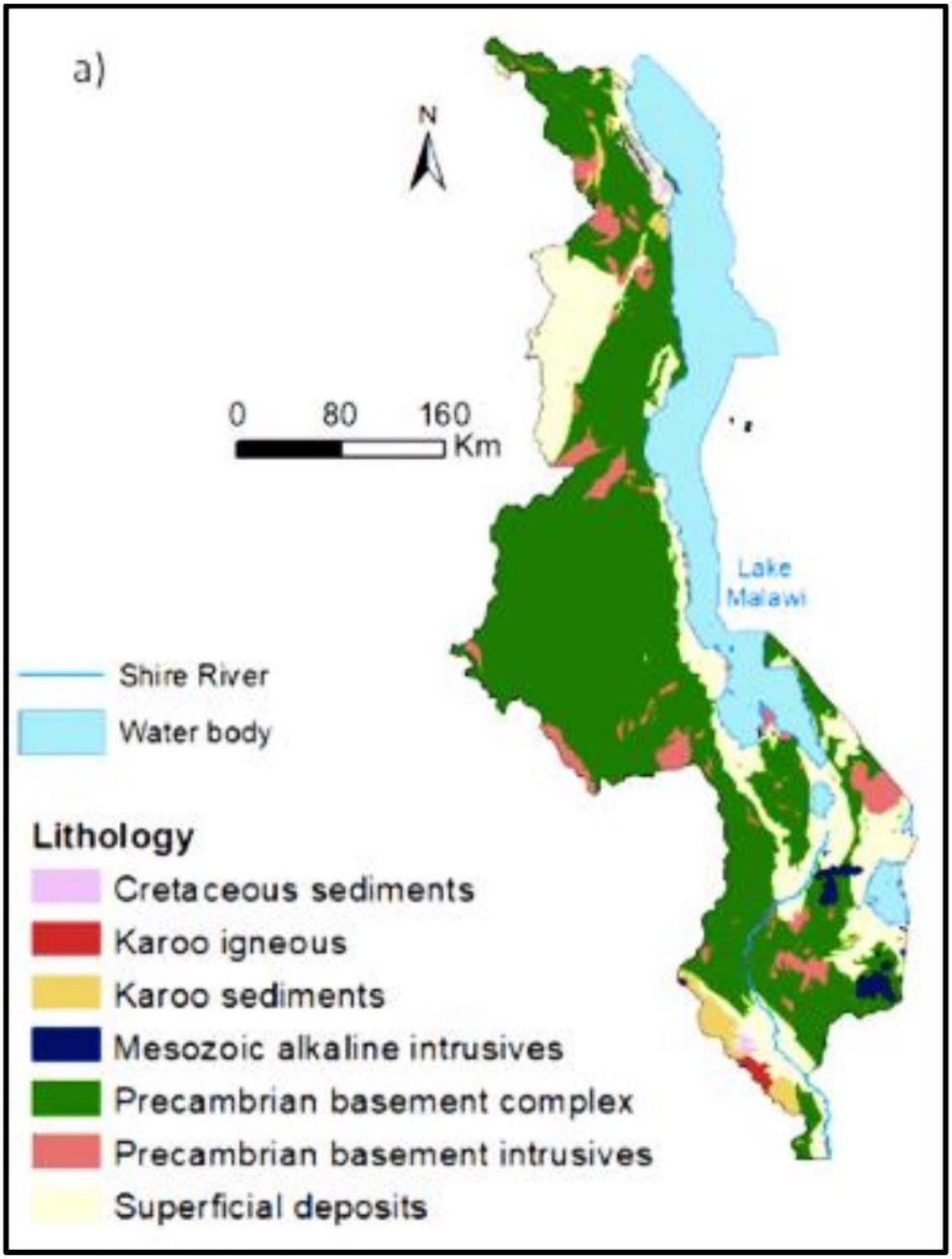

Figure 3-1: The Geological Formations of Malawi (Adapted from Ó Dochartaigh, et al 2018.)

3.1.3 Soils

Soil compositions tend to be closely related to the underlying geology. Sandy soils occur on many granitic areas of the basement complex, and at the edges of alluvial plains. Latosols, including ferrosols, are common. Many soils are lateritic, typically 1 to 3 m thick (Smith-Carington and Chilton 1983), and sometimes 5 to 20 m thick (BGS 2004). Other soils include

lithosols on steep slopes of the uplands and rift valley escarpment; hydromorphic (water logged) soils, including vertisols, in dambos; and calcimorphic soils on alluvial plains (Smith-Carington and Chilton 1983).

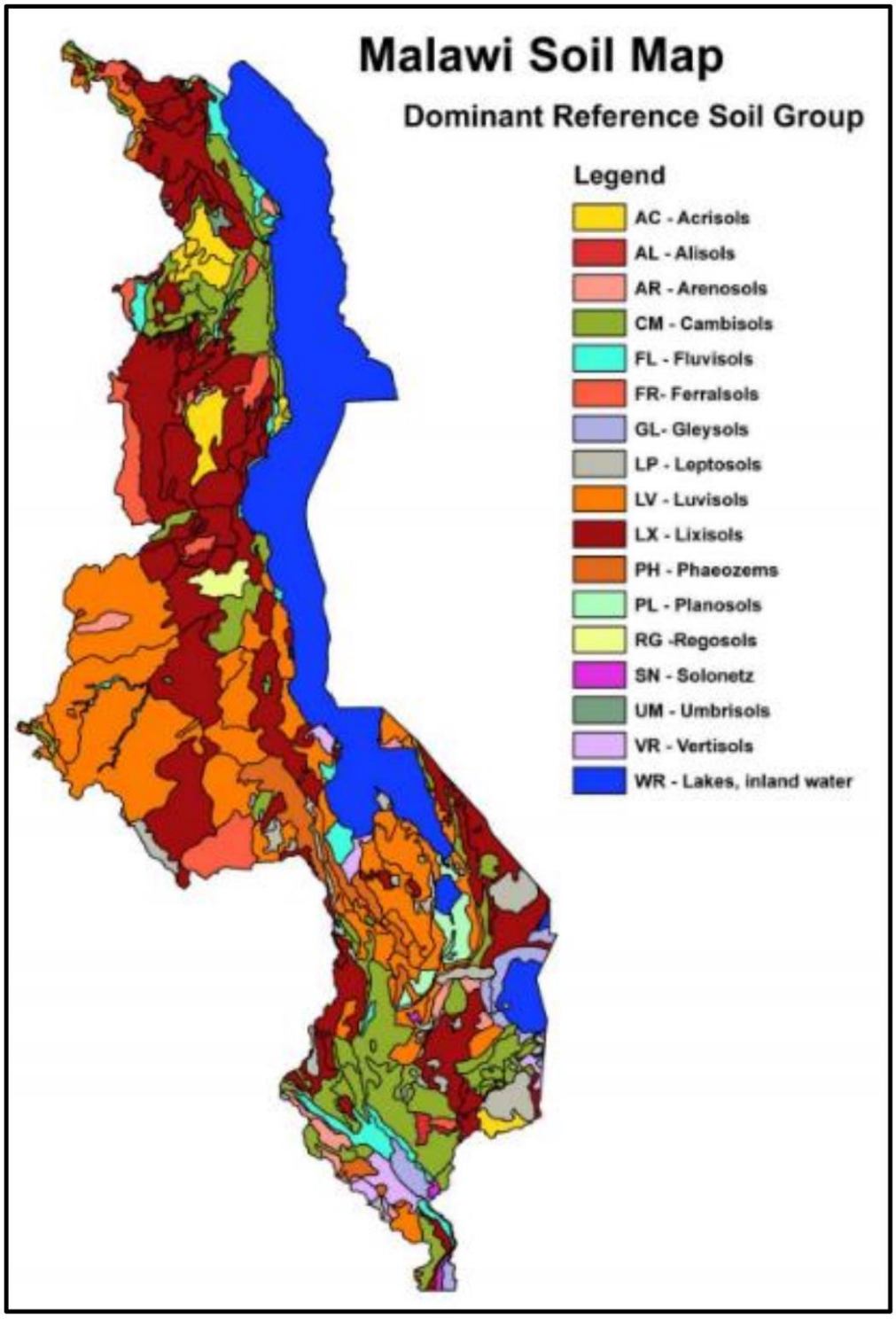

Figure 3-2: Soil Map of Malawi (Leenaars J., (2018)

The country has four main soil classes, namely:

i. **Latosols:** these are red -yellow soils which include the ferruginous soils of Lilongwe - Kasungu plains, West Mzimba Plains, and some parts of the southern region. These are among the best agricultural soils in the country. The weathered ferrallitic soils, some

with a high lateritic content can be easily exhausted. Ferrelitic soils cover large parts of the plains along the western border of the country.

ii. **Lithosols:** Lithosols are the shallow stony soils that associate with deep slopes. These occur in areas of broken relief in the country. Examples are found in highlands of Viphya Plateau, Nyika Plateau, Dedza Escarpment, Dzalanyama Range and Kirk Range.

iii. **Calcimorphic soils:** This group includes the alluvial soils of the lacustrine and riverine plains, the vertisols of the lower Shire River Valley, the Phalombe –Lake Chilwa Plains, the mopanosols of Liwonde, Balaka, and Bwanje Valley.

iv. **Hydromorphic soils:** These are grey soils of the hydromorphic group which are found either in seasonally or permanently wet areas, as in Lake Chilwa Plain, Lower Shire Valley, and other localised marshy areas known as dambos.

The soils of much interest in this programme are calcimorphic and hydromorphic soils. These soils occur in low-lying areas including flood plains and riverine which are the potential agricultural areas which are under consideration in this environmental and social management framework.

3.1.4 Land Resources

The physical configuration of Malawi is dived into five zones and these are: Rift valley floor, rift valley scarp, hill zones, plains and plateaus. The Rift valley floors consist of lakeshore plains and Lower Shire Valley. The Rift Valley Floor is among the rich agricultural regions of Malawi due to fertile alluvium soils. Other important agricultural regions are plains such as Lilongwe –Kasungu Plains and Lake Chirwa - Phalombe Plains. These areas contain latosols (red –yellowish soils). These soils support a range of arable crops including maize, tobacco, groundnuts, and beans. Total land surface in Malawi is about 9.4 million is land. Land under water bodies is about 2 million hectares. Agricultural estates occupy 1.2 million hectares and the area potentially available for agriculture by small holders' farmers is approximately 6.5 million hectares after adjusting for wetlands, steep slopes and traditional protected lands as presented in Table 3-2.

Table 3-2: An overview of land availability in Malawi

	Million hectares	%	% of total
Total land area of Malawi	9.4		100
• Less national parks, forests, and game reserve	-1.7		18
• Land available for agriculture	7.7		82
Land available for smallholder agriculture and estates	7.7	100	82
• Land under estates	1.2	16	13
Land available for smallholder farmers	6.5	84	69

Source: Malawi National Land Policy, 2002, page 7

Some official government estimates indicate that about 55% of the smallholder farmers have less than one-hectare of cultivable land, which does not meet their basic food needs. As a result

more than half of the population are unable to produce enough for food and cash such that the majority live below the poverty line of US$495 per capita income annually. Much of the shortage of arable land for cultivation for smaller holder farmers felt widely and rapidly increasing in the southern and central regions of the country. Arable land is already problematic in districts in central and southern region of Malawi. As a result, more than half of the population are unable to produce enough for food and cash such that the majority live below the poverty line.

3.1.5 Water resources

Malawi water resources are in two main categories namely: surface and ground water resources. Surface water resources are derived from rainfall. The rich surface water resources comprise a network of rivers and lakes that count for about 20% of the country's area. The dominant water body is Lake Malawi and the Shire River systems, which are interlinked since the Shire River serves as the only outlet of Lake Malawi. The drainage system is divided into seventeen water resources areas.

In the northern region, prominent rivers rise from Nyika Highlands and those which maintain good flows of water for some parts of the year include Lufira River, Hara River, Lunyina River, and North Rukuru among others. However due to human settlement activities and encroachments along the riverine, most rivers are affected by soil erosion and siltation. As a result, most rivers indicate high flows during early middle part of rainy seasons and most often flooding. Most rivers dry up by August of the year.

In the central region main rivers rise from Dzalanyama Range and Dedza Hills. Examples of rivers are Linthipe River, Lilongwe River, and Diamphwe River among others. Linthipe River rises from slopes of Dedza Mountain, and it meanders wildly through the mountains. It has two main distributaries which are Lilongwe River and Diamphwe River in the middle. These rivers provide significant water flows to Linthipe River. Lingadzi River rises from Dowa Hills and flows down to Domira Bay at Lake Malawi. In some parts rainy seasons, Linthipe and Lingadzi River overflows and cause flooding in Salima due to high flows from upstream.

In Ntcheu District, Bwanje valley is annually affected by floods due to overflowing of Bwanje River and its tributaries. The river and its tributaries drain from Bangwe Mountains within Kirk Range. Bwanje River flows through an extensive plain all the way into Lake Malawi on northern part of Ntcheu. Due to human settlement activities and encroachments along the riverine, most upper parts of river courses are affected by soil erosion and siltation. As a result, most rivers indicate high flows during early to middle rainy seasons and cause flooding downstream.

In the southern region main rivers rise from Kirk Range and Shire Highlands (including Zomba mountains and Mulanje mountains). Rivers from Kirk range include Lisungwi River, Wankulumadzi River, Mwanza River and Mkodzi wa Fodya River which drain into Shire River. Other rivers from Shire Highlands include Lunzu River, Lukhubula River. All these

rivers drain through areas of poor vegetation, high land degradation and low rainfall. Consequently, rivers are high laden with debris and silt.

Mulanje Mountain is the source of important perennial rivers which drain into Shire River. These include Thuchila River and Ruo River. Just like the case in other river basins, Thuchila and Ruo Rivers are heavily affected by soil erosion and siltation due to tea cultivation, high population pressure and encroachments along the riverine. Floods are more frequent along Ruo River and they take different forms. In some cases, especially in the flat areas such as Makhanga flooding causes total inundation of homes and infrastructure.

Malawi contains has some important wetland ecosystems. Examples of wetlands in flood affected districts include the shorelines plains of Lake Chilwa, and Lake Chiuta, a diversity of dambo ecosystems, and the Elephants and Ndindi Marshes in the lower Shire Valley. Wetlands are the habitats of important plant and animal species such as birds in the Lake Chilwa plains, and the elephants in Ndindi marshes. In addition, the wetlands forms some sheltered fish spawning, nursery grounds and as habitat for adult fish. Recently, annual floods have negatively affected the biological diversity of wetlands through wash always and water logging.

In context of water resources, significant negative impacts would be from civil works on rehabilitation of irrigation schemes due to proximity of the projects to rivers. Civil works may enhance soil erosion and subsequent siltation in surface drains, streams and rivers. In addition, an increase in use of harmful pesticides (on rehabilitated irrigation scheme) may enhance pollution of water in rivers around the schemes.

3.1.6 Climate

Malawi climate is influenced by proximity to the huge lake that covers almost two thirds of its entire length. The climate is tropical continental with three distinct seasons, the hot - rainy season from November to April, the cool-dry season from May to July, the hot dry season from August to November.

3.1.6.1 Average Annual Rainfall

Ninety five percent (95%) of the annual precipitation takes place in the warm-wet season. Figure 3-3 depicts the average annual rainfall. Topography and proximity to the lake influence its distribution. Annual average rainfall varies from 725mm to 2,500mm with Lilongwe having an average of 900mm, Blantyre 1,127mm, Mzuzu 1,289mm and Zomba 1,433mm. Least rainfall (about 700-800 millimetres per year) is registered in rain shadow areas such as the rift valley, west of shire highlands, northwest of Viphya and Nyika highlands. Moderate rainfall (800-1200 millimetres) occurs mostly in plains, which include Lilongwe – Kasungu Plains and West Mzimba Plains. Most of the arable and food crops are planted in this rainfall belt. High rainfall (1400-1900 millimetres per year) is experienced in high plateau areas such as Mulanje Mountains, Zomba highlands, Viphya and Nyika Highlands. Extreme conditions include the drought that occurred in 1991/92 season and floods of 1988/89 season. The low- lying areas

such as Lower Shire Valley and some localities in Salima and Karonga are more vulnerable to floods than higher grounds.

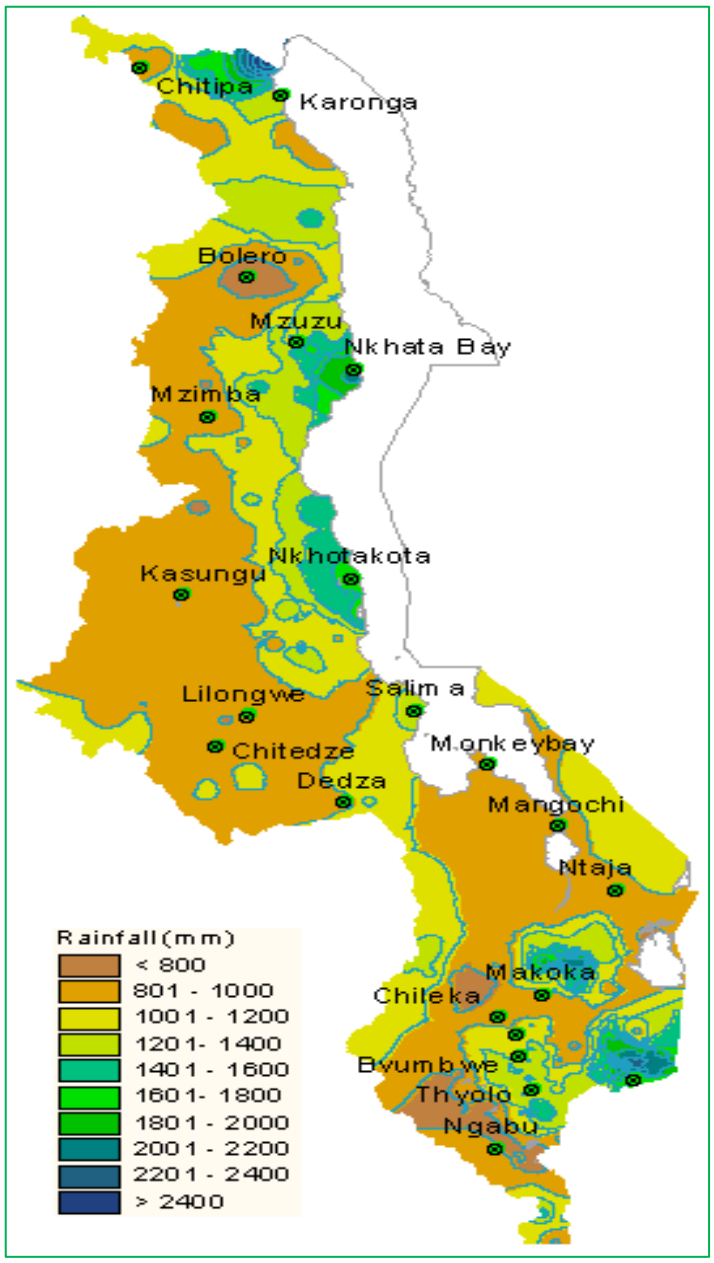

Figure 3-3: Average annual rainfall Map for Malawi

3.1.6.2 Temperature – long term averages

A cool, dry winter season is evident from May to August with mean temperatures varying between seventeen and twenty-seven degrees Celsius, with temperatures falling between four and ten degrees Celsius (Figure 3-4). In addition, frost may occur in isolated areas in June and July. A hot, dry season lasts from September to October with average temperatures varying between twenty-five and thirty-seven degrees Celsius. Humidity ranges from 50% to 87% for the drier months of September/October and wetter months of January/February respectively.

The mean annual minimum and maximum temperatures for Malawi range from 12 to 32 degree Celsius. The highest temperatures occur at the end of October or early November, but thereafter, the rains bring moderating effects. The cold periods are in June and July. Highest temperatures are recorded in the Shire Valley and along the lake shore while the lowest temperature are recorded over the high-altitude areas particularly the Shire Highlands, the Viphya and Nyika Highlands, Dedza and Mulanje highlands.

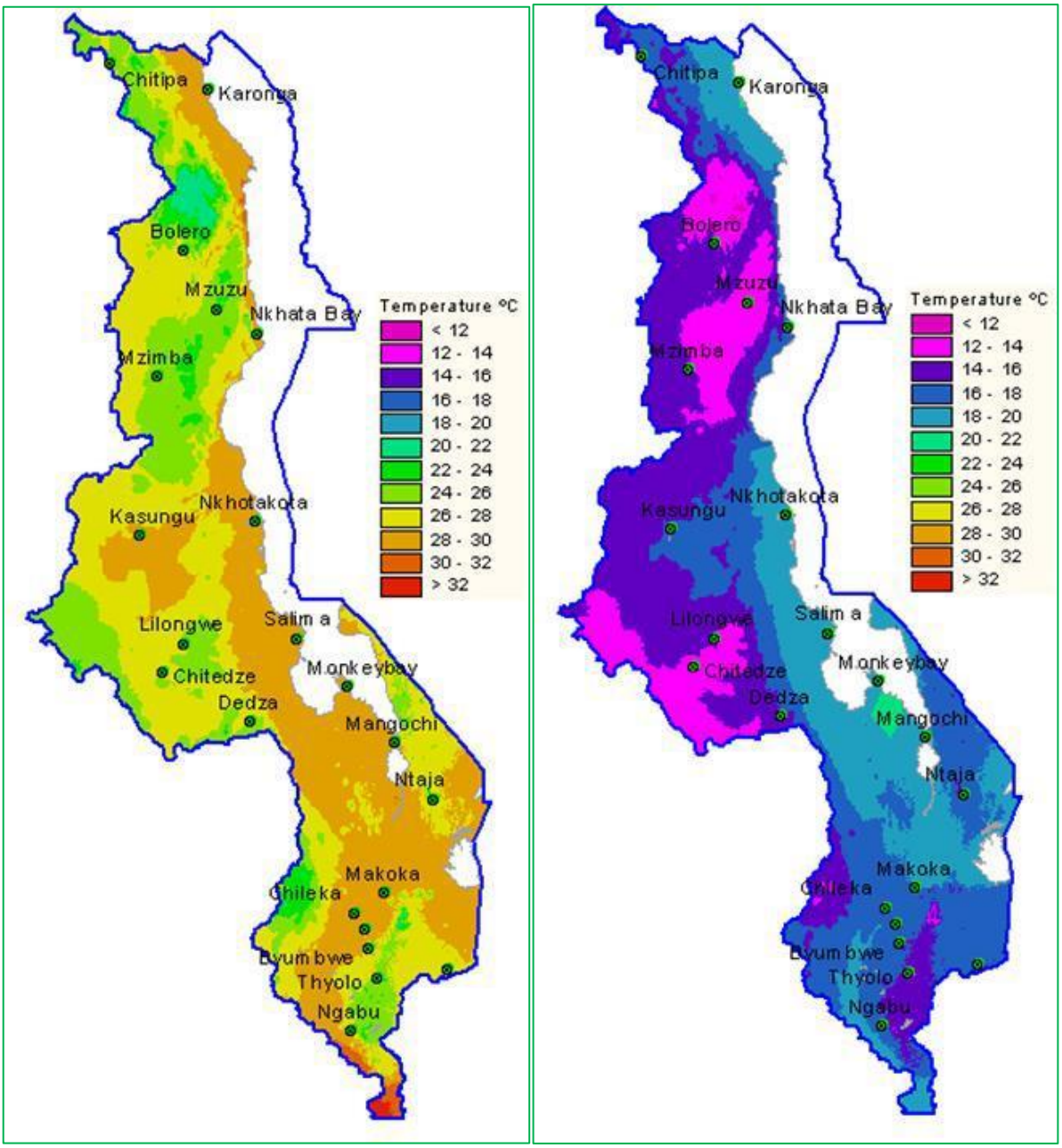

Figure 3-4: Average minimum temperature and maximum temperature across Malawi

3.1.6.3 *Climatic Change and Variability*

The Intergovernmental Panel on Climate Change (IPCC) has demonstrated unequivocal evidence of climate change worldwide. Malawi is one of the most vulnerable countries to the impacts of climate change. According to McSweeney et al, 2010, average annual temperature

has increased by 0.9oC from 1960 to 2006. Warming has been more rapid in summer. The frequency of hot days and hot nights in all seasons has increased significantly with the average number of hot days and nights per annum having increased by thirty and forty-one respectively from 1960 to 2003. Year to year variability in rainfall is quite strong in Malawi and so there are no significantly discernible trends in rainfall patterns (McSweeney et al, 2010).

The World Bank climate profile of Malawi states that Malawi is particularly prone to adverse climate hazards including dry spells, seasonal droughts, intense rainfall, ravine floods and flash floods. Droughts and floods have increased in frequency, intensity and magnitude over the past twenty years. They identify floods and droughts as the leading cause of chronic food insecurity which is endemic in many parts of the country. The World Bank refers to estimates that droughts, on average, cause GDP losses of almost 1% every year with much greater losses for extreme droughts (World Bank, 2014).

Malawi is among the countries most prone to the adverse effects of climate change ranked among 16 countries of 'extreme risks' to climate change impacts in the world (Maplecroft, 2012). The Fifth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) notes that climate change is beginning to impact freshwater ecosystems with elevated surface water temperatures evident in Lake Malawi.

Living with the effects of climate change, as imposed in the foreseeable future, calls for adaptation and mitigation measures to offset or reduce such effects. Because of the recurrences of these natural disasters, Malawi has gathered significant data to allow the country to knowledgeably tackle recurrent natural disasters, including developing adaptation in terms of finding ways of developing economic and social activities under conditions caused by climate change and preventing and mitigating negative impacts on socioeconomic activities. All TRADE sub-projects will be expected to effectively use this knowledge base to increase their resilience to this phenomenon. The sub-projects should be able to operate under the conditions caused by the disasters.

Notwithstanding its very low emissions of around 1.4 t CO_2e per capita in 2015, Malawi as a Party to the United Nations Framework Convention on Climate Change (UNFCCC) has made firm decisions and plans to move the country's development pathways towards a green economy based on national circumstances and capabilities. It is in light of the above that the country's Intended Nationally Determined Contribution (INDC) has been developed. The INDC aims at achieving the objective of the UNFCCC as set out in Article 2 of the Convention and also contribute to sustainable development.

At national level Malawi has developed the country's Intended Nationally Determined Contribution (INDC) (INDC 2015). Although Malawi has very low emissions of around 1.4 t CO_2e per capita (in 2015), it has made firm decisions and plans to move the country's development pathways towards a green economy based on national circumstances and capabilities.

The priority sectors and thematic areas identified based on national development priorities are: agriculture (crops, livestock, fisheries), water resources, health, infrastructure, land-use planning, transport, population and human settlements, disaster risk management, forestry; wildlife, energy and gender. For all these sectors, there will be need for multi-sectoral collaboration in the implementation of various projects and programmes to take serious cognisance of disaster risk management in view of Climate change and variability.

3.2 Biological Environment

3.2.1 Vegetation resources.

There are various vegetation types in Malawi. However, the common type is Dry Savannah Woodland which extends within the rift valley region. Some parts of the area (such as Karonga, Balaka and Chikwawa) this vegetation type has been modified by grazing of livestock. Existing indigenous trees of economic importance (within this vegetation type) within the area are follows *Acacia nigrescens, Pterocarpus brenanii Comretum ghasalense, Sterculia Africana, Acacia tortilis, Bauhinia petersiana, Dalbergia melanosilon, Adansonia digitata and Faidherbia albida* among others. There are also different grass species and shrubs within this vegetation. In lakeshore areas, *Faidherbia albida* and baobab trees are specially maintained and conserved in smallholder gardens of local households. *Faidaherbia albida* is an important agro-forestry tree species and is known to enhance soil fertility through humus of shaded leaves. Trees shade leaves during rainy seasons, and humus from the leaves fixes nitrogen nutrients in the soils. The fact that the trees are leafless during rainy season minimises competition from sunlight with crops and protects them from birds until harvest time. During field consultations, it was learnt that leaves and pods of this trees are good fodder to livestock during dry seasons. Some *Faidherbia albida* trees are used for fuel wood and construction materials by local communities.

Baobab is also an important tree to local communities. One economic use is supply of fruits which local people eat while fresh or dry. The fruits are also sold and used for production of high value juices by local manufacturers in the area. Leaves of baobab trees are used as sources of delicious relish and traditional medicines by some local people in some of these flood affected districts.

Potential implications of the proposed MFSRP and the AFProject to vegetation in the country would be in three ways. The first implication will be cutting down trees to pave way for development of new irrigation schemes and rural market centres. The second implication is the use planks in construction works. The third implication is the increase in demand for firewood and charcoal by the project workers. Demand for firewood and charcoal would escalate the existing high rates of deforestation in the flood affected districts.

3.2.2 Forest Reserves

Available government information estimates that about 28% (2,632, 000 hectares) of the total land area of Malawi can be broadly classified as forest land covered with vegetation. Out of

these forest resources, 16000 hectares constitute plantations and woodlots. There are eighty-five protected forest reserves covering about 1, 109, 626 hectares. There are also forty proposed forest reserve which cover about 154,137 hectares. In addition, 800,000 hectares are natural woodlands on customary land. Map 2 highlights some main forest reserves in Malawi.

Forest reserves on customary land are under pressure because it is annually being depleted at a rate of 1.6% (50,000 hectares) because of opening of new gardens, estates, overgrazing, and building infrastructure such as roads, settlements, and bush fires. This has led to deforestation and land degradation which have far reaching effects on living standards on the people. This situation has been aggravated by high annual population growth rate of over 2.4%.

Forest reserves are a vital natural resource in Malawi. They supply ninety percent of the country's energy needs and provide timber for construction and other industrial use. Forests help maintain air, soil and water quality; influence biochemical processes; regulate run-off and groundwater, reduce downstream sedimentation and the incidence of flash flooding in addition to controlling soil erosion; provide watershed protection and enhance water resources. About half of Malawi's forest cover is on customary land, owned but the local communities. The extremely high reliance on biomass for energy needs imposes heavy strains on the biological diversity of the forest ecosystem in the country. A commitment to conserve the biological diversity and the natural resource base in Malawi is enshrined in the Constitution of Republic of Malawi under section 13 paragraph 4d (v). The forest resource base is being rapidly depleted by firewood and pole extraction, land clearing for cultivation and felling of high-grade timber species. This is big threat to sustainable agriculture development in Malawi. As such, sustainable management and conservation of the forest ecosystem is imperative.

3.2.3 National Parks and Game Reserves

Malawi has eight protected wildlife reserves. These are Nyika National Park in Rumphi, Lake Malawi National Park in Mangochi, Liwonde National Park in Machinga, Majete Game Reserve and Lengwe National Park in Chikwawa and Mwabvi Game Reserve in Nsanje. Location of all these eight wildlife areas is shown on map 2. During field surveys and consultations, three wildlife reserves have been affected by floods in 2015 and these are Liwonde National Park, Lengwe National Park and Mwabvi Game Reserve. The effects are water logging and closure of service roads and access routes of wildlife within the parks. During field surveys, it was noted that government is at advanced stage of undertaking rehabilitation of roads and access roads within Liwonde National Park, Lengwe National Park and Mwabvi Game Reserves. New gravel roads will be constructed soon after rainy season and the exercise will address some of the challenges caused by the floods.

Nyika National Park - located on plateau in Rumphi - has not been affected by floods. Plateau area has montane vegetation. The grasslands of are rich in wildflowers all through the year. The escarpments and northern hill areas descend to lower altitude and feature a much drier landscape. Vegetation within escarpments and hills is dominated by Brachystegia woodland. Zebra and elephants are often seen anywhere on the plateau. The park has over 400 species of

bird have been recorded in the park. Common species include Denham's bustard, wattled crane and red-winged francolin - endemic.

Lake Malawi National Park has not been affected by floods. The park has over 500 fish species of which 350 species are endemic to Malawi. The lake contains 30% of all known cichlid species. Mammals include hippo, duiker, baboon, vervet monkey, bush pig, warthog and occasional elephants. The park is rich in birdlife including fish eagle along the shoreline.

Liwonde National Park includes parts of Upper Shire. There are reed swamp and marshland along the Shire River and southeast shore of Lake Malombe, floodplain grassland in the south, mixed woodland on all the hills, tall grass tree savannah along the narrow floodplains of seasonal streams, small pockets of semi-deciduous riverine forest.

Common wildlife include elephant, hippo, impalas, waterbucks, warthogs, vervet monkeys, yellow baboons, bushbucks and kudus In the mopane woodland there are several hundreds of sable antelopes. Predators include lions, leopards, serval, and genet. In addition, the park, has considerable water – associated bird species and these include African fish eagle, the pied kingfisher, the saddle-billed stork, goliath heron, red-necked falcon, palm-nut vulture, and white-backed night heron.

Lengwe National Park is regularly affected by floods due to poor drainage. Water logging is common during rainy seasons. Water logging affects service and access roads and movements of both tourists and wildlife. The park is the home of Nyala antelope, elephants, kudu among others. Climate is hot and dry, and the only source of consistent water is from the rain. Many man-made water holes have been constructed to attract and maintain the animal population.
Mwabvi Game Reserve has been affected by floods due to overflowing of streams within the wildlife reserve. The reserve has a wide variety of habitats, including Mopane, and bra-chystegia woodland. Improvements in protection and conservation of flora and fauna has been carried out over the last eight years. The improvements have in turn supported increase in numbers of wildlife including herbivores and birds. Examples of common herbivores are impalas, hippopotamus, vervet monkeys, yellow baboons, bushbucks, sable antelopes, and kudus. Carnivores found in the park include lions, jackals, serval, and leopards, although these are not as abundant as herbivores.

There are several problems faced in the management of national parks and game re-serves in Malawi. These include the shortage of trained staff and resources (vehicles, equipment) for effective monitoring poachers and wildlife migration. In addition, lack of adequate funding for management of parks and game reserves has resulted to inadequate control of poachers and other external threats. The other problem emanates from some wildlife such as hippos, elephants and buffaloes which tend to move out of the park for greener pastures in gardens along the parks. Elephants move around to eat green crops such as winter maize, beans, and vegetable. Such incidences create serious conflicts with local communities.

There are several external threats to the management of the park. One major threat is the pressure from poachers who a target elephant for ivory, and duikers, kudus for bush meat. The second problem relates to increase in deforestation because of firewood extraction and charcoal making by local people around the park.

This study has reviewed the scope of project activities, and has identified the following which can generate negative risks to flora and fauna:

- Influx of migrant workers during construction period would enhance extraction of firewood and charcoal within national parks and game reserves. The malpractices would enhance deforestation the park.
- Influx of migrant workers may enhance demand for ivory and game meat. Such risks may escalate poaching of wildlife in national parks and game reserves.

3.3 Socio-Economic Environment

3.3.1 Population and Human Settlements

According to National Statistical Office (2019), the last general population census conducted in Malawi was in 2018 of which the total population was estimated at 17.5 million. Females' population constitutes 51% of the total and almost 84% of population live in rural communities. The total population increased by thirty-five percent between 2008 and 2018 representing an intercensal growth rate of 2.9 percent per annum. Table 3-3 shows population by region. This growth rate is typical of a country with high fertility rate and suggestive of rapid population growth. The census shows that 2.6 million people were aged under-five years, 6.3 million people were aged between five and seventeen years and about 8.7 million were aged 18 years or more. Malawi is a youthful nation as 51% of its population is below 18 years. The country has a literacy rate of 69% and more literate men (72%) than women (66%). The northern region had the highest literacy rate at 79%, then the central and southern regions at 67%.

Table 3-3: Regional Population Statistics

Region	Population	Total %	Sex Ratio (No. of Males /100 females)
Northern	1,679,491	13%	94.8
Central	7,526,160	43%	95.7
Southern	7,750,629	44%	92.6
Malawi	17,563,749	100%	94.2

3.3.2 3.3.2 Governance and development Planning

Malawi has two set of governance structures – central government and local government. Central Government is run by cabinet headed by The President while local governments are run by local councils. Central government runs various line ministries including Ministry of Agriculture. Office of President and Cabinet oversees the operations of central government. Ministry of Finance and Economic Planning coordinates central government economic development planning.

The overall local government institution at local level is the district council. A district council coordinates local development planning in districts. A district council in Malawi is a political

structure and is composed of elected councillors from wards of the districts, members of Parliament, traditional authorities from the districts and some appointed persons representing some special interests within the districts. Local councils perform functions through various committees, and these include Planning and Development, Education Committee, Development Committee, Public Works Committee, Health Committee, Finance Committee among others. Two important decentralized structures include Area Development Committee and Village Development Committee. Area Development Committees are in Traditional Authorities.

Local councils prepare local development plans and these cover various development sectors. Area development committees collaborate with councillors, traditional leaders, and Members of Parliament in the area to coordinate local development activities within the project area. The traditional authority (T/A) supervises village headman or headwoman, who in turn oversee local people. The responsibilities of the both the village headman and traditional authorities include administration of customary land among the subjects, spearheading development activities and mobilising community participation in development programmes, keeping law and order among their subjects Both villages and traditional authorities have structures within which they perform their functions.

A district Council secretariat is headed by the District Commissioner who supervises several departments. These include Planning and Development, Administration, Education, Environmental, Health, Forestry, Fisheries, Community Development, Agricultural Development, and others. The District Commissioner and district heads of departments form a district executive committee (DEC) within the district. The DC also coordinates strategic planning for all government departments in the districts. The Council performs a number of functions and those related to the project and to environmental concerns are as follows:-

- promotion of environment sanitation,
- provision of and maintenance of water supplies in liaison with the Ministry of Irrigation and Water Development,
- preservation of the environment through protection of forests, wetlands, rivers, and streams.

Local implementation of projects is carried out through extension workers such as Community Development Assistants, Agriculture Extension Development Officer, Senior Forest Assistants, and Primary Education Officers. These extension workers work within their demarcated zones such as Extension Planning Areas (EPA).

There are various non - governmental organisations and community-based organisations which work in both rural and urban areas in Malawi. Most non - organisations work in areas of community development, education, HIV and AIDS interventions, social welfare, environmental management, forestry, water supply and sanitation among others Some prominent. The non-governmental organisations are Water Aid, Plan Malawi, Habitat for Humanity, Concern Universal (United for Purpose), Care International, World Vision International, Total Land Care, and National Initiative for Civic Education (NICE), NASAFAM, and Catholic Commission for Development, Save Children Malawi, Youth Net and Counselling among others. Non-governmental organisations play important role in service delivery to vulnerable communities and households in Malawi. Non-governmental organisations operates under Trustees Incorporated Act and NGO Act (2001).

Malawi Agricultural Commercialisation Project will be implemented through decentralisation framework. A district council with technical support of district agricultural development officer will play critical role in implementation of activities and environmental and social safeguards.

3.3.3 Economic Environment

The economy of Malawi is predominantly agricultural, with about 90% of the population living in rural areas. The landlocked country in south central Africa ranks among the world's least developed countries. Agriculture accounts for 29% of GDP and 85% of export revenues. The economy depends on substantial inflows of economic assistance from International Monetary Fund, the World Bank, and individual donor nations. The government faces strong challenges: to spur exports, to improve educational and health facilities, to face up to environmental problems of deforestation and erosion, and to deal with the rapidly growing problem of HIV AND AIDS in Africa.

Agriculture represents 37% of GDP, accounts for over 80% of the labour force, and represents about 80% of all exports. Its most important export crop is tobacco, which accounts for about 70% of export revenues. In 2008 the country was the tenth largest producer in the world. The country's heavy reliance on tobacco places a heavy burden on the economy as world prices decline and the international community increases pressure to limit tobacco production. Malawi's dependence on tobacco is growing, with the product jumping from 53% to 70% of export revenues between 2007 and 2008. Rural poverty stands at 56.5% compared to urban poverty at 25%.

Other important exports are tea, sugarcane, and coffee. These crops are grown in commercial estates/plantations. Sugarcane is grown and processed by Illovo Sugar Group on its two large, irrigated sugarcane estates at Nchalo in Lower Shire Valley and Dwangwa Sugarcane Estates in Nkhotakota District. Exports from sugar, tea and coffee constitute about 20% of Malawi’s exports. Most of tea is grown in Mulanje and Thyolo.

Malawi has few exploitable mineral resources. An Australian consortium exploits uranium in at Kayerekera Uranium Mine near Karonga. Coal is being extracted at various sites including Mchenga Coal Mine and Eland Coal Mine in Rumphi District. Malawi's economic reliance on the export of agricultural commodities renders it particularly vulnerable to external shocks such as declining terms of trade and drought.

Malawi's manufacturing sector contributes 18.9% to the national GDP. Malawi's manufacturing industries are situated around the city of Blantyre and City of Lilongwe. Main sectors are food processing, construction, consumer goods, cement, fertilizer, ginning, furniture production and cigarette production.

According to the post – disaster needs analysis report, the effects of damages and losses are estimated to result in a projected negative impact on GDP growth in 2015, to the tune of 0.6 percent. The economic costs resulting from the negative impact of the floods, other things being equal, may thus lead to GDP growth falling short of the 5.8 percent projection set for 2015. Economic growth is largely premised on expansions in agriculture, manufacturing, wholesale and retail trade, utilities, and transport sectors, most of which have been directly or indirectly adversely affected by the floods.

3.3.4 Irrigated agriculture development.

Over the last ten years, Malawi has made significant strides in irrigated agriculture to complement rain fed agriculture. Promotion of smallholder irrigated agriculture has focused on production of food crop and cash crops for smallholder farmers across the country. Most of smallholder irrigation schemes use water from perennial streams. The strategy adopts farmer participation in community-based schemes in order to enhance sustainable food security and cash crop production. It is anticipated that such agricultural production would contribute to more cash crop production and industrial production which would in turn increase exports for international markets.

Available government records indicate that by 2014 there were about 101,000 hectares of irrigated smallholder schemes in the country. About 98000 hectares of irrigated schemes were underutilisation by 415,205 farmers (225,340 males and 189,865 females). Technology used in smallholder irrigation schemes include gravity fed system, motorised pumps, treadle pumps and watering cans.

The gravity-fed technology accounts for 56% of the total developed area under smallholder farmers. A total 57,000 hectares have been developed under the technology, out of which 54, 842.24 ha were being utilisation for irrigation. The motorised pump-based irrigation technology covers about 8000 hectares. The treadle pump-based technology accounts for 29% of the total developed area covering 29,000 hectares.

Commercial irrigated agriculture is undertaken by private companies and has made considerable achievement in cash crop production as well as food crop production. Irrigated cash crop production focuses on commercial plantation crops such as sugarcane, coffee and tea. Sugar, tea and coffee are among high value cash crops and leading exports from Malawi. Illovo Sugar Estates maintains about 29,000 hectares of sugarcane estates in Chikwawa District and Nkhotakota District. Dwangwa Sugarcane Estates utilises water from Dwangwa River and Lake Malawi. Illovo Nchalo Sugarcane Estates and Alumeda Sugarcane Estates abstract water from Shire River. Smallholder sugarcane estates constitute about 4000 hectares, and these have been developed around Dwangwa Cane Growers Trust and Kasinthula Smallholder Scheme in Chikwawa district. Kasinthula Smallholder Sugarcane Scheme abstracts water from Shire River. Irrigated tea and coffee plantations constitute about 9,000 hectares and most of these are in Thyolo and Mulanje Districts. Most tea and coffee estates in Thyolo and Mulanje abstract water from Ruo River and Thuchila River.

Irrigation development in Malawi remains a pillar for food security and improved nutrition. MFSRP and the AF will support development of new irrigation schemes and rehabilitation of damaged irrigation schemes. The activities will be carried out with support of Water Users Associations who own and manage various schemes damaged by 2015 floods. Rehabilitation of irrigation schemes have been taken as a priority to restore food security among vulnerable communities.

3.3.5 Transport Infrastructure

The transport sector is comprised of four sub-sectors, namely roads, rail, water, and air. Road transport is the dominant mode of transport due to the flexibility allowed to users in reaching remote areas. Road transport handles more than seventy percent of the internal freight traffic and ninety-nine percent of passenger traffic. Accessibility in rural areas has remained a

challenge in Malawi due to the condition of the rural roads, which are mainly comprised of secondary, tertiary, district, and community roads. The total road network covers 15,451 km, of which twenty-eight percent is paved, while the rest constitutes of either earth or gravel roads.

The Roads Authority has the mandate of overseeing the maintenance, rehabilitation and upgrading of main, secondary, and tertiary roads in Malawi. District and community roads are administered by district councils, but the Roads Authority still assists the districts in providing rehabilitation and maintenance services due to the councils' lack of capacity. The Government of Malawi is currently implementing several programs, including the Agriculture Sector Wide Approach Support Project to address challenges related to the transport sector. The main interventions in the project's roads component is to provide access to areas that have agricultural potential.

Existing transport sector challenges have been aggravated by sporadic floods, which have wash away bridges, drainage structure and road sections, thereby isolating people from their socio-economic amenities, including schools, hospitals, and others. Most of the unpaved network lies in rural areas where the flood disaster has had the strongest effect. The Lower Shire has been the most affected.

Government is currently undertaking country wide road upgrading and rehabilitation of several main roads and secondary roads. Some road upgrading works are support by European Development Fund, African Development Fund and World Bank funded project.

3.3.6 Health Situation and HIV & Aids Prevalence

Available government statistics highlights poor health indicators on infant and material mortality rates in the country. Malawi infant mortality rate in estimated at 92 per 1000 live birth, child mortality rate is 133 per 1000 live births and maternal mortality rate is 684 per 100,000 live births. Leading causes of death include HIV and AIDS related ailments, malaria, pneumonia, anaemia, diarrhoea and malnutrition. Malaria accounts for about 50% of monthly outpatient visits in Malawi. Health services in Malawi general are provided by government through Ministry of Health (about 65%) coverage), Christian Health Association (CHAM) which covers about 30% of the country. Government has district hospitals (except Phalombe) and health centres. However, in some rural parts of districts, reliable health facilities are those under Christian Health Association. Currently main challenges facing health facilities are shortage of drugs and health workers. One of main cause is inadequate funds to purchase drugs and low salaries which cannot motivate health workers.

The National HIV and Aids Policy (2012) highlights that HIV and AIDS impacts on the country is quite significant and affects a range of socio-economic activities be it in agriculture, fisheries, public sector, private sector, tourism, urban areas, rural areas among others. HIV and Aids prevalence in the country varies from one region to the other and from rural to urban areas. Current rates (2014) indicate that highest rate is in the Southern Region at 15.18%, Central Region at 9.42% and lowest in Northern Region at 6.58%. Prevalence rate is 13.1% in urban areas and 10.61% in rural areas. National HIV and AIDS Policy identifies migrant workers (mobile population) and women are among highly vulnerable people to transmission of HIV and Aids and other sexually transmitted infections.

Proposed development of irrigation schemes and rural market infrastructures will bring some workers within project premises. Recruitment of migrant workers is anticipated during both

construction phase and during factory operations phase. Single male migrant workers would be at increased likelihood of contracting HIV and Aids in the project area. The reason is that some migrant workers would approach potential infected female partners in the surrounding local communities or could be approached by sex workers in the area. In addition, increased disposal income from migrant workers may enhance some workers to indulge in extra –marital affairs will either local girls or married women within surrounding villages.

Sexual intercourses (involving migrant workers) during construction period may increase the spread of HV/Aids and sexually transmitted diseases. This may result into long term negative impact at local level. The impact is of high significance. With mitigation measures, the impacts can be reduced to low significance. Recommended mitigation measures for adherence by contractors include: (a) prioritise hiring of local workers to migrants, (b) periodic distribution of both female and male condoms, (c) periodic HIV and Aids sensitisation meetings for workers and their spouses (d) development of HIV and Aids Workplace Policy and disseminating of mitigation measures to workers.

3.3.7 Nutrition

The Government of Malawi recognises that adequate nutrition is a prerequisite for human growth and development, as it plays an important role in one's physical and intellectual development, and consequentially work productivity. A significant rural population suffer from micronutrient deficiencies, which include anaemia, iron, vitamin A and zinc deficiencies (USAID, 2018). The underlying causes of malnutrition include food insecurity, gender inequality, poor hygiene practices and lack of safe water and sanitation. Furthermore, the HIV prevalence rate (11%) has further hindered household food security. UNICEF in 2018 found out that prevalence of stunting among children under 5 years (being too short for one's age) was at 37.1% and underweight at 12%. Prevalence of anaemia and thinness among women of reproductive age (15-49 years) also highly productive was 33% and 7% respectively. NSO (2017) further states that rural children are more likely to be stunted (48 percent) than urban children (41 percent). There is little regional variation, with stunting high in all the regions with Southern at 48%, Central 47% and Northern at 45%. Education and wealth are both inversely related to stunting levels.

3.3.8 Gender Equality and Women's Empowerment

Reducing gender inequality is widely recognised around the world as contributing to agricultural growth and the attainment of food and nutritional security and women's empowerment as a key factor in closing gender gaps in agricultural productivity. In Malawi, the statistics for women are much lower than men on socio-economic indicators including literacy, secondary and tertiary education enrolment and completion, wage equality, political participation, and literacy. As much as the legal framework exists, the response from both government and civil society is still under resourced, uncoordinated, and inadequate. According to USAID (2018), women have little control over land even when it belongs to them despite their critical role in food production for their households and the country at large. This lack of control to land and other productive resources is not only a major hindrance to women's empowerment but it makes them vulnerable to poverty. The National Gender Policy (2012-17) tries to empower women and girls through addressing several underlying causes such as persistent unequal power relations between men and women, boys and girls due to strong patriarchal attitudes, increasing cases of gender based violence, high HIV/AIDS infection rates especially among women and girls, continued high dropout rates for girls from schools, high

poverty levels particularly amongst women, limited participation and representation of women in decision-making processes at all levels, inadequate enforcement of laws, and huge disparities in access and control over resources by the majority of women.

3.3.9 Land Ownership and Usage Rights

Malawi has two customary systems of inheritance, the matrilineal and the patrilineal systems. Under a matrilineal system, women's rights to customary land tend to be primary while under the patrilineal system inheritance of customary land tilts more towards men. Furthermore, according to DfID (2008), there are four main categories of land ownership which are public land, customary land, leasehold and freehold. Public land is land held in trust by Government, local or Traditional Authorities and is used openly or accessible to the public such as land gazetted for national parks, recreation areas and historical and cultural areas. Customary land is land falling under the jurisdiction of a recognised Traditional Authority, which has been granted to a person under customary law and such land is allocated to the person, resident or immigrant, by the traditional leaders holding jurisdiction over the land. Once customary land has been allocated to the family or lineage under the customary tenure, the land is perceived as the property of the family in perpetuity (Bosworth, 1998). Customary matrilineal and patrilineal land tenure systems however, serve to weaken security of land tenure for some family members especially women and youths as well as obstructing the creation of gender-neutral inheritance of lands. Traditional leaders can and have the powers to allocate land to FBOs to put some infrastructure if they see it fit according to land availability. Leasehold tenure is a personal contract granting the lessee usage rights. Freehold land accords the holder exclusive possession of the land in perpetuity without term limits placed on the title of the owner.

3.3.10 Women and Land rights

Rights to land through marriage and inheritance are governed by one of two customary systems in Malawi. Under the matrilineal system prevalent in the central and southern regions of the country, land is handed down through the female line, while under the patrilineal system in the northern region, land is transferred from fathers to sons. However, in both matrilineal and patrilineal systems of marriage women have few or no independent rights to land property due to the mixture of traditional customs and market economics. Under the patrilineal system, if a woman gets divorced or widowed, she risks losing her land usage rights to her husband's relatives. Even under matrilineal systems who are commonly thought to enjoy land rights, decision-making power on land ownership usually lies with male clan leaders who decide who gets a piece of land. Malawi's 2002 National Land Policy recognises the importance of tenure security for all citizens and a 2016 bill recognises women's customary land rights - the rights of communities to ancestral land. Nevertheless, there are still gaps and lags in the institutions responsible for assigning women property and inheritance rights. The laws that underpin the property rights of women may be difficult to enforce because they go against the grain of cultural norms and practice (Joireman, 2008). This raises a hideous spectre of gender inequality in matters of land ownership and inheritance which is exacerbated by low literacy levels among women. If women get equal opportunities to own land as their male counterparts, they can play a pivotal role towards food security as they will be able to access credit, farm inputs, and get to decide how to use their land and benefits thereof.

3.3.11 Youth and Agriculture

Empowering youth to engage in the agricultural sector is vital to creating livelihood opportunities, achieve food security and stimulate economic growth in the country. White (2012) observes that it was not easy for youth to access land, even though they might be interested in agriculture. Most young people are faced by the narrowing and sometimes complete closure to access land. Malawi's average land holding size per household is 1.2 hectares and the average land per capita is 0.33, reflecting wide land inequality. Amidst land pressure facing many families, it is not easy for youths to get their own pieces of land as the transaction will have to be approved by the traditional leader (chief) who may have a different opinion. The chief may eventually turn down the decision taken by the family. Even if they finally get the land, the young farmer will be let down by lack of capital, efficient technology and skills, access to extension services, favourable infrastructure, and viable markets for their products.

4 Review of Policy, Legal and Administrative Framework

This chapter reviews the legal framework pertaining to the MFSRP and the AF Project and indicates their impacts on the project. Reference has been made to principal national environmental and social policies, laws, and regulations applicable to the project, as well as an overview of the World Bank Environmental and Social Framework. Furthermore, the chapter provides an account of all regulatory licenses and approvals that must be obtained for the MFSRP and the AF Project to ensure that the project activities are in line with sound environmental and social management practices and are compliant to relevant existing legislation.

4.1 Malawian Institutional Framework

4.1.1 Constitution of the Republic of Malawi (1995)

The constitution of the Republic of Malawi is supreme over any legal policy or Act in Malawi. Any Act of Government or any law that is inconsistent with provisions of the constitution shall be invalid to the extent of such inconsistency (Section 5). As such, the reviewed policies, and legislations, relevant to the project, must be in line with the constitution.

Section 12 of the Constitution provides the fundamental principles on which the constitution was founded, and part (iii) encourages accountability and transparent decision-making. Section 12, part (iii) states: *"the authority to exercise the power of State is conditional upon the sustained trust of the people of Malawi that trust can only be maintained through open, accountable and transparent government and informed democratic choices"*. The principle is based on the premise that while society appoints authorities, they return the right to have an input in decision-making and enforcement processes; and they expect transparency in government decision making. In line with this principle, the MFSRP and the AF Project cannot assume that it has power over the communities and other institutions in the project area of influence, knowing that it will be accountable for its actions.

Part (d) of Section 13 addresses the need for managing the environment and sustainable development of natural resources to prevent degradation, provide a healthy living and working environment for the people of Malawi, accord full recognition to the rights of future generations; and to conserve and enhance the biological diversity of Malawi. The MFSRP and the AF project is therefore complying with the "section" by conducting an environmental and social impact assessment before the commencement of project activities.

Under Section 13(d), the Constitution of the Republic of Malawi provides for responsible management of the environment and paves way for the enforcement of the National Environment Policy. The constitution accords full recognition to the rights of future generations by advocating environmental protection and sustainable development of natural resources. It also calls for the prevention of environmental degradation. The project is being implemented within Malawi; hence it is an obligation to follow the Constitution, the supreme

law of the country. The Constitution recognises the need for protection of human rights, to which the project will adhere. The MFSRP and the AF Project will also have to ensure that activities of the project promote environmental protection and sustainable development of natural resources.

4.2 Malawi National Policies and Plans

4.2.1 The National Environmental Policy (2004)

The National Environmental Policy (NEP) is the key instrument that provides standards or benchmarks for environmental and natural resources policies and legislation in Malawi. The NEP, therefore, is a central guide for all environmental and natural resources sectoral activities.

The overall goal of the NEP is *"The promotion of sustainable social-economic development through sound management of the environment in Malawi"* and some of the goals that NEP seeks to accomplish are

a) Securing for all person's residents in Malawi now and in the future, an environment suitable for their health and well-being;
b) Promoting efficient utilisation and management of the country's natural resources; and
c) Facilitating the restoration, maintenance, and enhancements of the ecosystems and ecological processes essential for the functioning of the biosphere and prudent use of renewable resources.

The policy implies that the MFSRP and the AF Project will have to put in place operational policies that support sustainable development and the protection of the environment. The NEP relates significantly and directly to the proposed activities of the project, through promotion of efficient utilisation of natural and other resources. The development of this report will ensure that environmental and social impacts are identified and are properly managed in order to ensure that the developmental project does not have a detrimental effect to the ecosystem.

4.2.2 National Agriculture Policy (2016)

Malawi Government has developed a National Agriculture Policy to coordinate all efforts towards sustainable agriculture development. The policy includes commercialisation agriculture as one main theme towards enhancement of agriculture and national economy. Among others, the policy advocates for farm mechanisation and contract farming as some key measures to enhance competitive agricultural sector. The Malawi Agricultural Commercialisation Project incorporates both these aspects. In terms on environmental management, the policy advocates for conservation agriculture best practices. Integrated pest management measures in both smallholder gardens and estate sector.

4.2.3 National Irrigation Policy (2016)

The National Irrigation Policy advocates among others the promotion of sustainable irrigation development systems, which can adequately contribute to increased agriculture production in the country with minimal degradation of water resources and the environment. The policy highlights that some constraints to Malawian farmers to further irrigation development that include inadequate access to appropriate technologies or equipment for land reclamation and expansion, and inadequate trained personnel in irrigation technologies.

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With respect to environmental issues, both the policy highlights the need of environmental impact assessments prior to implementation for all large scale and medium scale irrigation projects in Malawi. The requirement is necessary in order to identify in advance serious detrimental impacts which must be avoided and minimised in course of project implementation. Activities under MFSRP and the AFProject would have some negative impacts if mitigation measures are not put in place. Significant impacts related to irrigation policy would be from irrigation schemes. Examples include soil erosion and siltation; salinization of soils from agrochemicals, spread of invasive plants, spread of pests and diseases at irrigation schemes. It is therefore necessary that the rehabilitation and reconstruction of irrigation schemes complies with the National Irrigation Development Policy Strategy and Irrigation Bill by incorporating an appropriate environmental management plan in implementation and operation of the estate.

4.2.4 National Disaster Risk Management Policy (2015).

The policy provides an integrated and coordinated disaster risk management system aimed at preventing or reducing the risk of disasters, mitigating the severity of disasters. The policy also outlines measures towards emergency preparedness, rapid and effective response to and management of disasters and post-disaster recovery; the establishment of a more effective institutional framework for disaster risk management in Malawi. The objectives of the policy includes:

a) To ensure the sustainable reduction of disaster relate losses in lives and the social, economic and environmental assets of communities in Malawi.
b) To uphold the constitutional rights to life, development and property by addressing the root causes of vulnerabilities to disasters, strengthening the country's institutional capacity for disaster risk reduction and management and building the resilience of communities to disasters.
c) The establishment of a more effective institutional framework for disaster risk management in Malawi.

The policy advocates integration of environmental conservation and planning as some of effective long-term measures of checking climate change and reducing natural disasters in Malawi.

4.2.5 The National Water Policy (2005)

Section 1.3 of the National Water Policy explains that this policy provides an enabling framework for integrated water resources management in Malawi. The Section points out that after realising the challenges, threats, and opportunities associated with the implementation of activities in the water and sanitation sector, the GoM through the Ministry responsible for

Water Development established the policy tailored at tackling any issues in the sector in an integrated manner, through the involvement of all concerned stakeholders including communities.

The policy comprehensively covers areas of water resource management and development, water quality and pollution control, and water utilisation. In section 3.4.15 it is set that all water facilities shall be registered using a numbering system developed and adopted by the Ministry responsible for Water Affairs. In section 3.4.9 the policy stresses that pollution control of water resources shall adopt the 'Polluter–Pays' principle to ensure water user responsibility. Section 5 of the policy also points out that surface and groundwater quality has been negatively affected by environmental degradation among other factors. The MFSRP and the AF Project will promote the strategies stipulated in the policy with specific effort placed on the following strategies:

- Section 5.2.2 - Ensuring and promoting proper management and disposal of wastes;
- Section 5.2.5 - Promoting public awareness on guidelines and standards on water quality, public health and hygiene, and pollution control mechanisms; and
- Section 5.2.6 - Strengthening of institutional arrangements for environmental management.

The MFSRP and the AF recognises implication of the National Water Policy which advocates for sustainable management of catchment and riverine areas to minimise soil erosion and siltation of river courses. Siltation of river courses is one of cause of floods in Malawi. This is because a shallow river causes overflows and destroys properties along the flood plains.

4.2.6 National Forestry Policy (1997)

Amongst others, the policy aims at promoting sustainable contribution of woodlands and trees towards the improvement of quality of life for Malawians by conserving the resources for the benefit and to the satisfaction of diverse and changing needs of Malawi population, particularly rural smallholders. The policy prevents unnecessary changes in land-use that promote deforestation, or endanger the protection of forest which have cultural, biodiversity or water catchment values. The implementation of the MFSRP and the AF Project will therefore ensure that the surrounding forest resources are conserved.

4.2.7 National Wildlife Policy (1997)

The goal of the national wildlife policy is to ensure proper conservation and management of the wildlife resources in order to provide for sustainable utilisation and equitable access to the resources and fair sharing of the benefits from the resources for both present and future generations of Malawians. This policy seeks to, among others, meet the following objectives: (i) ensure the adequate protection of representative ecosystems and their biological diversity through promotion and adoption of appropriate land management practices, that adhere to the principle of sustainable use; (ii) enhance public awareness and understanding of the importance

of wildlife conservation and management and its close relationships with other forms of land use. The MFSRP and the AF Project will have activities along rivers and close to protected areas hence it is obvious that there are potential impacts on the surrounding wildlife. The MFSRP and the AF Project will ensure that implementation of its activities is done in such a way to conserve the existing wildlife resources.

4.2.8 The National Climate Change Policy, 2016

The Malawi National Climate Change Policy was drafted by the Government in recognition of the country's high susceptibility to the climate change effects. It is aimed at promoting climate change adaptation and mitigation for climate change livelihoods, with consideration of economic development that significantly reduces environmental risks and ecological scarcities. The Malawi National Climate Change Policy also seeks to promote the stabilisation of greenhouse gas concentrations in the atmosphere, to a level that would prevent dangerous human-induced interference with the climate; while ensuring sustainable social, economic, and environmental development.

The implication for the MFSRP and the AF Project is that it has to be designed and will have to implement its activities in line with the requirements of the policy that promote the reduction of environmental risks and ecological scarcities. The project will use environmentally friendly construction materials such as the use of cement blocks for construction and not burnt bricks. In line with Policy Priority 2, climate change mitigation, the project will also use cleaner and renewable energy sources.

4.2.9 National Health Policy (2008)

The overall goal of the National Health Policy (2008) is to improve the health status of all people in Malawi by reducing the risk of ill health and the occurrence of premature deaths. The policy acknowledges the inadequate resources available for the health sector and defines the Essential Health Package, which is available to all Malawians free of charge. The National Health Policy is applicable to the project because the project developer will have to be committed to ensuring that the health of workers and surrounding communities are not negatively impacted by Project activities.

4.2.10 The Malawi National Land Policy (2002)

The Malawi National Land Policy focus on land as a basic resource common to all people of Malawi and for enhancement of socio – economic development. Section 4.11 affirms equitable access to land to all citizens of Malawi. The policy recognises human settlement and agriculture as the major benefactor land use sector. As such, the policy advocates for orderly resettlements of villages or households especially in rich agricultural zones. Furthermore, the policy guarantees full legal protection to customary land tenure to the people of Malawi to enable the ordinary Malawians adequately participate in subsistence farming and socio-economic development activities. The Malawi National Land Policy also advocates for fair compensation

on open market value to local people on all classes of land (whether held under customary land tenure or leasehold) in case such land is acquired for public interest or for development of public infrastructure. In reference to relocation of displaced people, the policy advocates adequate consultations with the affected people so that their interests are taken care of. Such provisions will have to be made in case of land acquisitions for some commercial farms MFSRP and the AFProject. Examples could be consideration of acquisition of land for some selected new warehouses, new feeder roads.

4.2.11 National Sanitation Policy (2008)

The National Sanitation Policy provides a vehicle to transform the hygiene and sanitation situation in Malawi. Section 1.2 of the policy mentions that it provides both guidelines and an action plan where, by 2020, all the people of Malawi will have access to improved sanitation, safe hygienic behaviour will be the norm, and recycling of solid and liquid waste will be widely practiced leading to healthier living conditions, a better environment, and a new way for sustainable wealth creation. One of the policy objectives as highlighted in section 3.1.1 is the improvement of hygiene, sanitation, and recycling of the waste in the country. The MFSRP and the AF Project will, as such, ensure that liquid and solid waste management encourages the reduction, recycling, and reuse of waste before final disposal hence complying with the provisions of the policy.

4.2.12 National HIV and AIDS Policy (2012)

The goal of this policy as stated in Section 1.3 is to prevent Human Immunodeficiency Virus (HIV) infections, to reduce vulnerability to HIV, to improve the provision of treatment, care, and support for people living with HIV and Acquired Immunodeficiency Syndrome (AIDS), and to mitigate the socioeconomic impact of HIV and AIDS on individuals, families, communities, and the nation. Chapter 7 of the policy focuses on responding to HIV and AIDS in the Workplace. Section 7.1 points out that the impact of HIV and AIDS in the workplace is increasingly being felt. Among other factors, absenteeism and death result in low productivity, premature payment of employee benefits, and low workplace morale. The section also mentions that discrimination against people living with AIDS has also been perpetuated through practices such as pre-employment HIV testing, dismissal as a result of being HIV positive, and the denial of employee benefits if known to be infected.

The MFSRP and the AF project shall endeavour at preventing, reducing, and managing the spread and impact of HIV and AIDS in the workplace through the implementation of an HIV and AIDS policy and prevention, treatment, care, and support programme. Furthermore, the MFSRP and the AF project shall ensure that no person undergoes testing for HIV as a precondition for employment and no person shall be denied employment solely based on HIV serostatus. The proponent management shall not force its employees to disclose their HIV but where an employee chooses to voluntarily disclose his or her HIV serostatus to management or another employee, such information shall not be disclosed to others without that employee's expression of written consent.

The National HIV/AIDS Policy is applicable to the project because potential HIV/AIDS impacts are anticipated and hence are addressed in this ESMP. Measures to mitigate these impacts are in line with the policy.

4.2.13 the National Gender Policy (2015)

Gender mainstreaming into the social-economic development plans is one of the enablers for sustainable development worldwide. The Malawi Growth and Development Strategy, the Malawi 2063 (MW2063) and the Sustainable Development Goals (SDGs) recognise the importance of gender and women empowerment in socioeconomic development.

As stipulated in Section 1.3, the national Gender Policy provides guidelines for mainstreaming gender in various sectors of the economy to reduce gender inequalities and enhance participation of women, men, and youth for sustainable and equitable development; as well as poverty eradication in the country. According to Section 3.6 of the policy, persistent gender inequalities and under-representation of women in decision-making positions at all levels, necessitated the development and implementation of the gender policy to address such gender imbalances and other related issues. The MFSRP and the AF Project will economically empower women to increase household income resulting in poverty reduction. Increasing women's labour force participation, productivity, and earnings will have a direct impact on poverty reduction and stimulate economic growth and development.

Section 3.7 of the policy recognises that gender-based violence (GBV), especially violence against women, girls, and vulnerable groups, is a severe impediment to social well-being and poverty reduction. Eradication of gender-based violence is therefore critical for the attainment of national development. The MFSRP and the AF project will ensure and shall put plans that will not allow GBV at the project site as a workplace area. The implementation of the project will therefore consider mainstreaming gender-related issues, thereby ensuring that beneficial impacts and adverse impacts affecting women and girls are appropriately enhanced and mitigated against, respectively.

4.2.14 Vision 2063

Malawi Government published Malawi Vision 2063 in 2020 as a successor of Vision 2020 as a long-term development strategy. The Malawi Vision 2063 aims to transfer Malawi into a wealthy and self-reliant industrialized upper middle-income country by the year 2063. There are three pillars of Malawi Vision 2063, Pillar 1: Agricultural Productivity and Commercialization, Pillar 2: Industrialization, and Pillar 3: Urbanization and six enablers, Enabler 1: Mindset Change, Enabler 2: Effective Governance Systems and Institutions, Enabler 3: Enhanced Public Sector performance, Enabler 4: Private Sector Dynamism, Enabler 5: Human Capital Development, and Enabler 6: Economic Infrastructure. MFSRP is fallen under Pillar 1 (Agricultural Productivity and Commercialization). Malawi 2063 recognises that the economy of Malawi is currently predominated by the agriculture sector for its foreign exchange

earnings. However, production and productivity of the sector has remained below the country's potential and is insufficient to match the increasing demand from domestic and export markets. Despite various challenges, the Malawi 2063 recognises that there are several opportunities for enhancing agricultural production and productivity to catalyse the realization of our Vision of inclusive wealth creation and self-reliance, including: an enabling and supportive policy environment; endowment of natural resources; availability of developed technologies that are ready for scaling up; existence of some basic irrigation infrastructure; existence of well-organized extension delivery systems; a youthful population; and existence of a supportive Government and development partners.

Transformation of the agriculture sector is central to the achievement of the Vision not only for the welfare of citizens, but also given that the linkage between the sector and industry would spur socio-economic development. Implications of the Malawi Vision 2063 is that the MFSRP should be aligned to the 2063 vision and should have provisions for short-tern (10 years) and long-term strategy.

4.3 Relevant Malawi Legislative Framework

4.3.1 The Environment Management Act, 2017

The Environment Management Act (EMA) is an Act that makes provision for the protection and management of the environment; the conservation and sustainable utilisation of natural resources and for matters connected therewith and incidental thereto. Section 3(1) states that 3 (1) every person shall take all necessary and appropriate measures to protect and manage the environment, to conserve natural resources, and to promote sustainable utilisation of natural resources under this Act and any other written law or policy relating to the protection and management of the environment or the conservation and sustainable utilisation of natural resources. To achieve this, the Act in section 7(1) provides for the establishment of the Malawi Environment Protection Authority (MEPA) which is the principal agency for the protection and management of the environment and sustainable utilisation of natural resources. Among its functions stipulated in Section 9(2-f), the MEPA is tasked to review and approve Environmental and Social Impact Assessments (ESIAs), Strategic Environmental Assessments (SEAs), and other relevant environmental assessments by following this Act. Section 25 allows the MEPA to establish such advisory committees as may be deemed necessary and appropriate for the conduct of its regulatory responsibilities. This implies that the MEPA may engage experts from outside its permanent staff as advisers, reviewers, or technical experts to assist in the review of ESIAs, SEAs, and other relevant environmental assessments.

Part IV of the Act stipulates that a person shall not undertake any project for which an ESIA is required without the written approval of the authority, and except in accordance with any conditions imposed in that approval. Any other licensing authority shall not grant a permit or licence for the execution of a project unless approval for the project is granted by the authority, or the grant of the permit or licence is made conditional upon the approval of the authority being granted. This implies the proponent will ensure that measures put in place to protect and

manage the environment are followed. This will also ensure that natural resources are conserved and sustainably utilised according to required standards from the licensing authorities. The implication of the Act on the MFSRP and the AF Project is that the developer has to obtain approval from MEPA before any other licensing authority grants a permit or licence for the execution of a project.

4.3.2 The Pesticide Act, 2000.

The Pesticide Act provide legal and administrative framework for registration, procurement, distribution, export, importation, storage, usage and disposal of the pesticides and related materials. The administrative work is done by the Pesticide Control Board which is established under Section 10 to 11 of the act. Main duties include: processing registration of pesticides and subsequent issue of certificates and permits for procurement, importation, export, storage distribution, usage and safe disposal of pesticides. The other duty is to provide public campaigns on proper usage, storage, importation, export, sate disposal of pesticides in Malawi. By and large the provisions of the pesticide act are intended to minimize the potential adverse effects from pesticides to the people or non-target species and the environment in general.

The implications of this act on rehabilitation of irrigation schemes

i. To obtain licence from Pesticide Control Board for approval and registration of the potential pesticides to be used at irrigation schemes or rural market centres in the country. This is necessary so that the board can screen them and recommended whether the proposed agrochemicals are acceptable for use in Malawi, and whether or not they safe for use in Malawi.
ii. To put in place adequate facilities and mechanisms for storage and usage of the pesticides at irrigation schemes and rural market centres. The Pesticide Board will have to inspect and certify about the security of the facilities for storage of the pesticides.
iii. To train designated workers in best practices in storage and packaging of the pesticides, appropriate usage of the pesticides so as to minimise misuses and eventual accidents.

4.3.3 Land Act (2016)

The Land Act is an Act to make provision for land in Malawi and for all matters incidental or connected thereto. Part II of the Act, Section (3) gives powers for the appointment of a Commissioner for Lands whose duties are described in Section (4) as follows:

"*4 (1) Subject to the special and general written direction of the Minister, the Commissioner shall*

a) Administer all land;
b) Make grants, leases, or other dispositions;
c) Sign, seal, execute, perfect, deliver and accept—
    i. grants, leases, or other dispositions of public land and surrenders;
    ii. agreements or licences in respect of the control of or use of running or stagnant water or affecting the dispositions of interests or rights therein;
d) Sign and issue documents including documents of consent;
e) Grant relief from liability to perform and extend the time for performance or observance of any covenant, condition, agreement, or stipulation;
f) Except any lease any implied covenant or covenants; and

g) Serve notices of determination of any lease."

This section implies that the developer of the MFSRP and the AF Project must seek authorisation from the Commissioner for Lands to own land through leases but also to seek direction on how the land may be used. Regarding the types of land that the developer can own, part III, Section 7 provides for the categories and classes of land as described in the following subsections:

(1) The land shall be categorised as either public land or private classes of land, and.
(2) Public land shall be classified either as Government land or unallocated customary land.
(3) Private land shall be classified as freehold, leasehold, or customary estate.

This provision by the Act allows the developer to own private land under leasehold and this requires that the developer satisfies set terms and conditions as provided for in Section 21 that states the following:

1) The Minister may, upon application by any person in a prescribed manner, grant or allocate leasehold or customary estate to such person on such terms and conditions as the Minister considers appropriate.
2) For the avoidance of doubt, the Minister shall not grant freehold title

In part V, section 21 (1) states that "*The Minister may, upon application by any person in a land which prescribed manner, grant or allocate leasehold or customary estate may grant to such person on such terms and conditions as the Minister considers appropriate*." This Act, therefore, clearly provides the requirements that the developer to abide with that mainly involve getting approval from the Commissioner of Lands to own the land through the provision of signed land ownership documents.

4.3.4 The Water Resources Act (2013)

The water resources Act provides for the management, conservation, use, and control of water resources; for the acquisition and regulation of rights to use water; and for matters connected therewith or incidental thereto. Section 4 (c) states the objective of the Act as follows: *"to control pollution and to promote the safe storage, treatment, discharge and disposal of waste and effluents which may pollute water or otherwise harm the environment and human health."* The Act is administered by the National Water Resources Authority under the Ministry of Agriculture, Irrigation, and Water Development as provided for in Part II, Section 8. Regarding abstraction and use of water Section 39(1&2) states the following:

1) No person shall abstract and use water unless authorised to do so under this Part.
2) A licence under this Part shall be required for any of the following purposes-
    a. the abstraction, impoundment, and use of water from a water resource; and
    b. the drainage of any swamp or other land.

There are a number of implications of the Water Resources Act related to the MFSRP and the AF project. First, the contractors may need to abstract water from rivers during development of irrigation schemes and rural market infrastructures. In this regard, contractors will have to

apply for water rights abstraction from National Water Resources Authority. The second implication relates to discharge of effluent water into surface water resources. Water Users Associations running irrigation schemes must obtain an approval from the authority.

4.3.5 Local Government Act Amendment (2017)

This is an act relating to local government and provides for matters connected therewith or incidental thereto. Part II, section 6(1) the Act mandates all local authorities to regulate planning and development within their jurisdiction and also empowers them to have by-laws for the good governance of the local government area. Regarding by-laws, section 103 states the following:

"The council may make by-laws for the good rule and By-laws government of the whole 'or any part of the local government of area or, as the case may be for the prevention and suppression of nuisances therein and any other purpose."

This Act also devolves decision-making authority from central government to local authorities, through the process of decentralisation. The Act has concrete provisions for the participation of communities in development planning, implementation, and monitoring. The MFSRP and the AF Project will adhere to the requirements of the Act by fully involving the district councils and ensuring that any by-laws set by the council are followed throughout.

4.3.6 The Occupational Safety Health and Welfare Act (1997)

The Occupation Safety Health and Welfare Act (OSHWA) is an Act to make provision for the regulation of the conditions of employment in workplaces as regards the safety, health, and welfare of persons employed therein; for the inspection of certain plant and machinery, and the prevention and regulation of accidents occurring to persons employed or authorised to go into the workplaces; and to provide for matters connected with or incidental to the foregoing the provisions for a safe working environment for the people of Malawi.

Part II of the OSHWA gives provisions on registration of a workplace as indicated in Section 6 that the Director shall keep a register of workplaces in which he or she shall cause to be entered such particulars in relation to every workplace required to be registered under this Act as he or she may consider necessary or desirable. Section 7(1) continues to stress that premises are not to be used as workplaces unless registered.

Part III of the OSHWA stipulates provisions on the duties and responsibilities of the developer as it is stated as follows:

"13. Duties of employers

(1) It shall be the duty of every employer to ensure the safety, health, and welfare at work of all his employees.

(2) Without prejudice to the generality of an employer's duty under subsection (1), the matters to which that duty extends include in particular—

a) the provision and maintenance of plant and systems of work that is safe and without risks to health;
b) arrangements for ensuring safety and absence of risks to health in connection with the use, handling, storage, and transportation of articles and substances;
c) the provision of information, instruction, training, and supervision in accordance with Section 65 to ensure the safety and health at work of his employees;
d) as regards any place of work under the employer's control, the provision of maintenance in a manner that is safe and without risks to health, and the provision and maintenance of means of access to and egress from it that are safe and without such risks;
e) the provision and maintenance of a working environment for his employees that is safe, without health risks, and adequate as regards facilities and arrangements for their welfare at work."

It is envisaged that various occupational safety and health (OSH) issues will be encountered during the implementation of the MFSRP and the AF Project. Hence, it is imperative for the developer to ensure that OSH requirements adhere to at all times such as providing all necessary PPE to the workers. Therefore, this report will have to outline the interventions that will be required for implementation and monitoring during the lifespan of the project.

4.3.7 The Employment Act, 2000

The employment Act of 2000 reinforces and regulates minimum standards of employment to ensure equity necessary for enhancing industrial peace, accelerated economic growth, and social justice; and for matters connected therewith and incidental thereto. Part II of the Act states fundamental principles guiding the act and these include:
Section 4(1) - Prohibition against forced labour
Section 5(1) - Anti-discrimination
Section 6(1) - Equal pay
Section 7 - Remedies for infringement of fundamental rights

Part IV of the Act prevents the employment of young persons and the restrictions are provided in detail in sections 21(1) and 22(1) as follows:

"*21. (1) subject to subsection (2), no person under the age of fourteen shall be employed or work in any public or private agricultural, industrial or non-industrial undertaking or any branch thereof.*

22. (1) No person below the age of eighteen years shall work or be employed in any occupation or activity that is likely to be - (Hazardous work)
(a) harmful to the health, safety, education, morals, or development of such a person; or
(b) prejudicial to his attendance at school or any other vocational or training programme."

Therefore, when employing people for the implementation of the project activities, the developer will have to ensure that the provisions of this Act are complied with.

4.3.8 Gender Equality Act, 2013

The Gender Equality Acts purpose is to take action and address the inequalities that exist between men and women in many aspects of daily life in Malawi. The Act seeks to promote gender equality, equal integration, influence, empowerment, dignity, and opportunities for men and women in all functions of society; to prohibit and provide redress for sex discrimination, harmful practices, and sexual harassment; to provide public awareness on the promotion of gender equality. The Act applies to all persons and all matters. This means it will apply to private and public institutions; including religious settings and chiefs. It also applies to the Government. It affects all aspects of life in Malawi. The Malawi Human Rights Commission (MHRC) administers and enforces the Act, however, all citizens are responsible to ensure it is upheld within their communities and report any violations to the MHRC. The Act in Part 2 prohibits sexual discrimination and harmful social or cultural practices; Section 7 calls for all workplace policies to ensure that sexual harassment is avoided. The developer is as such obligated to ensure these principles are included in all its activities specifically about employment and providing a conducive environment without sexual harassment and any other types of gender discrimination.

4.3.9 Public Health Act (1948)

The Act provides the legal framework for planning and management of a wide range of health-related issues including environmental health, occupational health, and solid wastes management. Section 79 parts (a) and (b) provide legal powers for the local authority to enforce the provision of sewage works for large-scale development projects. Section 80 stipulates the requirements for the preparation of detailed plans for planned sewage works for implementation. Section 82 outlines some activities which can limit the free flow of wastes into sewage works and which must be avoided as much as possible. These activities include disposal of solid wastes in oxidation ponds, disposal of chemical refuse, waste stream, and petroleum spirit or carbon calcium. Section 88 stipulates the requirements for separate toilets for both female and male persons in public buildings or buildings which would be used by both male and female employees.

The implication of the Act on the MFSRP and the AF project is that the developer should ensure appropriate and adequate waste disposal facilities, provide sanitary toilets and proper storm water drains. The toilets will be demarcated according to sexual category. In addition, the contractors will have in place temporary toilets for both female and male workers during the construction period.

4.3.10 HIV and AIDS (Prevention and Management) Act, 2018

The HIV and AIDS (Prevention and Management) Act makes provisions for the prevention and management of HIV and AIDS; provisions for the rights and obligations of persons living with HIV or affected by HIV and AIDS; provisions for the establishment of the National AIDS Commission; and provisions for matters incidental thereto or connected therewith. Part 4, Section 6 (1) states that discrimination on a basis related to HIV or AIDS is prohibited. Part 5, Section 9 (1) states that a person living with HIV has the right to privacy and confidentiality concerning the information about their status. Part 8 of this Act gives provisions to employers by stipulating requirements in several sections quoted as follows:

- Section 26 states that an employer shall not require any person to undergo HIV testing as a pre-condition for recruitment;
- Section 27 (1) states that an employer shall not terminate the employment of an employee solely on the ground that the employee is living with HIV or is perceived to be living with HIV;
- Section 28 (1) states that an employee shall not be discriminated against or be subjected to unfair treatment solely on the ground that he is perceived to be or is living with HIV; and
- Section 32 (1) states that the State shall ensure that employers adopt and implement an HIV and AIDS policy at the workplace.

The implications to the project management team are to ensure that HIV and AIDS intervention measures are put in place that responds to the requirements of the Act. The MFSRP and the AF Project will need to have an HIV and AIDS workplace policy as a guide to implementing the interventions.

4.3.11 Malawi Bureau of Standards Act, 2012

The Malawi Bureau of Standards (MBS) is a statutory organization established in 1972. It is charged with the preparation and promulgation of national standards. It is involved in standards preparation, certification services, and provision of technical information, testing services, metrology services, industrial research training and consultancy, quality systems certification, international liaison. Section 35(2) of EMA 2017 grants the Director General to place standards for ensuring effective environmental management. In collaboration with the Malawi Bureau of Standards (MBS) under the MBS Act, several standards were developed and those relevant to the project are presented in Table 4-1. The standards on the MFSRP and the AF project imply that the operations and implementation of the mitigation measures will be subject to the standards to ensure conformance and compliance.

Table 4-1: National standards relevant to the project

Malawian standard	Topic Addressed
MS 214	Drinking water specifications

Malawian standard	Topic Addressed
MS 678	Drinking water quality-control and surveillance of water in public supply networks
MS682-1	Water quality –sampling part 1; Guidance on the design of sampling programs and sampling techniques
MS 682-2	Water quality-Sampling part 3: Guidance on the preservation and handling of water samples
MS 682-4	Water quality-Sampling part 4: Guidance on sampling from lakes, natural and man made
MS 682-6	Water quality-Sampling Part 6- Guidance on sampling of rivers and streams
MS 714	Occupational Safety and health Management systems-specifications
MS 712-1	Acoustics-Recommended practice for the design of low noise and workplaces containing machinery part 1-Noise control strategies
MS 712-2	Acoustics-Recommended practice for the design of low noise and workplaces containing machinery part 2-Noise control measure
MS 712-3	Acoustics-Recommended practice for the design of low noise and workplaces containing machinery part 3-Sound propagation and noise prediction in work rooms
MS 173	Acoustic noise pollution - Tolerance limits
MS 700	Social Responsibility-Requirements for combating child labour
MS ISO-14031	Environmental management-Environmental performance evaluation
MS ISO-19011	Guidelines for quality and or environmental management systems –auditing
MS 691	Tolerance limits for domestic sewerage effluents discharged into in land surface water –specifications
MS 539	Industrial effluents-Tolerance limits for discharge into inland surface waters
MS 59	Solid Waste –Handling, transportation, and disposal –Code of practice
MS 713	Plastic products-Guidelines for safe management and disposal
MS 675	Safety procedures for the disposal of surplus pesticides and associated toxic waste- code of practice

4.3.12 Workers' Compensation Act, 2000

An Act to provide for compensation for injuries suffered or diseases contracted by workers in the course of their employment or for death resulting from such injuries or diseases. It specifies the conditions under which a worker is eligible for compensation. In Part II section 4(1) states that '*If an injury, other than the contraction of a scheduled disease, arising out of and in the course of his employment is caused to a worker, his employer shall, subject to this Act, be liable to pay compensation in accordance with this Act'*. The act also gives conditions under which the employer is liable to pay compensation one of which is if the worker has worked for less than seven (7) days. Furthermore, the act also indicates how and by whom the compensation will be paid. The project at hand will ensure that they abide by all the procedures and requirements in relation to the issuance of compensations to workers.

4.3.13 Labour Relations Act, 1996

This act was enacted to promote sound labour relations through the protection and promotion of freedom of association, the encouragement of effective collective bargaining, and the promotion of orderly and expeditious dispute settlement, conducive to social justice and economic development. In Part II section 4 states that "*Every person shall have the right to freedom of association, which shall include the freedom to establish and join organizations of his or her own choosing".* The act also provides for procedures to ensure dispute settlement between employer and employee. The developer will ensure to abide by the requirements of the act and thus allow workers to associate and also follow procedures outlined in the act to resolve disputes with workers.

4.3.14 National Parks and Wildlife Act (2004)

This is an Act that consolidates the law relating to national parks and wildlife management; establishes the Wildlife Research and Management Board; and to provides for matters incidental to or connected therewith. The purposes of the Act are presented in Section (3) and are stated as follows:

a) the conservation of selected examples of wildlife communities in Malawi;
b) the protection of rare, endangered and endemic species of wild plants and animals;
c) the conservation of wildlife throughout Malawi so that the abundance and diversity of their species are maintained at optimum levels commensurate with other forms of land use, in order to support sustainable utilisation of wildlife for the benefit of the people of Malawi;
d) the control of dangerous vertebrate species;
e) the control of import, export and re-export of wildlife species and specimens; and
f) the implementation of relevant international treaties, agreements or any other arrangement to which Malawi or the Government is a party.

The MFSRP and the AF Project will likely be situated within protected areas of impact hence may disrupt natural habitats for some wild animals and the rise in human-wildlife conflict. Wildlife crime, such as the pet and bush-meat trades, is common in Malawi and the 'victims' need somewhere to go. The MFSRP and the AF Project will have to be implemented in such a way to mitigate the possible impacts that may be brought about by the activities of the project.

4.3.15 Environment Management (Chemicals & Toxic Substances) Regulations, 2008

Part I, Section 3(1) of the regulation mention application by stating that *"these Regulations apply to any person in Malawi whose undertaking involves or includes the manufacturing, repackaging, importation, exportation, transportation, distribution, sale or other modes of handling toxic substances and chemicals and in respect of any activity in relation to toxic substances and chemicals which involves a risk of harm to human health or the environment."* Parts II of the regulations stipulates the management of chemicals and toxic substances. Section 4 (1) puts a requirement for licences as it points to the need to obtain a licence issued by the

Director for manufacturing, repackaging, importing, exporting, transporting, distributing, selling, or other modes of handling chemicals and toxic substances. The MFSRP and the AF Project may handle and store hazardous materials and chemicals. This implies the need for the developer to obtain necessary licences of chemical and toxic substances from the Director General.

4.3.16 Environment Management (Waste Management & Sanitation) Regulations, 2008

The regulations apply to the management of general and municipal waste in Malawi. Part III of the regulations has provisions on the management of general or municipal solid waste with Section 7(1) regulating that any person who generates solid waste shall sort out the waste by separating hazardous waste from the general or municipal solid waste. Section 8(1) regulates that every generator of waste shall be responsible for the safe and sanitary storage of all general or municipal solid waste accumulated on his or her property so as not to promote the propagation, harbourage, or attraction of vectors or the creation of nuisances. Section 10(1) has provisions for the collection of municipal solid waste as being the responsibility of a local authority. Section 11 has provisions that general or municipal solid waste may be disposed of at any waste disposal site or plant identified and maintained by a competent local authority or owned or operated by any person licensed to do so under these Regulations. Part V of the regulations has provisions on the management of municipal liquid waste with a general requirement stipulated in Section 23 that no person shall discharge effluent into the environment unless it meets prescribed environmental standards. These regulations have a major implication on the MFSRP and the AF Project with regards to waste management regimes that be put in place. The management of the MFSRP and the AF project will have to encourage waste separation at sources, provide proper and adequate waste receptacles, suitable waste storage and treatment facilities. The management team at the proposed facility will also have to work with the district council to ensure proper waste collection alternatives are put in place as well as waste disposal.

4.3.17 Public Health (Corona Virus and Covid-19) (Prevention, Containment, and Management) Rules, 2020

In exercise of the powers conferred by Section 31 as read with Section 29 of the Public Health Act and pursuant to the declaration of Covid-19 as a formidable disease on the 1st day of April 2020, the Minister of Health made these rules to help with prevention, containment and management of Corona Virus and Covid-19. The rules in Part II provide general preventive measures which are divided into two parts of (i) prevention of the spread of Corona Virus by persons and (ii) measures by the government to prevent, contain and manage the spread of Covid-19. With regards to prevention by persons, the rules stipulated in Section 3(1) that a person shall do the following acts in order to prevent the spread of the Corona Virus:

a) when in a public area, wear a face mask at all times;
b) keep a social distance of at least one metre, from other persons;

c) wash hands frequently with soap and water, for at least forty seconds, or use an alcohol-based hand sanitizer with a minimum alcohol content of seventy percent, for at least twenty seconds;
d) if hands are dirty or soiled, do not use an alcohol-based hand sanitizer, rather, wash hands with soap and water;
e) when coughing or sneezing, cover your nose and mouth with a handkerchief or tissue paper or sneeze into a flexed elbow;
f) refrain from touching face, mouth, nose, and eyes; and
g) avoid handshakes.

Section 6 (1) also states that employers shall report to an enforcement officer, community health worker, a member of a village health committee, or any appropriate authority, whichever is applicable, any suspected case or death of Covid-19. Section 13 (1) of the rules demands that an employer and an employee shall, at the workplace, comply with the measures listed in the Fourth Schedule of these rules. The schedule provides measures that have to be followed at workstations. The implication of these rules is that the developer has to provide all the necessary PPE to the workers to help them prevent contracting and spreading Covid-19. The rules also imply that the developer has to put in place all the necessary provisions as indicated by these rules.

4.4 Regulatory Licenses and Approvals

Based on reviews of the requirements of several other national policies and pieces of legislations in sections above, table below provides a summary of relevant statutory and regulatory approvals and licences to be obtained in course of implementation and operation activities. This is to ensure that the project is in line with sound n environmental management practices and in compliance with other relevant pieces of legislation. The summary has been provided in table format for clarity purposes. Column one lists the required statutory approvals or licences for the proposed project during implementation and operation, while column two outlines the legal and regulatory framework upon which the approvals or licences are prepared. Column three outlines the government department or parastatals responsible for processing the applications for statutory approvals or licences while column four outlines the designated public officer responsible for processing the applications for statutory approvals or licences. Table 4-2 summarises all the regulatory licenses, approvals, and standards that must be obtained or met for the proposed project to ensure that the project activities are in line with sound and environmental management practices and comply with relevant legislation.

Table 4-2: Regulatory licenses and approvals relevant for the project

List of statutory approvals or licenses to be obtained	Regulatory frameworks.	Responsible department.	Responsible officer
Environmental impact assessment certificate *(To guide the synchronisation of environmental management practices.)*	Environment Management Act (2017)	Malawi Environment Protection Authority	Director of Environmental Affairs

List of statutory approvals or licenses to be obtained	Regulatory frameworks.	Responsible department.	Responsible officer
Registration certificate for pesticide storage and use	Pesticide Act (2000)	Pesticide Control Board	Registrar of Pesticides
Workplace Registration Certificate. *(To guide on procedures on workers environmental health, safety during project implementation and operations.)*	Occupational Health, Safety and Welfare Act (Cap 55:01)	Ministry of Labour and Vocational Training	Director of Occupational Health, Safety and Welfare.
Water right for abstraction *(To regulate mechanisms of water abstraction from rivers for irrigation schemes.)*	Water Resources Act (2013) (CAP 72.03)	National Water Resources Authority	Executive Director
Effluent Discharge Permit. *(Regulate the quality of wastewater, means and of discharge into surface drainage system)*	Water Resources Act (2013) (CAP 72.03)	National Water Resources Authority	Executive Director

4.5 World Bank Environmental and Social Framework

The World Bank Environmental and Social Framework sets out the World Bank's commitment to sustainable development through a Bank Policy and a set of Environmental and Social Standards designed to support borrowers' projects to end extreme poverty and promote shared prosperity. All World Bank funded Investment Project Financing (IPF) are required to follow the Environmental and Social Framework (ESF) consisting of ten (10) Environment and Social Standards (ESSs). These ESSs set out their requirement for the MFSRP and the AF Project relating to the identification and assessment of environmental and social risks and impacts associated with any project. The ESSs support the MFSRP and the AF Project in achieving good international practice relating to environmental and social sustainability, assist them in fulfilling their national and international environmental and social obligations, enhance transparency and accountability and ensure sustainable development outcome through ongoing stakeholder engagement.

The ESF sets out its commitment to sustainable development, through Bank Policy and a set of environmental and social standards that are designed to support MFSRP and the AF Project. The part of Bank's Environmental and Social Policy stipulates the following set of standards are requirements for the MFSRP and the AF Project to abide by:

1) ***Environmental and Social Standard 1:*** Assessment and Management of Environmental and Social Risks and Impacts;
2) ***Environmental and Social Standard 2***: Labour and Working Conditions;

3) ***Environmental and Social Standard 3***: Resource Efficiency and Pollution Prevention and Management;
4) ***Environmental and Social Standard 4***: Community Health and Safety;
5) ***Environmental and Social Standard 5***: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;
6) ***Environmental and Social Standard 6***: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
7) ***Environmental and Social Standard 7***: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities;
8) ***Environmental and Social Standard 8***: Cultural Heritage;
9) ***Environmental and Social Standard 9***: Financial Intermediaries; and
10) ***Environmental and Social Standard 10***: Stakeholder Engagement and Information Disclosure.

The environmental and social standards that apply to the project are given in Table 4-3.

Table 4-3: WB ESS requirements and relevance to the MFSRP and the AF sub-project

World Bank ESS Policy, Standards, Directive	Objectives	Requirements	Relevance & Extent of Relevance to the sub-project/project
ESS-1: Assessment and Management of Environmental and Social Risks and Impacts	Identify, assess, evaluate, and manage environment and social risks and impacts in a manner consistent with the ESF. Adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities	The types of E&S risk and impacts that should be considered in the environmental and social assessment. The use and strengthening of the borrower's environmental and social framework for the assessment, development and implementation of World Bank financed projects where appropriate.	E&S risks and impacts have been preliminary identified based on consultations with primary stakeholders including communities and implementing agency. Detailed ESIA and ESMP will be prepared.
ESS-2: Labour-and-Working-Conditions	Promote safety and health at work. Promote the fair treatment, non-discrimination, and equal opportunity of project workers. Protect project workers, with particular emphasis on vulnerable workers. Prevent the use of all forms of forced labour and child labour. Support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law. Provide project workers with accessible means to raise workplace concerns.	Requirements for the borrower to prepare and adopt labour management procedures. Provisions on the treatment of direct, contracted, community, and primary supply workers, and government civil servants. Requirements on terms and conditions of work, non-discrimination and equal opportunity and workers organisations. Provisions on child labour and forced labour. Requirements on occupational health and safety, in keeping with the World Bank Group's Environmental, Health, and Safety Guidelines (EHSG).	**A separate LMP has been prepared, which defines measures to be taken to address this ESS2.**
ESS-3: Resource-Efficiency-and-Pollution-Prevention-and-Management	Promote the sustainable use of resources, including energy, water, and raw materials. Avoid or minimise adverse impacts on human health and the environment caused by pollution from project activities. Avoid or minimise project-related emissions of short and long-lived climate pollutants. Avoid or minimise generation of hazardous and non-hazardous waste. Minimise and manage the risks and impacts associated with pesticide use. Requires technically and financially feasible measures to improve efficient consumption of energy, water, and raw materials, and introduces specific requirements for water efficiency where a project has high water demand.	Requires an estimate of gross greenhouse gas emissions resulting from project (unless minor), where technically and financially feasible. Requirements on management of wastes, chemical and hazardous materials, and contains provisions to address historical pollution. ESS-3 refers to national law and Good International Industry Practice, in the first instance the World Bank Groups' EHSGs.	With respect to Resource Efficiency, the project preparation and the ESA process will identify feasible measures for efficient (a) energy use; (b) water usage and management to minimise water usage during construction, conservation measures to offset total construction water demand and maintain balance for demand of water resources; and (c) raw materials use by exploring use of local materials, recycled aggregates, use of innovative

World Bank ESS Policy, Standards, Directive	Objectives	Requirements	Relevance & Extent of Relevance to the sub-project/project
			technology so as to minimise project's foot prints on finite natural resources.
ESS-4 Community-Health-and-Safety	Anticipate or avoid adverse impacts on the health and safety of project-affected communities during project life cycle from routine and non-routine circumstances. Promote quality, safety, and climate change considerations in infrastructure design and construction, including dams. Avoid or minimise community exposure to project-related traffic and road safety risks, diseases, and hazardous materials. Have in place effective measures to address emergency events. Ensure that safeguarding of personnel and property is carried out in a manner that avoids or minimises risks to the project-affected communities.	Requirements on infrastructure, considering safety and climate change, and applying the concept of universal access, where technically and financially feasible. Requirements on traffic and road safety, including road safety assessments and monitoring. Addresses risks arising from impacts on provisioning and regulating ecosystem service. Measures to avoid or minimise the risk of water-related, communicable, and non-communicable diseases. Requirements to assess risks associated with security personnel, and review and report unlawful and abusive acts to relevant authorities.	In the MFSRP and the AF Project there is likely to be i) civil works that will include construction of irrigation schemes, warehouses, road maintenance, use of vibratory equipment, construction debris handling and disposal etc. during construction; ii) high likelihood of direct exposure to increased construction related traffic and equipment especially at road sections traversing settlement area with limited carriageway/roadway width, and sensitive receptors such as schools, religious place, health centre/hospitals; and iii) influx of migrant workers could potentially cause local discomfort or potential conflicts with local people.
ESS-5 Land-Acquisition-Restrictions-on-Land-Use-and-Involuntary-Resettlement	Avoid or minimise involuntary resettlement by exploring project design alternatives. Avoid forced eviction. Mitigate unavoidable adverse impacts from land acquisition or restrictions on land use by providing compensation at replacement cost and assisting displaced persons in their efforts to improve, or at least restore, livelihoods and living standards to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher. Improve living	Applies to permanent or temporary physical and economic displacement resulting from different types of land acquisition and restrictions on access. Does not apply to voluntary market transactions, except where these affect third parties. Provides criteria for "voluntary" land donations, sale of community land, and parties obtaining income from illegal rentals. Prohibits forced eviction (removal against the will of affected people, without legal and other protection including all applicable procedures and principles in ESS5). Requires that acquisition of land	**A separate RPF has been prepared to address ESS5.** Land will be required for construction of irrigation schemes, warehouses, and other infrastructures, etc. Hence impacts on land, private and community owned assets including structures, trees, and crops within existing and

World Bank ESS Policy, Standards, Directive	Objectives	Requirements	Relevance & Extent of Relevance to the sub-project/project
	conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure. Conceive and execute resettlement activities as sustainable development projects.	and assets happens only after payment of compensation and resettlement has occurred. Requires community engagement and consultation, disclosure of information and a grievance mechanism.	proposed sub-project sites is likely. Physical and economic displacement too is very likely.
ESS-6 Biodiversity-Conservation	Protect and conserve biodiversity and habitats. Apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity. To promote the sustainable management of living natural resources.	Requirements for projects affecting areas that are legally protected designated for protection or regionally/internationally recognised to be of high biodiversity value. Requirements on sustainable management of living natural resources, including primary production, and harvesting, distinguishing between small-scale and commercial activities. Requirements relating to primary suppliers, where a project is purchasing natural resource commodities, including food, timber, and fibre.	Site clearance activities for civil works will involve removal of vegetation and felling of trees.
ESS-7 Indigenous-Peoples	Ensure that the development process fosters full respect for affected parties' human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods. Promote sustainable development benefits and opportunities in a manner that is accessible, culturally appropriate, and inclusive. Improve project design and promote local support by establishing and maintaining an ongoing relationship based on meaningful consultation with affected parties. Obtain the Free, Prior, and Informed Consent (FPIC) of affected parties in three circumstances. Recognise, respect, and preserve the culture, knowledge, and practices of Indigenous Peoples, and to provide them with an opportunity to adapt to changing conditions in a manner and in a timeframe acceptable to them.	Applies when the indigenous people are present or have a collective attachment to the land, whether they are affected positively or negatively and regardless of economic, political, or social vulnerability. The option to use different terminologies for groups that meet the criteria set out in the Standard. The use of national screening processes, providing these meet World Bank criteria and requirements. Coverage of forest dwellers, hunter gatherers, and pastoralists and other nomadic groups. Requirements for meaningful consultation tailored to affected parties and a grievance mechanism. Requirements for a process of free, prior, and informed consent in three circumstances.	**Not relevant to this MFSRP and the AF project**.

World Bank ESS Policy, Standards, Directive	Objectives	Requirements	Relevance & Extent of Relevance to the sub-project/project
ESS-8 Cultural-Heritage	Protect cultural heritage from the adverse impacts of project activities and support its preservation. Address cultural heritage as an integral aspect of sustainable development. Promote meaningful consultation with stakeholders regarding cultural heritage. Promote the equitable sharing of benefits from the use of cultural heritage.	Requires a chance finds procedure to be established. Recognition of the need to ensure peoples' continued access to culturally important sites, as well as the need for confidentiality when revealing information about cultural heritage assets that would compromise or jeopardize their safety or integrity. Requirement for fair and equitable sharing of benefits from commercial use of cultural resources. Provisions of archaeological sites and material, built heritage, natural features with cultural significance, and moveable cultural heritage.	The sites of the sub-project are yet to be known and defined. So, it is not sure to have any ancient monuments and/or archaeological site(s), protected, and religious structures/shrines of local importance. This ESMF has suggested a guideline to address the ESS8.
ESS-9 Financial-Intermediaries	Sets out how Financial Intermediaries (FI) will assess and manage environmental and social risks and impacts associated with the subprojects it finances. Promote good environmental and social management practices in the subprojects the FI finance. Promote good environmental and sound human resources management within the FI.	Financial Intermediaries (FIs) to have an Environmental and Social Management System (ESMS) - a system for identifying, assessing, managing, and monitoring the environmental and social risks and impacts of FI subprojects on an ongoing basis. FI to develop a categorisation system for all subprojects; with special provisions for subprojects categorised as high or substantial risk. FI borrowers to conduct stakeholder engagement in a manner proportionate to the risks and impacts of the FI subprojects.	Not relevant as there is no financial intermediary involved.
ESS-10 Stakeholder-Engagement-and-Information-Disclosure	Establish a systematic approach to stakeholder engagement that helps borrower's identify stakeholders and maintain a constructive relationship with them. Assess stakeholder interest and support for the project and enable stakeholders' views to be considered in project design. Promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle. Ensure that appropriate project information is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner.	Requires stakeholder engagement throughout the project life cycle, and preparation and implementation of a stakeholder engagement plan (SEP). Requires early identification of stakeholders, both project-affected parties and other interested parties, and clarification on how effective engagement takes place. Stakeholder engagement to be conducted in a manner proportionate to the nature, scale, risks and impacts of the project, and appropriate to stakeholders' interests. Specifies what is required for information disclosure and to achieve meaningful consultation.	**A separate SEP has been prepared to address ESS10.**

4.6 Gap Analysis of World Bank Requirements and National Laws

Infrastructure development and use of public and private lands for land-based developments are governed by institutional legal mandates and national laws. There are some gaps between existing laws of the country and WB ESSs on various issues. Table 1 below, provides the more details on the Gaps between the national legal instruments and the World Bank ESS.

Table 4-4: Gaps between the National legal instruments and the World Bank ESS

World Bank ESS provisions	**National Legal Instruments provisions**	**Gap(s) identified**	**How the gaps have been addressed (*if applicable*)**
ESS 1: Assessment and Management of Environmental & Social Risks and Impacts	Environment Management Act (2017) EIA Guidelines (1997)	Environment Management Act (2017) and EIA Guidelines (1997) does not indicate the need to prepare ESMF for projects to guide the preparation of project specific environmental and social assessments. ESIA study screening and scoping do not guarantee coverage of all ESS standards in the assessment. The stakeholder engagement during the conduct of the ESIA is limited to the impact identification stage and the ESIA report is not disclosed as is required by the ESS-1. In most of the cases Environment Management Act (2017) requirements and standards for environment quality are match with WB EHC standards. However, there are some parameters when national and WB requirements and standards are different. In such cases more strictly ones will apply for the project	Preparation of the ESMF for **MFSRP and the AF** has been done and in cases where gaps are observed the stricter ones will apply for the project.
ESS 2: Labour and Working Conditions	Occupational Safety, Health and Welfare Act, (1997) Employment Act (2000)	The Labour Act does not specifically require that development be assessed and reviewed in terms of labour and working conditions including OHS requirements before approval.	MFSRP and the AF has followed ESS2 and developed labour management procedures with relevant provisions to bridge the gap.

World Bank ESS provisions	National Legal Instruments provisions	Gap(s) identified	How the gaps have been addressed (*if applicable*)
		The Labour Act does not require development projects to prepare labour management plans or procedure or OHS plan.	
ESS 3: Pollution Prevention and Resource Efficiency	Environment Management Act (2017); Malawi Bureau of Standards Act (2012) Water Resources Act (2013)	The national legislation mostly focuses on pollution prevention and less on aspects of resource efficiency	MFSRP and the AF will follow provisions of ESS3 on resource efficiency to mitigate impacts of pollution.
ESS 4: Community Health and Safety	Occupational Safety, Health, and Welfare Act, (1997)	The Occupational Safety, Health, and Welfare Act, (1997) does not focus much on community health and safety.	ESMP will provide requirements for site specific measures for the mitigation of ESS4 risks. The gap will also be addressed with ILO instruments to which Malawi is a party to biff up this aspect
ESS-5 Land-Acquisition-Restrictions-on-Land-Use-and-Involuntary-Resettlement	Land Acquisition Act (2016)	The following gaps were identified in the Land Acquisition Act (2016): i. does not require the preparation of RAP; ii. does not provide compensation or assistance to those who do not have formal legal claim to the land; iii. does not provide transitional allowances for restoration of livelihoods for informal settlers; iv. relies on cash compensation, no developmental objectives; v. no provision to give special attention to the vulnerable groups vi. (vi) valuation of lost asset is not based on "replacement cost' standard	The MFSRP and the AF has prepared a separate RFP; where gaps are observed the stricter ones will apply for the project.

World Bank ESS provisions	National Legal Instruments provisions	Gap(s) identified	How the gaps have been addressed (*if applicable*)
ESS-6 Biodiversity-Conservation	Environment Management Act (2017); National Parks and Wildlife Act (2004)	No equivalent requirements on: (i) the application of hierarchy of measures; (ii) the preparation of biodiversity management plan; (iii) differentiated measures on types of habitats; (iii) conduct of due diligence on primary suppliers.	Restriction on sub-projects implementation in the protected areas, critical habitats will be included in ESMF.
ESS 10: Stakeholder Engagement & Information Disclosure	EMA guidelines (2017)	No provision for development of the stakeholder engagement plan (SEP) and GRM	The project developed SEP and established a GRM system.

5 Stakeholder Consultations, Public Disclosure and Grievance Redress Mechanism

5.1 Requirements of ESS 10: Stakeholder Engagement and Information Disclosure

A separate Stakeholders Engagement Plan (SEP) has been prepared for MFSRP and the AF which will be the main guiding document for the MFSRP and the AF sub-projects. The following sections are summarising the ESMF requirements for stakeholder's consultations and disclosures specifically for preparing ESMP.

5.2 Stakeholder Consultations and Disclosure

In the context of the SEP, field surveys, consultations with different stakeholders, focus group discussions (FGDs) that were carried out to develop this ESMF of MFSRP and the AF sub-projects are not enough, considering the project area and number of the stakeholders. Extensive field visits are required at the specific sub-project environmental and social assessment stage to overcome this shortcoming and conduct extensive discussions with the relevant stakeholders throughout the project sites to discuss components, sub-components, activities, potential positive and negative impacts and measures taken to mitigate those impacts. It is also required to record the views of each of the respondents of the consultations, irrespective of gender, profession, religion, and age groups. The ToRs of the environmental and social assessments should be described in the public meetings during the initial stage of the assessment studies in all the sites of the proposed project. Findings of the environmental and social assessment will also be presented in local language going back to the same stakeholders while the draft is ready to submit for MEPA clearance. Consultation meetings are necessary to identify issues and problems to enable MFSRP and the AF to include corrective measures and to identify lessons and opportunities to enhance project implementation mechanism.

5.2.1 Objective of the Consultations

The GoM and the World Bank place great importance on involving primary and secondary stakeholders for determining the environmental and social impacts associated with project implementation. To gather local knowledge for baseline conditions, understand perceptions of the community regarding impact significance, and propose meaningful mitigation measures, participation of stakeholders is an integral part of the environmental assessment process. The consultation process has been conceived, planned, and initiated with the following key objectives:

- To provide key project information and create awareness among various stakeholders about project intervention;
- To have interaction for primary and secondary data collection with project beneficiaries, and other stakeholders;
- To identify environmental and social issues such as displacement, safety hazards, employment, and vulnerable persons;

- To begin establishing communication and an evolving mechanism for the resolution of social and environmental problems at local and project level;
- To involve project stakeholders in an inclusive manner; and
- To receive feedback from primary stakeholders on mitigation and enhancement measures to address the environmental and social impacts of the project.

5.2.2 Methodology and Tools for the Consultation

The process for developing the ESMF requires full participation of key stakeholders who are likely to be affected by the project. The stakeholder and public consultation were undertaken by aiming at ensuring the quality, comprehensiveness, and effectiveness of the ESMF development for the proposed MFSRP in Malawi. This was also conducted to ensure that interested and affected parties' views and concerns are considered. The approaches used were conducting meetings with key national and district stakeholders as well as farmer organisations (beneficiaries) representatives of phase 1 of AGCOM project (participants lists are annexed).

Stakeholder analysis involved stakeholder identification, initial consultation, analysis of stakeholders' interests and experience with participation of the stakeholders in accordance with their capacity and relevance to each issue. The consultants organised consultation meetings soliciting public opinions from districts and communities to which phase 1 of AGCOM Project was implemented (Table 5-1). The consultant team also held interviews and meetings with officials from government ministries, departments, and agencies that were involved in the implementation of phase 1 of AGCOM Project.

Table 5-1: Stakeholders mapping

Stakeholder	Justification
Project Proponent – Ministry of Agriculture	As client for the project are responsible for provision of all necessary information regarding the proposed project for ESMF development purposes.
Ministries, departments, and agencies	As those supporting project planning, implementation monitoring and evaluation.
District councils	As development custodians responsible for facilitating and monitoring implementation of the projects as well as reinforcing the social and environmental management plans developed for MFSRP project.
District grievance redress committees from each district of MFSRP implementation	As a district level arm, responsible for receiving and addressing grievances reported from the community grievance redress committee regarding MFSRP, including further reporting to national grievance redress committee where district level resolution was not possible.
Farmer organisations/ cooperatives	As MFSRP project beneficiries.

Stakeholder	Justification
Community Grievance redress committees	As a community entity responsible for receiving and addressing grievances reported from the community about MFSRP implementation.

5.3 Outcomes of consultation meetings

During the preparation of the ESMF, MFSRP and the AF have taken stakeholders' opinions and those are incorporated with the entitlement matrix preparation. A summary of consultation at different levels is provided in the sub-sections that follow.

5.3.1 Consultations with National Stakeholders

National stakeholder consultations involved conducting round-table meetings and key informant interviews with senior officers from various national institutions. The issues discussed and information gathered included the known issues with regards to environmental and social risks and management under the just ended AGCOM Project; anticipated Environmental and social risks and management under MFSRP and the AF; stakeholder engagement issues under MFSRP and other issues that should be included in the ESMF and or programming of the upcoming project. The summary of aggregated issues is presented in Table 5-3.

Table 5-2: Key issues from national consultations

SN	Opinion and questions	Response Provided
1	environmental and social safeguards instrument under MFSRP and the AF, Grievance Redress Mechanisms, and Resettlement Issues should be among the training topics	The capacity building issues will be incorporated in the ESMP capacity building plan
2	Incorporate in the safeguard tools government approach in handling of land issues / complaints as there are now land tribunals and customary land committed being formulated.	These considerations are incorporated in the RPF
3	Scale up the project to cover more beneficiaries.	This will be considered in project design
4	There should be resources for awareness of the project and the national laws associated with the project.	The Stakeholder Engagement Plan will have a budget to cover these specific issues.
5	Expectation is that budget for specific activities such as irrigation etc, will not be diverted to other components.	This will be considered in project design
6	During operation of the project, it is difficult for communities to implement environmental and social mitigation measures because of lack of resources and capacity. As for construction phase these are implemented by the contractor and project.	The ESMF will make provisions to ensure that community trainings are included in project specific ESIA/ESMPs
7	Councils should be given funds to support the environmental and social issues.	Council activities shall be included in the budgets for the various safeguard tools.
8	There should be technical support and training for officers for implementing partners in terms of environmental and social management.	The ESMF will cover capacity building and training issues for the various project implementers

SN	Opinion and questions	Response Provided
9	Information sharing should be timely by the PIU and issues should be well documented so that there is smooth implementation of the project.	The Stakeholder Engagement Plan will include aspects and guide for information sharing
10	The GRM should be empowered so that they can handle issues at all levels.	The SEP will include aspects for training and allocate a budget for support of project GRM

5.3.2 Consultations with District Councils and Line Offices

District consultations involved conducting round-table meetings and key informant interviews with the council structures and/or authorities such as the district environment sub-committees, and district grievance redress committees (DGRCs). The issues discussed and information gathered includes the following:

- Their awareness and understanding of their respective councils and sectors roles in the proposed MFSRP.
- Known issues with regards to environmental and social risks and management under the ongoing AGCOM Project including challenges various sectors have encountered and solutions.
- Anticipated Environmental and social risks and management under MFSRP and the AF; suggested mitigation or management measures, roles of district sectors in addressing these impacts and how the council can be empowered.
- Stakeholder engagement issues under MFSRP with reference to previous stakeholder engagement activities at district in relation to ongoing AGCOM project implementation.
- Labour management procedures under MFSRP and the AF with reference to types of workers to be engaged at district level, child and forced labour, issues of utilising community workers, recruitment issues and challenges including PPE availability.
- Grievance redress mechanisms with respect to existence and effectiveness of district's AGCOM committee, grievances received or recorded and resolved, uptake locations, timelines for handling the grievances, including flaws and challenges of the district GRM process.
- Other issues that should be included in the ESMF and or programming of the upcoming project.

Members from different district council committees made their different and unique contributions with respect to the guide. The summary of aggregated issues councils submitted have been presented in Table 5-3.

Table 5-3: Key issues from district consultations

Guiding Question	Opinion and questions	Response Provided
Awareness of proposed project and understanding of councils and sectors roles in	The councils have not been officially sensitised of the proposed MFSRP and the AF	The project will conduct consultations at national, district and community levels. At community level the project will utilise the district councils to use existing local structures.
	Since are not sensitised, have no chance to choose roles but only playing along when contacted.	

Guiding Question	Opinion and questions	Response Provided
the proposed MFSRP and the AF	If sensitised and fully engaged, councils can participate in the design, implementation, and monitoring of the sub-projects including grievance resolutions.	
Environmental and Social risks and management under the ongoing AGCOM Project including challenges various sectors have encountered and solutions.	Environmental and social risks encountered are generally: land wrangles; GBV issues; contractor versus contractual agreement bypass issues; monitoring financial resources not provided or trimmed; delays of input distribution; AGCOM Project participants being removed on the AIP list; DGRC commitment issues; limited efforts on catchment management; non-involvement of other equally important district sectors.	The project will empower existing GRCs to ensure that grievances are captured and resolved within the shortest period. The ESMF will also capture these challenges and provide relevant mitigation measures that can be carried along by the site specific environmental and social assessments.
	Most challenges have been addressed through CGRCs and DGRCs structures except major ones like input distribution challenges, AGCOM Project participants being removed on the AIP list, non-involvement of other equally important district sectors etc. which are yet to be resolved by NGRC/ Project PIU.	
Anticipated Environmental and social risks and management under MFSRP and the AF; suggested mitigation/ management measures	GBV and child labour, land issues, HIV/AIDS and Covid-19, dust pollution, catchment degradation, labour related issues and accidents, inequalities among households participating in the project and those not, mismanagement of funds, devaluation, and inflation effects on budgets.	Suggested enhancement/ mitigation measures are issue specific but modes to ensure those are though sensitisation/awareness and trainings, empowering CGRCs and DGRCs, financing monitoring and effective stakeholder engagement.
Stakeholder Engagement issues under MFSRP and the AF	Current structure of command in the project is through Ministries and departments at national level and districts are taken as guides or reduced to mere spectators.	The SEP will be prepared that indicates the key roles of the councils in the project.
	Councils feel excluded and decentralisation structures undermined.	
	Non-involvement of district structures and other equally important district sectors but only a few officers.	The SEP will be prepared that points out that district councils should take lead in sensitising district councils.
	Publicity of the projects was through newspapers or radios and not through councils and hence, undermining communication for action.	The SEP will put in place processes to ensure that national sensitisation is supported by the districts such as use of community radios and using existing district agriculture structures.

Guiding Question	Opinion and questions	Response Provided
	District's trade and agribusiness officers help farmers develop proposals but not supported with adequate financial resources.	The project to consider financing and/or remunerating cooperatives proposal development support by district officials in its planning than hiring consultants for the same
Labour Management Procedures under MFSRP and the AF	Child labour and forced labour issues that can be experienced during MFSRP and the AF implementation e.g. sending school going children to sell merchandise at the project sites during school time and forcing school going children under eighteen years to participate in work on behalf of their parents can be addressed through sensitisations.	The project will sensitise communities about child labour, and this will be done with the support from the district labour office which is conversant with child labour issues in the districts.
	If non- paid community workers will be engaged, there must be clear agreements with the contractor to avoid conflicts.	A labour management plan (LMP) will be prepared that will identify community workers.
Grievance redress mechanisms and effectiveness	Districts have several project specific grievance redress committees and not harmonised into one. It is therefore difficult for the district council to make these committees accountable.	MFSRP and the AF will train and support the GRCs with financial resources so that they perform their tasks more effectively.
	Membership of DGRC is available but they do not meet regularly due to coordination problems	
	Need to utilise already existing DGRC than formulating project specific DGRC	

Figure 5-1: Round table consultations with DESC at Mwanza District council

Figure 5-2: Round table consultations with DESC at Machinga District council

5.3.3 Consultations with Producer organizations and CERC projects beneficiaries

Producer organisations or cooperatives as AGCOM project implementation unit and CERC project beneficiaries were also consulted in all the selected districts where district-level consultations were conducted. This was done to assess their attitudes towards the AGCOM Project activities being implemented in their areas and/or by them. The consultant received feedback from the sampled producer organisations and CERC project beneficiaries through a formal participatory consultation process, so that they can raise their views, concerns and areas that need improvements in the upcoming project(s). The community was also made aware of the proposed MFSRP and the AF. Project. The sampled producer organisations and CERC projects consulted in each of the selected districts and the questions, views, and suggestions made are summarised in Table 5-4.

Table 5-4: Key issues from POs and CERC projects beneficiaries

Guiding Question	Opinion and questions	Response Provided
Awareness of proposed MFSRP and what they heard about	No one from AGCOM PIU or the district council informed them about MFSRP but through radio they are aware of the upcoming project and that it will focus on value addition and will consider only those cooperatives who were successful in Phase I, and are showing seriousness and willingness in their commercial farming.	The project will conduct consultations at district and community levels. At the community level the project will utilise the district councils to use existing local structures.
Anticipated positive impacts	The project will improve their agriculture productivity, incomes and living standards.	MFSRP and the AF has been designed to promote these beneficial

Guiding Question	Opinion and questions	Response Provided
of MFSRP and the AF project	Provide a source of funding to finance their desired projects to facilitate their agriculture improvement journey e.g. transportation means/ vehicle, ware houses, etc.	impacts and will also reach out to a wider group of farmers.
	More participation of farmers and producers into joining cooperative for agriculture commercialisation.	
	Extension of their value chains and focus on value addition/ processing and manufacturing.	
	Job creation and increased capital base per member including size of their enterprises.	
	Improved market accessibility.	
	Improvement of knowledge and skills base through trainings.	
Anticipated negative impacts of the project	Loss of vegetation and biodiversity around the project area owing to large scale farming and more vegetative feed needs for livestock.	Site specific ESIAs or ESMPs will have biodiversity management interventions.
	Intensive agro-chemical use e.g., antibiotics and herbicides residues can affect soil, water and health of people.	Project will put in place an integrated pest management plan
	Dust emissions from construction activities and air pollution from cow dung emissions in dairy value chains and noise pollution from installed machinery.	The project will promote use of water sprays to prevent dust generation from earth works. Further, the project will promote modern livestock management practices to prevent air pollution from livestock waste.
	Land conflicts and encroachment.	The project has an RFP that will guide in land acquisition procedures to avoid such conflicts.
Potential Social negative impacts of the project	Increased production may drive prices of produce and products to lower side.	The project will equip the farmers is finding good markets.
	Frequency of the meetings may enhance social interactions and therefore increase possibility of people engaging in risky behaviours that may increase spreading of HIV/AIDS, STIs, and Covid-19.	The project will continuously sensitise the POs and other stakeholders on avoiding and protecting themselves from contracting and spreading of HIV/AIDS, STIs, and Covid-19
	Risk of accidents during construction activities.	The project will have rules for contractors, which specify on occupational safety and health for the workers but also protect the communities.
	Increased theft and vandalism of equipment.	The project will work with community policing structures including sensitising communities on reporting suspects of theft and vandalism through CGRM reporting procedures.

Guiding Question	Opinion and questions	Response Provided
	Disruptions of marriages.	The project will continuously sensitise the POs and other stakeholders on prevention of marriages. A code of conduct for workers will also be put in place with clearly laid up punishments for disturbing marriages.
	Corruption and favouritism by/on other members of producer's groups.	The GRCs will be empowered to encourage reporting of such cases.
	Child labour and breaking of other labour laws.	The project will sensitise communities about child labour and this will be done with the support from the district labour office which is conversant with child labour issues in the districts.
How best can information about MFSRP and the AF reach out to the group and even a wider audience in the community? (Community sensitization)	The cooperative members should be on the forefront sensitising other communities' members on AGCOM and its objectives. During sensitisations, the members are expected to wear caps, cloths, t-shirts with AGCOM messaging.	The SEP will put in place processes to ensure that national sensitisation is supported by the districts such as use of community radios and using existing district agriculture structures.
	Public address system use and shows.	
	Local chiefs should also participate in sensitising their communities about AGCOM.	
	Posters and flyers should be made and distributed around the area, focusing on communities and cooperatives.	

5.4 Public Disclosure

Public disclosure of the project is important to allow stakeholders or public to appreciate the impacts of the project on their lives and environment. Project disclosure can take place during feasibility stage or planning stage or implementation stage. Disclosure of the project activities helps to gather wider views on the project and enlist support from local communities. Among others public disclosure of the project must cover rationale of the project, nature of the project, period of implementation, areas of implementation, potential impacts and proposed mitigation measures.

Public disclosure for Malawi Agricultural Commercialisation Project will follow several stages through various stages and means. These include:

a) Briefs by government officials to news reporters and district information officers at district consultative meetings and briefs to local leaders and non-governmental agencies. These have already been done.
b) Another important public disclosure has been through radio announcement. Government officials announced publicly through radio and Malawi Broadcasting Corporation regarding Malawi Agricultural Commercialisation Project.

c) Some members of public will be informed of the project through distribution of the project documents in district commissioner's offices, libraries in towns and districts.
d) The environmental and social management framework, resettlement policy framework, and integrated pest management plan will be posted on websites for various government agencies and World Bank Info. The arrangement will allow more people access information on the project and make informed views and opinions.

5.5 Grievance Redress Mechanisms on Sub-project Activities

Implementation of projects activities under MFSRP and the AF will take place in various locations of the districts. Implementation of the activities may generate several challenges and complaints especially to those which relate to infringement of rights of sections of the society. Examples of complaints include procurement related grievances, payment related grievances where contractors, consultants, and providers of goods, supplies and services may be aggrieved by delays in their payments, investor related grievances discrimination among farmers on irrigation schemes, compensation related grievances, encroachment on private land, gender-based violence, harassment of women, and marginalisation of women and other vulnerable groups. Such grievances are likely to crop up in one way or another in implementation sub-projects under MFSRP and the AF. Since commercial farms will be community based, negotiation and agreement by consensus will provide the first avenue to iron out and resolve any compliant or grievances expressed by the individuals, the landowners, or households whose land and properties might be affected. The communities will ensure that resettlement related grievances should be addressed during the identification and appraisal of sites.

Proper channels of grievance redress mechanisms will be put in place, and the project affected people sensitised to make use of them. This GRM will adopt a cascade model in which grievances will be managed, successively, through grievances redress committees. The committees are the National Project Grievance Redress Committee (NPGRC), the District Grievance Redress Committee (DGRC) and the Community Grievance Redress Committee (CGRC). There will also be a workers' grievance redress committee (WGRC) for work or labour related grievances.

A notion of multiple-entry points for a grievance is encouraged in this GRM. For example, a grievance can lodged at WGRC, CGRC, DGRC or NPGRC depending on where or committee level the grievance has emerged. It is nevertheless emphasized here that the same grievance cannot be lodged simultaneously at different grievances redress committee. A grievance can only be referred to a higher committee through an appeals process. Below is the brief description of the committee:

National Project Grievance Redress Committee (NPGRC) will manage grievances at national level. Chairperson of AGCOM Project Technical Committee (PTC) will chair the committee while the AGCOM National Project Coordinator will be Secretary. Others that may attend will include AGCOM Social Safeguards Specialist, District Commissioner, Director of Agriculture and Natural Resources (DANR), traditional authority (TA), Group village head (GVH) or

village head from where the grievance originated. Where applicable, a contractor or consultant and a representative of a contractor or consultant employees will attend. Their inclusion will ensure that they are aware of the existence of the GRM platform

District Grievance Redress Committee (DGRC) will manage grievances at district level. District of administration will chair the committee while Environmental District Officer (EDO) will be Secretary. A T/A or group village head where the grievance originated from may attend. Where applicable, a contractor or consultant and a representative of a contractor or consultant employees will attend.

Community Grievance Redress Committee (CGRC) will be established at and manage grievances at community level. For the purpose of this GRM, a community comprises villages in a catchment area served by an AGCOM sub-project (e.g. a producer organisation sponsored by AGCOM or an irrigation scheme or a road being constructed or rehabilitated under AGCOM support). The committee will elect their own chairperson and secretary. A village head where the grievance originated from will attend. Group village head will be advisor. Where applicable, a contractor or consultant and a representative of a contractor or consultant employees may attend. Currently a total of 57 CGRC have been established and oriented on their roles and responsibilities.

Workers Grievance Redress Committee: In the case of work-related grievance, employed workers will present their complaints or grievances to the Workers Grievance Redress Committee (WGRC). Membership will be (1) Two worker representatives, (2) Client representative, (3) Consultant representative, (4) Contractor representative and (5) District Labour Officer.

Access to World Bank Grievance Redress system: Malawi Government will also ensure that communities and individuals in project locations are aware of World Bank Grievance Redress System. Government will disclose simple system of submitting issues of concern through letters or newspapers. People who believe that they are adversely affected by project activities carried by contractors or communities may submit complaints (through letters or phones) to Grievance Redress Service (GRS) World Bank Malawi office. The letters would be reviewed by offices. The system ensures that complaints received are promptly reviewed to address project-related concerns. Project affected communities and individuals may also submit their complaint to the Bank's independent Inspection Panel, after having brought the complaint to the attention International Development Association through Malawi Country Office. Information on how to submit complaints to the Bank's Grievance Redress Service and the Bank Inspection Panel will be disclosed to the public during public disclosure of environmental and social management framework.

6 Environmental and Social Screening Process for Sub-projects

The Malawi Environment Management Act (2017) and the Guidelines for Environmental Impact Assessment in Malawi (1997) prescribe steps for environmental assessment impact for development projects in Malawi. However, these instruments do not contain guidelines regarding the screening, identification, assessment, and mitigation of potential localised impacts of small-scale investments, where the project details and specific project sites are not known.

Environmental and social screening process outlined below complements Malawi's EIA procedures for meeting the environmental and social management requirements, as outlined in Appendix C of Guidelines of Environmental Impact Assessment in Malawi (1997). The environmental and social screening process also meets the requirements of the World Bank's ESS 1. It provides a mechanism for ensuring that potential adverse environmental and social impacts of public works funded sub-projects are identified, assessed, and mitigated as appropriate through an environmental and social screening process. In this way the results of the screening process can complement the national environmental assessment process.

Purpose of environmental and social screening Since the specific details and locations of the new construction and rehabilitation works under the AF are not known at this time, the environmental and social screening process (the screening process) is necessary for the review and approval of the engineering plans for the development of new and rehabilitation of existing facilities. The objectives of the screening process are to:

a) Determine the level of environmental work required (i.e. whether an ESIA is required or not; the requirement and the scope of ESMP to be prepared; whether the application of simple mitigation measures will suffice; or whether no additional environmental work required);
b) Determine appropriate mitigation measures for addressing adverse impacts;
c) Determine which rehabilitation and reconstruction activities are likely to have potential negative environmental and social impacts;
d) Facilitate the review and approval of the screening results of the sub-projects;
e) Provide guidelines for monitoring environmental and social parameters during the construction, rehabilitation, operation of the sub-projects.

6.1 Steps in Environmental and social screening of the projects

The extent of environmental work that might be required, prior to the commencement of construction or rehabilitation of rural warehouses, construction of feeder roads and rehabilitation of the sub-projects will depend on the outcome of the screening process by District Environmental Sub Committee (DESC) described below.

Step 1: Screening of Sub-project activities and sites.

The first exercise is desk appraisal of the construction and rehabilitation plans, including infrastructure designs. This will be carried out by the DESC at the district level.

Secondly, the DESC, which includes the Environmental District Officer, will carry out the initial screening in the field, using the Environmental and Social Screening Form (Annex 2).

The screening form will facilitate the identification of potential environmental and social impacts, the determination of their significance, the assignment of the appropriate environmental category, the determination of appropriate environmental and social mitigation measures, and the need to conduct an environmental and social impact assessment (ESIA). To ensure that the screening form is completed correctly for the various project locations and activities, training should be provided to members of the DESC as part of strengthening community level structures.

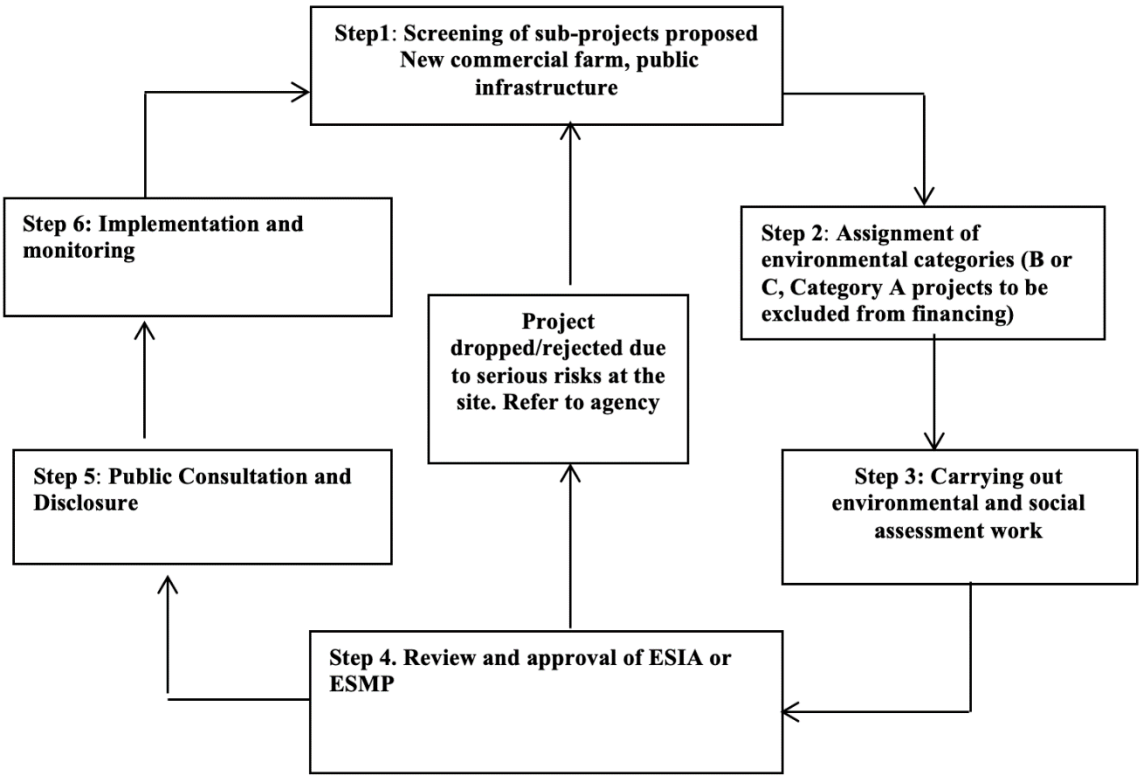

Figure 6-1: The flow diagram for screening activities for sub-projects

<u>Step 2: Assigning the appropriate environmental categories</u>

The screening aims at categorizing the sub-projects into one of the following environmental and social categories. The Environmental Specialist in charge of the screening will propose the environmental category in consultation with the Social Specialist as necessary. Screening will also help to propose whether MFSRP and AFwill further require a Resettlement Action Plan (RAP), per procedures outlined in the Resettlement Policy Framework. Environmental and social risk classification takes into account relevant potential risks and impacts, such as:

a. the type, location, sensitivity and scale of the subProject including the physical considerations of the Project; type of infrastructure (e.g., dams and reservoirs, power plants, airports, major roads); volume of hazardous waste management and disposal;

b. the nature and magnitude of the potential ES risks and impacts, including impacts on greenfield sites; impacts on brownfield sites including (e.g., rehabilitation, maintenance or upgrading activities); the nature of the potential risks and impacts (e.g. whether they are irreversible, unprecedented or complex); resettlement activitiesand possible mitigation measures considering the mitigation hierarchy;
c. the capacity and commitment of the Government of Malawi to manage such risks and impacts in a manner consistent with the ESSs and Malawi's policy, legal and institutional framework; laws, regulations, rules and procedures applicable to the Project sector, including regional and local requirements; the technical and institutional capacity of the Government of Malawi; the Government of Malawi's track record of past Project implementation; and the financial and human resources available for management of the MFSRP and AF;
d. other areas of risk that may be relevant to the delivery of ES mitigation measures and outcomes, depending on the specific Project and the context in which it is being developed, including the nature of the mitigation and technology being proposed, considerations relating to domestic and/or regional stability, conflict or security.

High Risk:

A Project is classified as ***High Risk*** after considering, in an integrated manner, the risks and impacts of the Project, taking into account the following, as applicable.

a. The MFSRP and AF is likely to generate a wide range of significant adverse risks and impacts on human populations or the environment. This could be because of the complex nature of the Project, the scale (large to very large) or the sensitivity of the location(s) of the sub Project activities. This would take into account whether the potential risks and impacts associated with the MFSRP and AF have the majority or all of the following characteristics:
    i. long term, permanent and/or irreversible (e.g., loss of major natural habitat or conversion of wetland), and impossible to avoid entirely due to the nature of the MFSRP and AF;
    ii. high in magnitude and/or in spatial extent (the geographical area or size of the population likely to be affected is large to very large);
    iii. a high probability of serious adverse effects to human health and/or the environment (e.g., due to accidents, toxic waste disposal, etc.);
b. The area likely to be affected is of high value and sensitivity, for example sensitive and valuable ecosystems and habitats (legally protected and internationally recognized areas of high biodiversity value), lands or rights of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities and other vulnerable minorities, intensive or complex involuntary resettlement or land acquisition, impacts on cultural heritage or densely populated urban areas.
c. Some of the significant adverse ES risk and impacts of the MFSRP and AF cannot be mitigated or specific mitigation measures require complex and/or unproven mitigation, compensatory measures or technology, or sophisticated social analysis and implementation.

d. There are significant concerns that the adverse social impacts of the MFSRP and AF, and the associated mitigation measures, may give rise to significant social conflict or harm or significant risks to human security.
e. There is a history of unrest in the area of the Project or the sector, and there may be significant concerns regarding the activities of security forces.
f. The MFSRP and AF is being developed in a legal or regulatory environment where there is significant uncertainty or conflict as to jurisdiction of competing agencies, or where the legislation or regulations do not adequately address the risks and impacts of complex Projects, or changes to applicable legislation are being made, or enforcement is weak.
g. The past experience of the Borrower and the implementing agencies in developing complex Projects is limited, their track record regarding ES issues would present significant challenges or concerns given the nature of the Project's potential risks and impacts.
h. There are significant concerns related to the capacity and commitment for, and track record of relevant Project parties, in relation to stakeholder engagement.
i. There are a number of factors outside the control of the Project that could have a significant impact on the ES performance and outcomes of the Project.

Substantial Risk:

A Project is classified as ***Substantial Risk*** after considering, in an integrated manner, the risks and impacts of the Project, taking into account the following, as applicable.

a. the Project may not be as complex as High Risk Projects, its ES scale and impact may be smaller (large to medium) and the location may not be in such a highly sensitive area, and some risks and impacts may be significant. This would take into account whether the potential risks and impacts have the majority or all of the following characteristics:

    i. they are mostly temporary, predictable and/or reversible, and the nature of the Project does not preclude the possibility of avoiding or reversing them (although substantial investment and time may be required);
    ii. there are concerns that the adverse social impacts of the Project, and the associated mitigation measures, may give rise to a limited degree of social conflict, harm or risks to human security;
    iii. they are medium in magnitude and/or in spatial extent (the geographical area and size of the population likely to be affected are medium to large);
    iv. the potential for cumulative and/or transboundary impacts may exist, but they are less severe and more readily avoided or mitigated than for *High Risk* Projects; and
    v. there is medium to low probability of serious adverse effects to human health and/or the environment (e.g., due to accidents, toxic waste disposal, etc.), and there are known and reliable mechanisms available to prevent or minimize such incidents;
b. The effects of the Project on areas of high value or sensitivity are expected to be lower than High Risk Projects.
c. Mitigatory and/or compensatory measures may be designed more readily and be more reliable than those of *High Risk* Projects.

d. The Project is being developed in a legal or regulatory environment where there is uncertainty or conflict as to jurisdiction of competing agencies, or where the legislation or regulations do not adequately address the risks and impacts of complex Projects, or changes to applicable legislation are being made, or enforcement is weak.
e. The past experience of the Borrower and the implementing agencies in developing complex Projects is limited in some respects, and their track record regarding ES issues suggests some concerns which can be readily addressed through implementation support.
f. There are some concerns over capacity and experience in managing stakeholder engagement but these could be readily addressed through implementation support.

Moderate Risk:
A project is classified *as **Moderate Risk*** after considering, in an integrated manner, the risks and impacts of the Project, taking into account the following, as applicable:

a. the potential adverse risks and impacts on human populations and/or the environment are not likely to be significant. This is because the Project is not complex and/or large, does not involve activities that have a high potential for harming people or the environment, and is located away from environmentally or socially sensitive areas. As such, the potential risks and impacts and issues are likely to have the following characteristics:
    i. predictable and expected to be temporary and/or reversible;
    ii. low in magnitude;
    iii. site-specific, without likelihood of impacts beyond the actual footprint of the Project; and
    iv. low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.).
b. The Project's risks and impacts can be easily mitigated in a predictable manner.

Low Risk:
A project is classified as ***Low Risk*** if its potential adverse risks to and impacts on human populations and/or the environment are likely to be minimal or negligible. These Projects, with few or no adverse risks and impacts and issues, do not require further ES assessment following the initial screening.

If an abbreviated resettlement action plan (RAP) has to be prepared for sub-projects, these would be reviewed and approved by the Commissioner for Lands and Valuation, consistent with the resettlement policy framework, prior to initiating compensation and commencement of project activities.

Each local council will ensure that members of the DESC should receive appropriate environmental and social training so that they can perform this function effectively. The environmental district officer is the secretariat to the DESC and will therefore take a leading role in capacity building issues of the DESC.

Step 3: Carrying out environmental and social works

After reviewing the information provided in the environmental and social screening form, and having determined the appropriate environmental category, the DESC will determine whether (a) the application of simple mitigation measures outlined in the environmental and social checklist will suffice; (b) a comprehensive environmental and social impact assessment (ESIA) will need to be carried out, using the national environmental assessment guidelines; or (c) no additional environmental work will be required. ESIA reports are subject to approval by the Malawi Environment Protection Authority (MEPA).

a) Use of The Environmental and Social Checklist:

Generic checklists on environmental and social impacts have been prepared and are attached as Annex 3. The checklists cover potential environmental and social impacts in construction works as well as typical mitigation measures. The environmental and social checklist will be completed by DESC. Some of the activities categorised as B might benefit from the application of mitigation measures outlined in the checklist.

In situations where the screening process identifies the need for land acquisition and the project impacts on assets, causes a loss of livelihood, and/or restricts access to natural resources, a Resettlement Action Plan shall be prepared consistent with the standards and guidelines set forth in the resettlement policy framework.

Where standard designs will be used, the DESC, in consultation with the District Commissioner will assess impacts on the chosen land site and the community; and modify the designs to include appropriate mitigation measures. For example, if the environmental screening process identifies loss of fertile agricultural fields as the main impact from the construction of a water storage reservoir, the mitigation measure would be for the DESC and members of the planning team to choose a site further away from the fertile gardens so that the livelihood systems are maintained.

b) Carrying Out Environmental and Social Assessment for Sub-projects

The environmental and social impact assessment process will identify and assess the potential environmental and social impacts of the proposed construction activities, evaluate alternatives, as well as design and implement appropriate mitigation, management, and monitoring measures. These measures will be captured in the Environmental and Social Management Plan (ESMP) which will be prepared as part of the environmental and social impact assessment process for each sub-project, based on the environmental and social screening.

Preparation of the environmental and social impact assessment and environmental management plans will be carried out in consultation with the Malawi Environment Protection Authority (MEPA). The PIU in close consultation with MEPA will arrange for the (i) preparation of Environmental and Social Impact Assessment terms of reference; (ii) recruitment of a service provider to carry out the ESIA; (iii) public consultations; and (iv) review and approval of the ESIA through the national ESIA approval process. A parallel exercise of preparation of

resettlement action plan (RAP) will also commence, if determined as required by the procedure outlined in the RPF.

Step 4: Review and approval of the screening activities

Under the guidance of the DESC, the relevant sector committees at the district level will review (i) the results and recommendations presented in the environmental and social screening forms; and (ii) the proposed mitigation measures presented in the environmental and social checklists.

Where an environmental impact assessment has been carried out, MEPA will review the reports to ensure that all environmental and social impacts have been identified and that effective mitigation measures have been proposed.

Step 5: Recommendation for approval of environmental assessment reports.

Based on the results of the above review process, and discussions with the relevant stakeholders and potentially affected persons, the DESC, in case of projects that don't require environmental assessment, will make recommendations to the District Executive Committee (DEC) for approval or disapproval of the screening results and proposed mitigation measures. As regards ESIA reports, MEPA will review ESIA reports and subsequently approve them as is stipulated in the Environment Management Act of 2017. The bank will also review and approves all other project and subproject screening reports, ESIAs and ESMPs.

6.2 Chance find procedure

A Chance Find Procedure(CFP) is a process that prevents archaeological artefacts from being disturbed until an assessment by a competent specialist is made and actions consistent with the requirements are implemented. This procedure is applicable to all activities conducted by local contractors that that could uncover a heritage item or site. The procedure details the actions to be taken when a previously unidentified and potential heritage item or site is found during construction activities. CFP ensures proper handling and preservation of cultural heritage while minimizing project disruptions.

If any person discovers a physical cultural resource, such as (but not limited to) archaeological sites, historical sites, remains and objects, or a cemetery and/or individual graves during excavation or construction, the following steps shall be taken:

a) Stop all works in the vicinity of the find, until a solution is found for the preservation of these artefacts, or advice from the relevant authorities is obtained;
b) Immediately notify the artisan. The artisan will then notify the clerk of works who shall also notify the District Environment Officer (EDO).
c) Record details in incident report and take photos of the find;
d) Delineate the discovered site or area; secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities take over;

e) Preliminary evaluation of the findings by archaeologists. The archaeologist must make a rapid assessment of the site or find to determine its importance. Based on this assessment the appropriate strategy can be implemented. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage such as aesthetic, historic, scientific or research, social and economic values of the find;
f) Sites of minor significance (such as isolated or unclear features, and isolated finds) should be recorded immediately by the archaeologist, thus causing a minimum disruption to the work schedule of the artisan. The results of all archaeological work must be reported to the Ministry responsible for antiquities, once completed.
g) In case of significant find the Ministry responsible for antiquities should be informed immediately and in writing within seven days from the find.
h) The onsite archaeologist provides the Heritage team with photos, other information as relevant for identification and assessment of the significance of heritage items.
i) The Ministry must investigate the fact within two weeks from the date of notification and provide response in writing.
j) Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout or sites.
k) Construction works could resume only after permission is granted from the responsible authorities.
l) In case no response is received within the two weeks mentioned above, this is considered as authorization to proceed with suspended construction works.

7 Environmental and Social Impacts and Management Plans

The proposed MFSRP and AF consists of various components or sub-projects. Sub-projects such as development of construction or rehabilitation of rural warehouses, construction of feeder roads, rehabilitation of irrigation schemes, construction of electricity and portable water infrastructure are expected to generate some significant environmental and social impacts in project locations. The purpose of this chapter is to screen and highlight typical potential environmental and social impacts from main rehabilitation and reconstruction works of MFSRP and the AFProject.

7.1 Methodology of impact identification

The general approach adopted in screening environmental and social impacts is to adopt a life cycle dimension of the project. In this approach, impacts are examined at each main phase of implementation. Construction or rehabilitation of rural warehouses, feeder roads, rehabilitation of irrigation schemes are categorised into three logically linked phases are as follows.

a) *Planning and design phase*. Main activities include preparation of project plans and designs, recruitment of labourers, establishment of contractor's camps
b) *Development or rehabilitation phase*. Main activities are land clearance, compaction of road surface, building works, installation works, excavation of foundations, construction of feeder roads, electricity, and portable water infrastructure
c) *The operational and maintenance phase*. Main activities include use of irrigation schemes, use of feeder roads, electricity and portable water facilities, use of warehouses or market centres, use of pesticides in schemes and warehouses

Basically, the process of environmental screening involves exploration and examination of possible changes and externalities to the public and environment. The following basic steps are followed to effectively scope the potential impacts of the project:

Step One: Assessment of baseline information in the project impact area.
The exercise involves analysis of data and familiarisation with information on the physical environment of the project area, human settlements, the demographic pattern oand economic and social conditions of the project area. The information is used as reference point for evaluating potential changes and externalities which would result from project implementation.

Step Two: Review the main machinery and inputs in project activities.
The necessity of this step was to examine the potential changes and impacts due to the proposed project machinery and inputs in activities within the project area. For example, the use of tractors on farms and machinery on construction sites generate some environmental impacts. Use of pesticides on irrigation schemes have impacts on water and wildlife.

Step Three: Review the nature and quantities of the main outputs

The aim of this step is to examine the potential changes and impacts which could be brought about by the delivery and use of project outputs. Examples of outputs are rehabilitated irrigation schemes, construction or rehabilitation of rural warehouses, last mile service infrastructure (feeder roads, electricity and portable water facilities)

Step Four: Identification of the risks of impacts from works

Upon examination of the scope and project implementation strategy, checklist can be used to predict the main impacts. One common tracking system used is the Leopold Type Matrix which guided on identification of primary impacts on components of environment from categories of infrastructure related projects. The identification of secondary level impacts and the social impacts relied on the professional experience of the technical officers involved in the screening processes.

7.2 Summary of potential negative environmental and social impacts

This step involved the systematic outline of the identified impacts, their sources or causes and the potential risks and effects of the impacts in the project impact area. This chapter presents sampled screening of impacts for MFSRP and AF . These are construction or rehabilitation of rural warehouses and rehabilitation of irrigation schemes, and development of last mile public infrastructure (feeder roads, electricity, and portable water facilities). Table 7-1 outline of the predicted main negative impacts, the potential sources of the impacts from development of construction or rehabilitation of rural warehouses and rehabilitation of small-scale irrigation schemes in rural areas of Malawi. Table 7-2 presents potential impacts from commercial livestock farms.

Table 7-1: Outline of potential environmental and social impacts from development of rural warehouses, feeder roads, electricity and potable water facilities

Component of the environment to be affected.	**impacts.**	**Source of impacts/cause of the impacts**	**Potential severity.** ***Ranking Key:*** *severe, moderate, marginal*
Vegetation Resources	Loss of vegetation (trees) and greenery beauty along the road during project period.	Increase in tree felling for fuel wood by increased labour force.	Moderate
	Spread of invasive alien plants.	Spread by contaminated construction equipment or workers through transfer of seed.	
Land and Soil resources	Creation of borrow pits.	Gravel excavation, top soil stripping and road gravel.	Moderate
	Incision of road verges and culverts.	Construction of new roads side drains.	Moderate
	Increase in surface runoff and soil erosion.	Clearance of vegetation at and compaction of roads.	Moderate
	Pollution of land by solid wastes.	Disposal of solids from camps of contractors.	Marginal
	Pollution of soil from contamination of petroleum products.	Leakages and spillage from vehicles and construction equipment, storage facilities and maintenance workshop.	Moderate
Water Resources	Increase in suspended solids and sediments delivery into surface water bodies such as rivers and dams.	Increase in surface discharge from premises. This would be due compaction of land within the premises.	Moderate
	Pollution of groundwater and surface water from sewage from offices, staff houses.	Open defecation and urination by construction workers.	Moderate
	Pollution from spillage of petroleum products.	Leakages or spillage of diesels and oils from storages and maintenance workshops.	Moderate
Ambient Air and Climate change	Dust emissions from construction works during construction phase.	Project civil works and heavy equipment in fields and on dusty roads during dry season.	High
	Noise and vibrations from construction equipment and trucks.	Project civil works within construction phase.	Marginal
	Emissions of greenhouse gases (carbon dioxide, nitrogen and Sulphur) into air.	Gases are released from exhausts of vehicles and construction plants.	Moderate
Local Communities	Influx of migrant workers leading to competition of land and natural resources in the area.	Migration of people and their families seeking employment.	Moderate
	Creation of unsightly workers camps with poor sanitary conditions within the	Migration of people and their families looking for job opportunities at construction sites.	Moderate

Component of the environment to be affected.	impacts.	Source of impacts/cause of the impacts	Potential severity. ***Ranking Key:*** *severe, moderate, marginal*
	periphery of construction sites.		
	Risks of interferences in local marriages.	Extra marital affairs instigated by some migrant workers.	Moderate
	Risks of introduction and spread of communicable diseases and sexually	Interactions between migrant workers and local people; extra marital.	Moderate
	transmitted diseases including HIV and AIDS	affairs by some migrant workers with local girls in the area.	
	Conflicts between migrant workers and local people.	This may rise due to high social and economic differentiation between workers and local people;	Marginal
		This may arise due competition for jobs and due to interferences in	
		local marriages by unmarried migrant workers.	
	Disruption of communal paths.	Closure of some local paths which pass through and across the road	Moderate
	Risks of poor sanitation within housing areas.	Increase in employment of more workers may lead to establishment of overcrowded temporary housing compounds with poor sanitary facilities.	Moderate
	Risks of child labour in some activities at road rehabilitation/upgrading activities.	Recruitment of under aged persons and within senior staff quarters may enhance local children dropping from school in option of work at construction sites or at the airport.	Marginal
Rural Livelihoods	Reduced availability of sources of fuel wood, mushrooms and medicinal plants.	Clearance of natural trees within the area due to demand for fuel wood in the area.	Marginal
	Reduced availability of labour for local agricultural activities.	Most people in the economic active age would be engaged in short term work at the cement works, thereby leading to shortage of labour in local gardens.	Moderate
	Increase in losses of assets such as chicken, and goats.	Increase in theft in the area due to influx of migrant workers, some who may enhance theft of assets for sale.	Marginal
	Loss of properties due to relocation or demolition during road construction works.	Structures along the roads.	Moderate

Component of the environment to be affected.	impacts.	Source of impacts/cause of the impacts	Potential severity. ***Ranking Key:*** *severe, moderate, marginal*
Health and Safety	Risks of introduction and spread of communicable diseases and sexually	Interactions of migrant workers and local people; increase in sexual	Moderate
	transmitted diseases including HIV and AIDS	interactions between employed migrant workers and local women	
	Nuisance from emissions from burning of asphalt	Heating of bitumen by construction workers	Marginal
	Risks of occupational diseases for workers.	Dust particles and contaminated air within premises can cause respiratory diseases among workers.	Marginal
	Risk of vehicle and machinery accidents.	Increased presence of construction equipment and increased use of machinery.	Marginal

Table 7-2: Outline of environmental and social impacts from rehabilitation and operations of irrigation schemes

Component of the environment to be affected.	impacts.	Source of impacts/cause of the impacts	Potential severity. ***Ranking Key:*** *severe, moderate, marginal*
Vegetation Resources	Extensive loss of natural vegetation and greenery beauty.	Clearance of vegetation within land and possible increase in extraction of firewood due to increase in demand.	Moderate
	Proliferation of invasive plants.	Clearance of vegetation within project area and possible increase in extraction of firewood due to increase in demand.	
			Moderate
Wildlife Resources	Loss of habitat for wild animals.	Clearance of vegetation within project area for the estate.	Moderate
	Loss of biodiversity such as snakes, butterflies, mice and micro-organisms.	Clearance of vegetation within project area of the estate.	Moderate
		Pre-harvesting burning of mature cane fields	
Land and Soil Resources	Creation of burrow pits.	Top soil stripping; excavation of construction soil and road gravel.	Moderate
	Incision of road verges and culverts.	Construction of scheme roads.	Moderate
	Increase in surface runoff and soil erosion.	Clearance of vegetation and compaction of roads.	Moderate
	Pollution of soil from contamination of petroleum products	Leakages and spillage from earthmoving and agricultural equipment, storage facilities and maintenance workshop	Moderate

Component of the environment to be affected.	impacts.	Source of impacts/cause of the impacts	Potential severity. *Ranking Key: severe, moderate, marginal*
	Risks of degradation of soil	Excess use of agro chemical, over utilisation of soils, nutrient depletion	Moderate
	Disturbance to the growth of micro - organisms	Land clearance and application of herbicides to soils.	Moderate
Water Resources	Increase in suspended solids and sediments delivery into surface water bodies	Increase in surface discharge.	Moderate
	Pollution of groundwater and surface water resources	Open defecation and urination by construction workers.	Moderate
		Spillage from petroleum products.	
	Pollution from spillage of petroleum products	Leakages or spillage of diesels and oils from storages and maintenance workshops.	Moderate
	Pollution from agro-chemicals	Spillage in storage and improper use of agro chemicals.	Moderate
	Increase in siltation and deterioration of water quality in streams within the area	Increase in soil erosion and debris from the cleared land	Marginal
	Water logging and salinisation of the soils of the area	Excessive water supply to the scheme area	Moderate
		Excessive compaction of the scheme are and poor internal drainage.	
		Excessive application of chemical fertilisers within the scheme	
	Risks of loss of aquatic fauna within streams within the project area	Increase in pollution from residues of agro -chemicals	Marginal
Ambient Air	Dust emissions in the area	Project civil works and agriculture machinery in fields and on dusty roads during dry season	Marginal
	Noise pollution	Project civil works and trucks to and from the scheme	Marginal
	Green house emissions	From project vehicles and project machinery	Marginal
Local Communities (social impacts)	Disputes in allocation of land for production within the scheme	Corrupt practices and favoritism by those who would be charged in land allocation to potential smallholder growers.	Moderate
		Inclusion of migrant people in allocation of land at the scheme	
	Marginalisation of vulnerable groups including women in	Corruption and favoritism in the process of land allocation and registration of growers	Moderate

Component of the environment to be affected.	impacts.	Source of impacts/cause of the impacts	Potential severity. ***Ranking Key:*** *severe, moderate, marginal*
	land allocation (blocks) at the scheme	Inclusion of migrant people/workers in land allocation at the scheme	
	Influx of migrant workers leading to competition of land and natural resources in the area	Migration of people and their families looking for job opportunities at the scheme	Moderate
	Risks of interferences in local marriages	Extra marital affairs by some migrant workers at the scheme	Moderate
	Risks of introduction and spread of communicable diseases and sexually transmitted diseases including HIV and AIDS	Interactions between migrant workers and local people; extra marital affairs by some migrant workers,	moderate
	Conflicts between migrant workers and local people	This may rise due to high social and economic differentiation between scheme workers and local people;	Moderate
		Competition for jobs at the scheme, migrant workers and local people	
	Closure of communal foot paths	Closure of some paths on the land of the proposed project site.	Moderate
	Increase in losses of assets such as chicken, doves and goats	Increase in theft in the area due to influx of migrant workers, some who may enhance theft of assets for sale.	Moderate
Rural Livelihoods	Reduced availability of sources of fuel wood and medicinal plants	Clearance of vegetation within some parts of the scheme.	Marginal
	Loss of land for food crop production	Conversion of some land for irrigation infrastructure.	Marginal
	Loss of land for grazing livestock and goats	Clearance of grass and vegetation within the 500 hectares were some local communities graze livestock and goats.	Marginal
	Reduced labour force for food production in smallholder		
Health and Safety risks to workers and local people	Introduction and spread of communicable diseases and sexually transmitted diseases including HIV/ and Aids	Interactions of migrant workers and local people.	Marginal
	Risks of poisoning from agro chemicals by workers	Accidental spillages and exposure to agro chemicals in storage and during use.	Marginal

Component of the environment to be affected.	impacts.	Source of impacts/cause of the impacts	Potential severity. ***Ranking Key:*** *severe, moderate, marginal*
	Local people exposure and poisoning from agro-chemicals	Accidental spillage of agro-chemicals and unauthorized access to agro-chemicals in storage facilities.	Marginal
	Physical injuries and cuts – falling from machinery	Accidents in falling from machinery vehicles; skin cuts during harvesting of cane.	Marginal
	Prevalence of pools of stagnant water and multiplication of mosquitoes in the area	Poor internal soil drainage r within the irrigated scheme, roads and cane fields	Marginal
	Multiplication of harmful pests –rodents and snakes	Within irrigation fields	Marginal

7.3 Assessment of potential cumulative negative impacts

The MFSRP and AF Project would trigger short and long term environmental and social impacts in the environment. Impacts within short term will include those which can be felt immediately upon implementation of activities and occur within 5 years. Most of these impacts have short term and localised effects. On the other hand, some impacts from agricultural activities have long term negative effects and to the wider communities and environmental resources in general. Some of these impacts will build up after accumulation of effects over a set period. The following paragraph summarises some potential cumulative environmental and social impacts from selected components of The Malawi Agricultural commercialisation Project.

7.3.1 Generic impacts on construction of various infrastructure facilities

7.3.1.1 7.3.1.1 Increased incidences of child labour

Child labour, which can either be forced or harmful, needs to be addressed as part of the employment plan. According to the International Finance Corporation (IFC, 1998), poverty is the main reason children are forced to work and the supply of child labour is directly linked to the need for children to provide supplemental income for their families or to support themselves.

Mitigation measures:

i. Include a clause in the contract with the construction contractor that prohibits any forms of child labour on the project;
ii. Display posters at the project site that warn and inform against child labour;

iii. Empower existing local structures (e.g. Village Development Committees) to conduct sensitisation meetings on prevention of child labour in their surrounding communities; and
iv. Put in place proper procedures for reporting and addressing child labour cases.

7.3.1.2 Increased risk of Sexual Exploitation and Abuse and Gender Based Violence

Construction workers will have extra disposable income that may lead to the harassment and sometimes molestation of women in general and specifically their wives. Likewise, some women working at the project sites may harass their unemployed husbands, due to increased disposable incomes. Female workers may also be harassed by the male workers at the project sites in form of abusive language and physical harassment such as demanding sex from them. Similarly issues of GBV are likely to occur as a direct outcome from the project activities.

Mitigation measures:

i. Enforce punitive and disciplinary measures, including dismissal from employment on any project workers involved in any social malpractices with surrounding communities;
ii. Develop and enforce a policy to prohibit SEA and sexual harassment in the workplace. The policy will include an incident referral and reporting plan;
iii. Communicate to all employees and all subcontractors that sexual exploitation and abuse offences will result into immediate investigation, and/or potential suspension or potential termination of the contract and involvement of the police and the courts more serious offences such as sexual assault; and
iv. Setup a grievance redress mechanism to capture sexual harassment-related issues or suspected sexual harassment actions. The GRM should be accessible, functional and gender sensitive.

7.3.1.3 Increased generation of dust

Dust and particulate matter emission are anticipated during construction and will be a short-term impact. Construction work produces dust because of material and vehicle movement; excavation works and land clearing; and construction activities. Dust and particulates can present respiratory problems as well as potential allergic reactions when inhaled. Project workers, especially those that will be exposed to dust and exhaust gas emissions, may suffer from respiratory disorders. In addition, dust can cause nuisance problems when re-deposited on clothes and surfaces; and can hinder visibility. However, it is considered unlikely that ambient air quality standard will be exceeded.

Mitigation measures:

i. Cover all transported materials with tarpaulins and to prevent fugitive dust;
ii. Restrict the removal of vegetation and soil cover to the construction site for the project;
iii. Apply water to earth and gravel access roads and civil works to suppress dust;
iv. Compact loose soil after grading;
v. Minimize the time that bare soil remains exposed;
vi. Consider the stability of natural and manmade slopes; and

vii. Limit vehicle speeds to 20 km/hr within the construction site and 50 km/hr on community access roads to prevent generation of dust.

7.3.1.4 Increase in combustion emissions

In addition, the vehicle, electricity generators and other machines, which are likely to be used during construction, result in emission of gas and particulate elements during construction, result in emission of gas and particulate elements including carbon dioxide (CO_2), Sulphur dioxide (SO_2), Nitrogen Oxides (NOx) and various other hydrocarbons.

Mitigation measures:

i. Avoid burning of cleared vegetation by the workers;
ii. Use emission control devices on equipment;
iii. Use electric motors instead of internal combustion engines where possible;
iv. Maintain construction vehicles and equipment on set periods to minimize exhaust emissions; and
v. Avoid idling of vehicles unless impractical for health and safety reasons (for example, maintenance of air conditioning).

7.3.1.5 Surface and Ground Water Pollution

Construction works at the berm has the potential to affect the water quality of both surface and groundwater. These construction activities have the potential to affect the water quality through introduction of increased sediment loads into nearby rivers. Furthermore, chemical spills and improper storage of waste on the site might also lead to water contamination leading to health concerns for various water users. Use of mobile machinery during civil works will lead to water contamination due to burst hydraulic pipes and faulty machinery.

Sewage sludge will arise during construction phase from amenities throughout the site. It is anticipated that septic tank will be used throughout the project site during the construction, and will be combined with proper water, waste and sanitation systems. Potential impacts associated with the mismanagement of the liquid waste will be water pollution, localised land contamination and impacts to health.

Mitigation measures:

i. Train vehicle and fuel service truck drivers, mobile machinery operators, and fuel operators from the mobile fuel tanks, and workers working with hazardous chemicals in proper spill prevention and response;
ii. Use spill kit such as drip trays, absorbents and shovels to contain oil spills from vehicles or mobile machinery under service and for removal of contaminated soils;
iii. Refuel and service vehicles, machinery and equipment to be done on areas with an impermeable surface with containment capability;
iv. Appropriately site toilet facilities to minimise potential soil and surface/groundwater contamination impacts; and
v. Construct separate pit-latrines with hand washing basins for male and female workers and the total number should correspond to one wash basin to 20 employees.

7.3.1.6 Increased susceptibility of soil to erosion

Soil erosion is caused by the removal of soil particles from the landscape as a result of water and wind movement. During the construction phase, all soil forms will be susceptible to erosion to some extent because the natural vegetation will be cleared before construction takes place and this may lead to siltation of nearby rivers.

Mitigation measures:

i. Ensure that stripping of topsoil will not be conducted earlier than required (maintain vegetation cover for as long as possible) in order to prevent the erosion (wind and water) of organic matter, clay and silt;
ii. Ensure that stripped control measures such as intercept drains and toe berms will be constructed where necessary;
iii. Ensure that soil stockpiles will be sampled, ameliorated (if necessary) and re-vegetated as soon after construction as possible; and
iv. Ensure that access roads will be well drained to limit soil erosion.

7.3.1.7 Noise Pollution

Construction machinery will generate noise that may impair the hearing of workers as well as the nearby school and the surrounding community members. Maximum noises generated can be audible over long distance but are generally of short duration. If maximum noise levels exceed 65dBa at a receptor, or if it is clearly audible with a significant number of instances where the noise level exceeds the prevailing ambient sound level with more than 15dBA, the noise can increase annoyance levels and may ultimately result in noise complaints.

Mitigation measures:

i. Limiting civil works and noise generating activities to daytime between 06:00 – 18:00hrs;
ii. Use any other additional Standard Operating Procedures (SOPs) and best practices to manage sound in various operations.
iii. Noise levels at residential receptors should not exceed 55 dB (A). Noise levels for workers shall be kept below 80 dB (A), wherever possible. In case of exceeding this value, hearing protections must be provided to workers and warning signs installed
iv. Conduct noise-generating activities during the day;
v. Notify nearby residents and institutions at least 24 hours in advance if particularly noisy activities have to take place;
vi. Use proper mufflers on combustion engines; and
vii. All machines and vehicles used on site should be regularly serviced.

7.3.1.8 Contamination of Soil and Water resulting from Solid Waste

Construction activities will generate construction waste comprising surplus or off specification materials such as concrete, wooden pallets, steel cuttings/fillings, packaging paper or plastic, wood, plastic pipes, metals, etc. Construction workers are expected to generate general refuse consisting of food waste, plastic glass, aluminium cans and wastepaper. Waste requiring

treatment or disposal could include organic waste, domestic wastes that contain chemicals or other solid wastes which cannot be reused.

Mitigation measures:

i. A Construction Waste Management Plan (CWMP) for the project should be prepared and implemented by the Contractor during the construction phase. The plan should encourage reduction of waste generation at source, waste segregation, remove and recycle/ reuse;
ii. Provide a hazardous waste storage area that has an impermeable floor and containment, and has adequate ventilation of capacity to accommodate 120% of the volume of the largest waste container;
iii. Periodically review applicable regulations to ensure that the necessary waste disposal permits and licence are obtained;
iv. Collect, remove and dispose of waste in designated places/ offsite waste-disposal facilities in consultation with the District Council, if no recycling or reuse by local communities is possible;
v. Perform waste tracking including volumes or weights, type of waste, and destination; and
vi. Design construction processes to prevent/minimise quantities of wastes generated and hazards associated with the waste generated.

7.3.1.9 Loss of natural habitat for flora and fauna

Majority of plant species found in the project area are short grasses and shrubs. Furthermore, the project site and its area of influence are very rich in fauna diversity (aquatic and terrestrial). Some of the construction activities may be carried out close to protected areas. Site clearance for the construction of the Plant could potentially result in the loss of foraging habitat for terrestrial species and avifauna as well as the direct loss of floral species.

Mitigation measures:

i. Confine bush and land clearing activities to the project area and minimise habitat destruction;
ii. Replant the trees that have been cut in an alternative site;
iii. Prohibit hunting in the project area in view of animals living in the protected areas;
iv. Clearly mark out the extent of clearing within the worksite area with pegs at 10m intervals or less; and
v. Not introduce invasive species into the area through vehicle movements and any other possible means.

7.3.1.10 Increased risk of accidents and exposure to hazardous material

Workers involved in construction works will be exposed to various occupational risks, the project activities will bring about hazards such as use of large machinery and equipment, working in proximity with water, working at height, use of electrical tools, trips and falls, use of hazardous and flammable chemicals just to mention a few.

Mitigation measures:

i. Develop an Occupational Safety and Health Plan, which aims to avoid, minimise and mitigate the risk of workplace accidents. This would include identifying potential risks and identifying safe working practices, using only trained workers, using safe machinery and equipment and providing necessary personal protective equipment (PPE);
ii. Continuously sensitize and notify the public in adjacent villages on construction activities, hazards and safety measures;
iii. Provide clear and adequate work site notices and warning signs at designated and strategic places;
iv. Fence and provide adequate security to prevent unauthorised persons from accessing the construction sites;
v. Provide OSH orientation training and hazard specific training;
vi. Ensure availability of first aid kits at project site; and
vii. Put appropriate measures to prevent construction works during periods of harsh weather conditions such as limiting working hours of exposure, and health breaks especially during high summer temperatures and when it is raining.

7.3.1.11 Increased risk of traffic congestion

During construction, changes in baseline traffic as a result of construction activity are expected and this would slightly affect the normal operations of the project and surrounding communities. Increase in traffic flows associated with construction vehicles, heavy trucks and bulldozers are expected to result in some traffic congestion. Furthermore, car parking spaces will be reduced temporarily during construction.

Mitigation measures:

i. The contractor must plan and implement traffic management programme on daily basis;
ii. The contractor shall comply with all applicable legislation and by-laws with regard to road safety and transport;
iii. Access to the construction site and work area shall utilise existing roads and tracks where possible;
iv. All temporary access routes shall be rehabilitated at the end of the contract to the satisfaction of the Resident Engineer; and
v. Damage to existing roads because of construction activities shall be repaired to the satisfaction of the Resident Engineer; the cost of the repairs shall be borne by the contractor

7.3.1.12 Increased risk of the spread of COVID 19 infections

The continuous interaction between workers puts the workers at increased risk of contracting COVID-19. With the pandemic having greatly affected the country this impact has been rated as highly significant.

Mitigation measures:

i. Implement COVID-19 prevention guidelines as stipulated in the GoM Public Health (Corona Virus and COVID-19) Prevention, Containment and Management Rules;
ii. Encourage all workers to receive COVID-19 vaccination;
iii. Provide hand washing facilities and soap;
iv. Enforce physical distancing; and
v. Provide appropriate PPE such as face masks to the workers to prevent contracting COVID-19.

7.3.1.13 Increased risk of STIs, and HIV & AIDS transmission

Interactions between workers coupled with increase in disposable income would result in sexual encounters that can increase the likelihood of spreading HIV and AIDS.

Mitigation measures:

i. Institute HIV & AIDS prevention program to include peer education, free condom distribution etc.; and
ii. Liaise with appropriate health care workers or institutions to undertake health awareness and education initiatives on STIs amongst workers and in nearby communities.

7.3.2 Irrigations schemes specific impacts.

7.3.2.1 Increase in multiplication of water borne diseases especially bilharzia

The canals and diversions created may become breeding grounds for disease vectors- especially mosquitoes (which are vectors for malaria) and snails (which are vectors for Schistosomiasis) can take advantage of this slow flowing water.

Mitigation measures:

i. Minimising the spread of these and other vector- or water-borne diseases through proper soil and water conservation methods;
ii. Prevention of stagnation of water in the irrigation scheme through good agricultural practices; and
iii. Beyond mitigation of potential adverse impacts, the project should identify complementary investments that could enhance public health in the overall project area, such as drinking water for existing villages.

7.3.2.2 7.3.2.2 Increased risk of water logging conditions

The impact is usually caused by poor water application methods, resulting in the accumulation of water in all macro and micro pores of soils. This condition promotes breeding of disease vectors such as mosquitoes.

Mitigation measure:

i. Design of self-draining structures such as field canals, and

ii. Train farmers in best irrigation practices.

7.3.2.3 Increased risk of salinization

Continuous application of fertilisers to crops in the irrigation scheme may increase the risk of salinization.

Mitigation measures:

i. Increased use of water from nearby rivers to leach salts from the soils; and
ii. Cultivate crops that can easily absorb the salts such as bananas etc.

7.3.2.4 Increased risk of pollution of water by agrochemicals and human excreta

Use of agrochemicals such as fertilisers, herbicides and pesticides during farming has a potential to cause water and soil pollution.

Mitigation Measures:

i. Promote Integrated Pest Management(IPM);
ii. Restrict the use of pesticides to those recommended by Pesticides Control
iii. Board;
iv. Improvetailwatermanagementbyallowingre-useofirrigationwaterthrough
v. the use of a tail water recovery system;
vi. Improvewateruseefficiencytoreducethedischargevolumeoftailwaterfrom
vii. the system;
viii. Construct toilets in the scheme for use by farmers;
ix. Construct boreholes to provide potable water to farmers, and
x. Promote the use of organic farming.

7.3.2.5 Spread of alien invasive species

This risk would come as a result of human traffic and construction equipment going through various areas and as such may contribute to the spread of alien and invasive species. Trucks may have trapped invasive species, which if not controlled/contained may lead to the spread of unwanted/alien and invasive species into the neighbouring areas.

Mitigation measures:

i. Implement a wheel washing facility for trucks and equipment coming into the area.
ii. • Sensitize community members on alien species.
iii. • Good agricultural practices.

7.3.2.6 Increased risk of drowning in canals by children and livestock

The construction of canals will increase the risk of cases of drowning in canals (by children and livestock). There is need therefore to put measures in place to reduce these risks.

Mitigation measures:

i. Service irrigation plots located close to residential areas through pipes not open canals;
ii. Sensitise parents to discourage their children from swimming in the canals, and

iii. Draft bylaws discouraging parents from allowing their children from swimming in the canals.

7.3.2.7 Human-wildlife conflict

Rivers which is may be the source of proposed irrigation schemes may be highly infested by crocodiles. The proximity of proposed irrigation schemes to such rivers poses a great risk to people that will be cultivating in the scheme as they will be susceptible to crocodile attacks. Proximity of proposed irrigation scheme to river which is heavily infested by Hippopotamuses is likely going to increase the risk of crop damage by the animals.

Mitigation Measures:

i. Use pipes in areas that are closer to the targeted rivers so as to limit passage of crocodiles from the River;
ii. install gates/grills to limit passage of crocodiles in areas where canals have been used, and
iii. Encourage farmers to clear bush around their plots to deter crocodiles from hiding in such places.
iv. Provide buffer zone between the scheme and targeted rivers; and
v. Provide live fencing around plots closer to the targeted rivers.

7.3.2.8 Increased sediment load and suspended solids in rivers

The fixed weir structure along the targeted rivers could have the effect of changing its local hydrodynamic flow pattern and sediment transport, leading to changes in sediment grain size of soft-bottom habitats and the production of detritus. The species composition, abundance, biotic interactions and trophic structure of the benthic macro-invertebrate assemblages, especially the infauna are sensitive to such. The weir on the targeted rivers could lead to significant changes in the longitudinal distribution of macro-invertebrates; it may lead to diminished number of colonizing taxa downstream relative to the undisturbed stretches upstream of this river.

Mitigation Measures:

i. Reasonable water flows must be allowed downstream of the weir structure to allow for continued reproduction of aquatic macro-invertebrates whose life cycles are heavily dependent on water or its proximity.
ii. Riparian vegetation should be restored to increase habitat heterogeneity necessary to sustain terrestrial macro-invertebrate diversity.
iii. Undertake catchment management interventions including re-afforestation of nearby bare land.
iv. Construction of sand traps.
v. Design should include bottom outlets for sedimentation flushing during peak flows.

7.3.2.9 Reduction of water available to downstream water users

The abstraction of water through a weir on the targeted rivers will have an impact on the hydrological regime affecting downstream water users. Irrigation is a consumptive use as such

there will be a reduced flow downstream of the scheme in the long-term basis. This reduction may cause conflicts on other water users downstream.

Mitigation Measures:

i. Appropriate supply of irrigation water to fields depending on crop water demand.
ii. Ensure minimum flows to satisfy other water users downstream and even for biological requirements e.g fish.

7.3.2.10 Poultry, livestock and dairy production specific impacts

Overall poultry and livestock-related activities might generate a series of potential impacts including the management of cattle manure and increased pressure on grazing lands; potential risks of degradation or changing species composition in the pastures due to overgrazing, soil losses because of erosion, and a reduction in soil productivity caused by alteration of the vegetation status and composition; and environmental pollution during animal feeding.

7.3.2.11 Contamination of soil and water resulting from livestock manure and carcasses waste.

Livestock production generates significant quantities of animal waste, mainly in the form of un-metabolized nutrients excreted as manure. Manure contains nitrogen, phosphorus, and other excreted substances, which may result in air emissions of ammonia and other gases and may pose a potential risk of contamination to surface or groundwater resources through leaching and runoff. Large amounts of animal wastes may be produced by livestock and poultry breeding, mainly the indigested nutrients in the animal excretion. The excreted matters such as nitrogen and phosphorus contained in the livestock and poultry excrement will give off ammonia and other gases in the air, polluting surface water and ground water resources by filtration and runoff. Operation phase activities will generate waste comprising mainly of livestock manure, carcass and other impurities like packaging waste, food waste, plastic and waste paper. Livestock carcasses should be properly and quickly managed as they are a significant source of disease and odours, and can attract vectors. Reusable waste can also be collected, reused or recycled. Such waste would mainly include paper, metals, glass, plastics and wood etc. Waste requiring treatment or disposal will include the manure and the dead poultry and livestocks. The manure will firstly have to be composted before they are treated as fertiliser.

Mitigation measures: The project shall:

i. Develop a waste management plan for the farm that encourages waste segregation at source;
ii. Reduce mortalities through proper animal care and disease prevention/control;
iii. Collect carcasses on a daily basis to prevent putrefaction, and use reliable commercially available options approved by local authorities that dispose of carcasses by burying or incineration, depending on the cause of fatality;
iv. Segregate hazardous waste from non-hazardous waste;
v. Arranging with the district council or any private waste handling company to collect waste for disposal at the designated site on a weekly basis; and

vi. The poultry manure has to be given to local farmers as soon as they are ready for use as fertiliser.

7.3.2.12 Increased Spread of Livestock Ailments and Pathogens

During operation phase of the proposed project there is a risk of disease transmission from poultry and livestock to humans. The main zoonotic diseases associated with poultry are caused by Campylobacter and Salmonella species which are found in poultry manure. Both pathogens can cause diarrhoea, cramping, fever, nausea and vomiting. Viruses such as the H5N1 strain of avian influenza "bird flu", which affected several Asian countries in 2008, can also be passed from poultry to humans. Respiratory hazards could also be a potential source of disease transmission and infection of the lungs. Jobs, such as shed clean out or batch exchange of birds, should be completed using respiratory protection. Therefore, the impact is negative and of high significance.

Mitigation measures: The project shall:

i. Establish sound biosecurity protocols for the entire operation that control animals, feed, equipment, and personnel, entering the facility (for example, quarantine periods for new animals, washing and disinfecting equipment, showering and protective clothing and footwear for personnel, and keeping out stray animals, rodents and birds);
ii. Ensure best animal husbandry management techniques are practised which minimizes direct contact and hygienic environment will be used in this project. For example, construction of standard hygienic livestock housings where the animals should be housed to avoid farmers leaving with animals in their homes.
iii. Provide drug boxes with basic medications will be provided as a start-up to ensure animals are treated in good times when observed sick. Other disease preventive measures like vaccination especially for rabies will be used depending on the risk.
iv. Ensure proper use of acaricides in dairy cattle to avoid transmission of parasitic zoonotic diseases will be strict followed according to the recommended tick control methods as provided by the Department of Animal Health and Livestock Development.
v. Control farm animals, equipment and personnel entering the facility (e.g., quarantine periods for new animals, washing and disinfecting crates, disinfection and coverage of shoes before entry into housing zones, and providing protective clothing to personnel);
vi. Prevent the interaction of wild birds with feed, as this interaction could be a factor in the spread of avian influenza from sparrows, crows, etc.;
vii. Ensure that vehicles that go from farm to farm (e.g., transport of veterinarians, farm suppliers, buyers, etc.) shall be subjected to special precautions such as limiting their operation to special areas with biosecurity measures, spraying of tires and treating parking areas with disinfectants.
viii. Sanitize housing areas on a monthly basis;
ix. Establish a detailed animal health program supported by the necessary veterinary and laboratory capability;
x. Identify and segregate sick livestock and develop management procedures for adequate removal and disposal of dead livestock; and
xi. Train workers in the application of animal health products.

7.3.2.13 Air Pollution

During operation stage it is envisaged that livestock farm operation activities will generate air emissions primarily odours. Nuisance odours will emanate from livestock housing, and from disposal if dead livestock. Odour will be released in greater than normal quantities during the cleaning of sheds or when litter/manure is disturbed. Dust might emanate from feed storage, loading and unloading as well as waste management activities. With appropriate mitigation measures in place no serious impacts are expected on people and the environment in general.

Mitigation measures: The project shall:

i. Ensure that the livestock houses are well ventilated;
ii. Ensure that litter is loaded directly from livestock houses onto trucks and transported off the farm to reduce emissions;
iii. Optimize the frequency of shed clean-out to every 3 months;
iv. Keep dust levels low, as odours are absorbed and carried by dust particles;
v. Plant fast growing trees and shrubs around the farm to form dense vegetation buffer screens to filter dust and redirect odour away from sensitive areas; and
vi. Containing litter and manure under weatherproof covering, prior to removal from the vicinity.

7.3.2.14 Increased Occupational Health and Safety risks

During operation employees may be exposed to health and safety hazards. Employees in livestock production facilities may become exposed to a series of physical hazards related to equipment and vehicle operation and repair, trip and fall hazards, and lifting heavy weights, which are common to other industries. Employees can also be exposed to pesticides, disinfecting agents, minerals, antibiotic and products. Moreover, workers may be exposed to odour, dust and a range of pathogens such as bacteria, fungi, mites and viruses (including "bird flu") transmitted from live birds, excreta, carcasses and parasites and ticks. In addition, noise and vibration exposure may result from proximity to noisy machinery such as compressors, automatic packing machinery, condensers, ventilation units, and pressurized air, among other sources.

Mitigation Measures: The project shall:

i. Develop an Occupational Safety and Health Plan, which aims to avoid, minimise and mitigate the risk of work place accidents. This would include identifying potential risks and identifying safe working practices, using only trained workers, using safe machinery and equipment and providing necessary personal protective equipment (PPE);
ii. Provide OSH orientation training and hazard specific training;
iii. Ensure availability of first aid kits at project site;
iv. Placing of temporary or permanent warning signs on wet floors during cleaning; and
v. Keep working areas and walkways well lit.
vi. Maintain safe workplaces, plant and work systems;

vii. Establish an employee-elected health and safety commitee and be consulted on weekly basis regarding occupational health, safety and welfare; and
viii. Ensure that chemicals are stored in a designated enclosed area, and material safety data sheets (MSDS) that provide advice on storage, emergency and first aid of these chemicals are within easy reach.

7.3.2.15 Loss of fragile ecosystem

Mitigation Measures: The project shall:
i. Make sure the beneficiaries have enough land to establish pastures and agroforestry/fodder trees
ii. Train farmers in making hay and feed bales for livestock
iii. Not allow any beneficiary to graze their animals in the protected forests or wetlands
iv. All the regulations that governs the protection of fragile systems.

7.3.2.16 Risk of Livestock housing design failure

Mitigation measures: The project shall:
i. Recommended uniform Livestock housing designs have been provided centrally for all the three livestock value chains.
ii. To ensure compliance to the set Livestock housing designs, farmers will be trained in Livestock housing construction with specific measurements. Following the training, a demonstration Livestock housing from each the model village will be constructed by the group under the supervision of the AVO and all farmers will be encouraged to roll out the Livestock housing design as demonstrated to each individual household.
iii. When rolling out, farmers will be constructing the individual Livestock housing as a group to ensure same standards are used. Technical backstopping missions from the districts and the DAHLD headquarters including Project Coordinating office at the Ministry of Agriculture will be conducted to provide advisory services wherever short falls are noted for collection.
iv. Regular maintenance of livestock housing.

7.3.2.17 Grazing impacts on vegetation and soil health
Livestock grazing can affect riparian area, sensitive plants, and endangered wildlfie. Livestock graxing impacts are not just either/or, impacts will vary considerably depending on the season, intesity, frequency and class of livestock grazing that occurs.

Mitigation measures: The project shall:
i. Ensure dairy cattle and pigs will be kept under intensive. They will not be allowed to go out grazing or fending for food on their own.
ii. Ensure beneficiary farmers will be practicing cut and carry system where grass and other feeds will be brought to the animals whilst inside the livestock housing.

iii. Ensure dairy farmers, each farmer will have at least one acre of established pasture land to supplement natural pastures that will be harvested from the wild and the preserved feed residues in form of hay and silage.
iv. Train pig farmers in compounding own balanced feed ration using the locally available feed ingredients.
v. Ensure goats will be allowed to go out browsing and grazing under the direction of a herd man. It is important to note that goats are not exclusively grazers like cattle but rather they are browsers since their main diet is feeding on leaves and twigs from shrubs where they get their much-needed minerals and salts.
vi. Train beneficiaries and herdsmen in rotating feeding ground. The goats will be directed where to feed depending on the availability of the feeding grounds whilst at the same time observing social conflicts that might arise in cases where the goats might feed on someone's crops for example.
vii. Ensure goat farmers grow leguminous plants around their homestead like Lucerne of which leaves and twigs will be harvested and fed to the goats. Similarly hay from groundnut halms and other crop residues will be harvested and bailed to be fed to the goats during the dry and rain seasons.
viii. Ensure that herdsmen do not take livestock to graze along the river banks

7.4 Specific measures for safe agricultural chemicals management

Although the project will not support purchasing and use of mineral fertilizers and pesticides, the farmers routinely use acaricides to control ticks and other ectoparasites. Furthermore, to a limited extent they also purchase on their own agro-chemicals for improved agricultural production which might cause impacts on the environment and on the farmers' health. By reducing pesticide use, agriculture and livestock production operators may reduce not only the environmental impacts of their operations, but also production costs. Pesticides should be managed to avoid their migration into off-site land or water environments by establishing their use as part of an Integrated Pest Management (IPM) strategy and as documented in a Pesticide Management Plan (PMP) as described in section 7.4.8. The following stages should be considered when designing and implementing an IPM strategy, giving preference to alternative pest management strategies, with the use of synthetic chemical pesticides as a last option.

The objective of ESMF in this regard is to encourage adoption of Integrated Pest Management approach and increase beneficiaries' awareness of pesticide-related hazards and good practices for safe pesticides use and handling. This will be done by providing relevant information dissemination and training. Below are presented key issues that should be reflected in the training curricular.

7.4.1 7.4.1 Principles of Integrated Pest Management

The primary aim of pest management is to manage pests and diseases that may negatively affect production of crops so that they remain at a level that is under an economically damaging threshold. Pesticides should be managed to reduce human exposure and health hazards, to avoid their migration into off-site land or water environments and to avoid ecological impacts such

as destruction of beneficial species and the development of pesticide resistance. The IPM consists of the judicious use of both chemical and nonchemical control techniques to achieve effective and economically efficient pest management with minimal environmental contamination. IPM therefore may include the use of:

a) Mechanical and Physical Control;
b) Cultural Control;
c) Biological Control,
d) rational Chemical Control.

Although IPM emphasizes the use of nonchemical strategies, chemical control may be an option used in conjunction with other methods. Integrated pest management strategies depend on surveillance to establish the need for control and to monitor the effectiveness of management efforts.

7.4.2 7.4.2 Alternatives to Pesticide Application

Where feasible, the following alternatives to pesticides should be considered:

- Rotate crops to reduce the presence of pests and weeds in the soil ecosystem;
- Use pest-resistant crop varieties;
- Use mechanical weed control and / or thermal weeding;
- Support and use beneficial organisms, such as insects, birds, mites, and microbial agents, to perform biological control of pests;
- Protect natural enemies of pests by providing a favourable habitat, such as bushes for nesting sites and other original vegetation that can house pest predators and by avoiding the use of broad-spectrum pesticides;
- Use animals to graze areas and manage plant coverage;
- Use mechanical controls such as manual removal, traps, barriers, light, and sound to kill, relocate, or repel pests.

7.4.3 7.4.3 Pesticide Application

If pesticide application is warranted, users are recommended take the following actions:

- Train personnel to apply pesticides and ensure that personnel have received applicable certifications or equivalent training where such certifications are not required;
- Review and follow the manufacturer's directions on maximum recommended dosage or treatment as well as published reports on using the reduced rate of pesticide application without loss of effect, and apply the minimum effective dose;
- Avoid routine "calendar-based" application, and apply pesticides only when needed and useful based on criteria such as field observations, weather data (e.g., appropriate temperature, low wind, etc.),
- Avoid the use of highly hazardous pesticides, particularly by uncertified, untrained or inadequately equipped users. This includes:

- Pesticides that fall under the World Health Organization Recommended Classification of Pesticides by Hazard Classes 1a and 1b should be avoided in almost all cases, to be used only when no practical alternatives are available and where the handling and use of the products will be done in accordance with national laws by certified personnel in conjunction with health and environmental exposure monitoring;
- Pesticides that fall under the World Health Organization Recommended Classification of Pesticides by Hazard Class II should be avoided if the project host country lacks restrictions on distribution and use of these chemicals, or if they are likely to be accessible to personnel without proper training, equipment, and facilities to handle, store, apply, and dispose of these products properly;
- Avoid the use of pesticides listed in Annexes A and B of the Stockholm Convention, except under the conditions noted in the convention and those subject to international bans or phase outs;
- Use only pesticides that are manufactured under license and registered and approved by the appropriate authority and in accordance with the Food and Agriculture Organization's (FAO's) International Code of Conduct on the Distribution and Use of Pesticides;
- Use only pesticides that are labelled in accordance with international standards and norms, such as the FAO's Revised Guidelines for Good Labelling Practice for Pesticides;
- Select application technologies and practices designed to reduce unintentional drift or runoff only as indicated in an IPM program, and under controlled conditions;
- Maintain and calibrate pesticide application equipment in accordance with manufacturer's recommendations. Use application equipment that is registered in the country of use;
- Establish untreated buffer zones or strips along water sources, rivers, streams, ponds, lakes, and ditches to help protect water resources;
- Avoid use of pesticides that have been linked to localized environmental problems and threats.

7.4.4 7.4.4 Pesticide Handling and Storage

Contamination of soils, groundwater, or surface water resources, due to accidental spills during transfer, mixing, and storage of pesticides should be prevented by following the hazardous materials storage and handling recommendations. These are the following:

- Store pesticides in their original packaging, in a dedicated, dry, cool, frost-free, and well aerated location that can be locked and properly identified with signs, with access limited to authorized people. No human or animal food may be stored in this location. The store room should also be designed with spill containment measures and sited in consideration of potential for contamination of soil and water resources;
- Mixing and transfer of pesticides should be undertaken by trained personnel in ventilated and well-lit areas, using containers designed and dedicated for this purpose.

- Containers should not be used for any other purpose (e.g., drinking water). Contaminated containers should be handled as hazardous waste and should be disposed in specially designated for hazardous wastes sites. Ideally, disposal of containers contaminated with pesticides should be done in a manner consistent with FAO guidelines and with manufacturer's directions;
- Purchase and store no more pesticide than needed and rotate stock using a "first-in, first- out" principle so that pesticides do not become obsolete. Additionally, the use of obsolete pesticides should be avoided under all circumstances; a management plan that includes measures for the containment, storage and ultimate destruction of all obsolete stocks should be prepared in accordance to guidelines by FAO and consistent with country commitments under the Stockholm, Rotterdam and Basel Conventions.
- Collect rinse water from equipment cleaning for reuse (such as for the dilution of identical pesticides to concentrations used for application);
- Ensure that protective clothing worn during pesticide application is either cleaned or disposed of in an environmentally responsible manner
- Maintain records of pesticide use and effectiveness.

7.4.5 7.4.5 Safety issues in mineral fertilizers usage and handling

Similarly, as in the case of usage of pesticides, fertilizers usage may provide important benefits for forage production, they also pose certain risks associated with accidental expose of environment and of farmers during their inappropriate handling and usage. To avoid adverse environmental impacts while using mineral fertilizers it is necessary to comply strictly with a series of requirements, stipulated in the existing legal documents as well as in the fertilizers Guidelines for their handling. The rules and procedures of production, storage, transportation and usage of mineral fertilizers are reflected in specific national enactments.

7.4.6 7.4.6 Main requirements while using mineral fertilizers

The usage of different mineral fertilizers should be done depending on such factors as type and quality of the soil, type of the crop, system of crop rotation, weather and climate conditions, ways and terms of their application.

7.4.6.1 7.4.6.1 Provisions with regard to fertilizers storage

- Keep stocks of fertilizers, and soil amendment materials to the minimum required.
- Ensure that the storage facility is appropriately secured.
- Fertilizers and soil amendment materials are not to be stored in contact with ground surfaces.
- Storage areas/facilities must be weather-proofed and can exclude runoff from other areas.
- Do not store in close proximity to heat sources such as open flames, steam pipes, radiators or other combustible materials such as flammable liquids.
- Do not store with urea.
- Do not contaminate fertilizers, and soil amendment materials with other foreign matter.

- In case of fire flood, the area with water.
- If augers are used to move the material to ensure that any residue(s) in the immediate area is cleaned up.
- Dispose of empty bags in an appropriate manner.

7.4.6.2 *7.4.6.2 Provisions with regard to fertilizers field usage*

- Keep fertilizer amounts to a minimum and covered to avoid unnecessary expose to open air.
- Keep spreaders and air seeders that are left in the field overnight covered.
- Cover spreader and air seeders between jobs.
- Ensure that the drill, air seeder and/or fertilizer box is completely empty at the end of each day. If the drill, air seeder and/or fertilizer box cannot be fully emptied, fill it prior to storage for the night.
- Do not store dry urea with dry ammonium nitrate.

7.4.6.3 7.4.6.3 Ensuring minimization of hazards associated with inappropriate handling and usage of fertilizers*:*

Table 7-3 provides information about typical hazard scenarios that may arise in conjunction with the procurement, handling, and storage of fertilizers as well as the recommended measures to control the potential risks.

Table 7-3: Typical hazard scenarios and recommended measures in the case of mineral fertilizers handling

SN	Likely Hazard Scenario	Recommended Control Strategy
1	Spillage	Ensure all storage areas and/or facilities are secure and appropriate.
		Ensure all fertilizer products can be contained within the storage area and/or facility selected.
		Provide appropriate equipment and materials to clean up a spillage
2	Transportation and delivery of goods	Cover any loads of fertilizer products whilst in transit.
		Ensure that deliveries of fertilizer products are made at appropriate times.
		Do not accept any containers of fertilizer products that are damaged and/or leaking.
		Ensure that any spillages that occur during delivery are cleaned up appropriately.
3	Drift of dust from storage areas and/or facilities	Keep fertilizer products covered and/or sealed.
		Clean up spillages promptly.
		Keep “in use” stocks to the minimum required.
		Staff responsible for storage areas and/or facilities to will ensure that the drift of dust beyond the perimeter is kept to a minimum.
4	Storage areas Floors	Keep floor surfaces swept clean of fertilizer to prevent tracking by people and/or vehicles beyond the perimeter.

SN	Likely Hazard Scenario	Recommended Control Strategy
		Sweep up and dispose of spillages in a timely and appropriate manner.
5	Cross contamination of product	Keep each fertilizer product will in a separate storage container and/or position within the facility and/or area.
6	Confusion of Product	Maintain an accurate storage manifest/register.
		Keep products and blends are always segregated.
		Ensure all storage bays and bins are clearly labelled.
		Ensure all storage, loading and blending plant and equipment is cleaned from all residues when changing from one product to another.
		Do not store product in bags that are not correctly stamped.
7	Occupational Health and Safety	Contact between fertilizer products, people and livestock will be minimized.
8	Risk Assessments	Risk Assessments are required to be conducted on the procurement, storage and handling of fertilizer products.
9	Contact with people and livestock	Managers will develop, implement and monitor the effectiveness of hazard management procedures.
		All persons using fertilizer products are to adhere to the hazard management procedures and adopt safe working practice and ensure that direct contact with fertilizer and the inhalation of fertilizer dust is minimized.
		Managers are to ensure that staff is made aware of any national and industry regulations which have to be observed.
10	Personal Protective Equipment	Staff must be provided with appropriate PPE when using fertilizer products.
11	Lack of appropriate warning safety signage and information	Managers must ensure that appropriate safety warning signs and/or information is displayed/ available regarding nature of hazards and risk control measures.
12	Poor housekeeping and/o•r routine maintenance	All staff is responsible for implementing sound housekeeping practices in storage areas and arranging regular routine maintenance for all equipment used.
13	Defective &/or unserviceable plant & equipment	Conduct regular inspection & testing of equipment and infrastructure to identify what maintenance requirements

7.4.7 7.4.7 Ensuring safe application of acaricides in livestock

To reduce the impacts of ticks and other ectoparasites farmers routinely use Acaricides which are applied through, dipping, spraying, spot treatment or hand dressing. Dipping provides a highly effective method of treating animals with Acaricides for the control of ticks. The disadvantage of this method however is the initial construction cost and the cost of Acaricide which make this method unattractive for small scale ranching operations. The method involves immersion of animals in a dipping tub containing solution of chemicals.

The spraying method of tick control is not as efficient as dipping. It involves the use of fluid Acaricides applied to animals by means of a spray. The spraying equipment is portable and needs only small amounts of Acaricides to be mixed for the application. The Acaricides may not be thoroughly applied to all parts of the animal body hence it is less efficient than the dipping method of application. The 2 methods mentioned above, dipping and spraying may not expose ticks in the inner parts of the ear, under part of the tail, the tail brush and the areas between the teats and the legs in cattle with large udder, to the Acaricides and hence may escape treatment. The process of applying Acaricides to these areas by hand is termed hand dressing or spot treatment. The advantage here is that the method is more effective and economical in terms of cost of Acaricide as spot treatment is restricted to only selected areas instead of the whole animal. The disadvantage however is that the process is time consuming and laborious. To reduce inappropriate handling and improve usage of acaricides and anti-helminths at recommended doses, the labelling of parasiticides in the project area should be packaged in suitable containers with instructions, include the use of containers graduated by pictorial symbols or pictograms illustrating animal size and corresponding quantities of the drug required for treatment. Also, biological and integrated parasite management methods should be encouraged and taught to farmers to reduce the use of pervasive veterinary parasiticides.

7.4.8 7.4.8 Pest Management Plan

A pest management plan (PMP) should be prepared in all cases of significant direct purchasing and usage of pesticides or if significant pest management issues are anticipated in individual subprojects that are to be financed by the MFSRP. The applicants will be required to complete a pest management screening checklist along with the matching grants application. This screening checklist will require information on the (i) significance of the pest management issues to be addressed (ii) type, amount and anticipated extent of usage of pesticides: (iii) proposed storage, disposal and usage practices to be employed; and (iv) potential environmental impacts. The content of the PMP should apply to all the activities and individuals working. It should be emphasized also that non-chemical control efforts will be used to the maximum extent possible before pesticides are used. The PMP should be a framework through which pest management is defined and accomplished. The Plan should identify elements of the program to include health and environmental safety, pest identification, and pest management, as well as pesticide storage, transportation, use and disposal. The PMP is to be used as a tool to reduce reliance on pesticides, to enhance environmental protection, and to maximize the use of integrated pest management techniques.

The PMP shall typically contain pest management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety and environmental requirements. The Plan should provide guidance for operating and maintaining an effective pest management program/activities. Pests considering in the Plan may be weeds and other unwanted vegetation, crawling insects and other vertebrate pests. Without control, these pests provoke plants' deceases. Adherence to the Plan will ensure effective, economical and environmentally acceptable pest management and will maintain compliance with pertinent laws and regulations.

As handling and usage of pesticides and other chemicals might cause harm to the environment and to the farmers' health, in the case of such types of subprojects the beneficiaries have to prepare a PMP that is attached to the subproject proposal, including the following information: (a) types of pesticides and fertilizers and its amount; (b) storage conditions; (c) ways of field usage; (d) measures to be undertaken to control possible hazard scenarios; and (e) responsible person. The subproject proposal along with the PMP will be reviewed by the Environment Specialist who will provide approval. Based on experience of the AGCOM 1.0, it is anticipated that the use of pesticides and pest management would not be significant and could be addressed through training, extension and technical support to improve farmer awareness on the safe application, storage and disposal of pesticides and the pest management through extension, training and demonstration in IPM approaches.

7.5 Samples of environmental and social management plans

Some samples of environmental and social management plans for sub-projects have been prepared for identified impacts. These samples of environmental and social management plans cover for generic environmental and social impacts for commercial farms and irrigations schemes, livestock commercial farms, and public infrastructure (feeder roads, electricity and potable water facilities).

The descriptions of environmental and social management plan are as follows:

- Table 7-4 presents an environmental and social management plan for development construction of rural warehouses, feeder roads, electricity, and portable water facilities.
- Table 7-5 presents an environmental and social management plan for construction or rehabilitation and operation of small-scale irrigation schemes.

These ESMPs have been prepared for reference purposes in preparation of detailed ESMPs for some of the sub-projects. Implementing agencies will prepare site specific environmental and social management plans once the specific sub-projects have been identified and specific site of implementation has been identified. These activities would be carried out in a later stage in project preparation and design stages.

Table 7-4: Environmental and Social Management Plan for development rural warehouses, feeder roads, electricity and portable water facilities

SN	**Identified Negative Impacts for mitigation**	**Recommended mitigation measures**	**Recommended Period of implementation**	**Responsible Authority for Implementation of the measures**	**Budget Estimates(in MK)**
1	**Impacts on vegetation resources**				
1.1	Loss of vegetation and greenery beauty through clearance of trees on the site	Use of firewood from exotic tree species such as pipe trees and blue gum trees at contractors camp	During road construction phase	Contractor	K200, 000.00
		Promote the use of wood – energy efficient cooking stoves for workers.			
1.2	Risks of spread of invasive alien plants/seeds in the area	Migrant workers to ensure clean out clothes and personal effects to get rid of alien plants and seeds			
		Clean construction equipment used elsewhere before use on the site			
2	**Impacts on climate change**				
2.1	Increase in greenhouse gas emissions from the area.	a) Use of new or well-maintained construction equipment or project vehicles.	During road construction phase	Project contractor	MK200,000.00
4	**Impacts on land and soils**				
4.1	Increase in surface runoff and soil erosion due to increase in exposure of soil	a) Construction of drainage structures	During road construction phase	Contractor	MK300000
		b) Compaction of the road and drains			
4.2	Creation of borrow pits and risks of soil erosion.	Back fill and regenerate natural vegetation in all borrow pits after construction works	During road construction phase	Project contractors	K2,000,000.00
4.3		a) Use stones or cement bricks for main drain construction	During road construction phase	Project contractors	Budget in construction budget

SN	Identified Negative Impacts for mitigation	Recommended mitigation measures	Recommended Period of implementation	Responsible Authority for Implementation of the measures	Budget Estimates(in MK)
	Increase in brick making by local communities around roads.	b) Sensitisation of the communities on dangers of haphazard brick making and sand mining.			
4.4	Pollution of soil from contamination of petroleum products	a) Proper storage facilities for oils, diesel and minimise spillage. Minimise spillage from machinery on site through proper maintenance	During construction	Project contractors	MK200,000
		b) Fence to storage facilities for fuel to reduce unauthorised personnel			
5	**Impacts on water resources.**				
5.1	Increase in suspended solids and sediments into surface water resources.	a) Construct drainage structures	During road construction phase	Project contractors	Included under construction budget
5.2	Pollution from human waste within the area	a) Provision of appropriate pit latrines to construction workers	During road construction phase	Project contractors	MK200,000
5.3	Pollution from spillage of petroleum products	a) Security of storage facilities for oils, diesel at camp and minimise spillage	During road construction phase	Project contractors	Included in section 4.5 above
		b) Use of well-maintained vehicles and construction equipment			
6	**Impacts on air**				
6.1	Dust emissions in the area	a) Suppress of dusts from dry civil works by application of water.	During road construction phase	Project contractors	MK200,000.00
		b) Provide protective wear to workers to protect workers from contamination		Project contractors	

SN	Identified Negative Impacts for mitigation	Recommended mitigation measures	Recommended Period of implementation	Responsible Authority for Implementation of the measures	Budget Estimates(in MK)
6.2	Noise from construction machinery and transportation trucks in the area	Provide protective wear to workers during civil works to protect ear drums	During road construction phase	Project contractors	K400,000.00
7	**Social impacts on local communities.**				
7.1	Influx of migrant workers leading to competition of land and natural resources in the area	a) Recruitment of local people as general labour force as priority.	During road construction phase	Project contractors	K50,000.00
7.2	Risks of interferences in local marriages	a) Recruitment of local people as general labour force as priority.	During road construction phase	Project contractors	Not applicable
		b) Sensitisation of migrant workers to desist from interferences in local marriages.		Local village headpersons	
7.3	Risks of introduction and spread of communicable diseases and sexually transmitted diseases including HIV/Aids	a) Put in place HIV/Aids Work Policy and operationalize it for benefit of workers	During road construction phase	Project contractors	MK200,000.00
		b) Establishment of roads HIV/Aids Workers' committee.		Local village headpersons	
		c) Weekly sensitisation meetings among roads workers, on dangers of HIV/Aids.		District HIV/Aids coordinator	
		d) Distribution of condoms and IEC materials for free of workers, and, local people around			
		e) Paste stickers with HIV/Aids messages on project vehicles and construction equipment			
7.4	Conflicts between migrant workers and local people	a) Recruitment of local people as general labour force as priority	During road construction phase	Project contractors	Not applicable

SN	Identified Negative Impacts for mitigation	Recommended mitigation measures	Recommended Period of implementation	Responsible Authority for Implementation of the measures	Budget Estimates(in MK)
		b) Sensitisation of migrant workers to respect local cultures and live with local people in harmony.		Local village headpersons	
7.5	Risks of child labour	a) Recruitment of workers through district labour office. No recruitment of school going children or persons below eighteen years for any work at roads.	During road construction phase	Project contractors	K200,000
		b) Put a sign board at contractors camps " **No employment for person under age of eighteen years**"		District labour officer	
7.6	Loss of trees, structures, land uptake for gravel pits and feeder roads	c) Compensation for land uptake for gravel pits.	During road construction	Project contractors	MK400,000.00
		d) Compensation for small structures, trees (miscellaneous)			
8	**Impacts on health and safety of workers/people**				
8.1	Spread of sexually transmitted infections including HIV and Aids	a) Adoption and operation of HIV and Aids Policy for road	During road construction phase	Project contractors	Budget included in item 7.2 above
		b) Distribution of condoms and IEC materials to both men and female workers		District labour officer	
		c) Civic education on dangers of the HIV and Aids among the workers and local people			
8.2	Prevalence of pools of stagnant water and multiplication of mosquitoes	a) Regular flashing of pools of stagnant water.		Project contractors	MK100,000.00
		b) Distribution of mosquito nets to workers			

SN	**Identified Negative Impacts for mitigation**	**Recommended mitigation measures**	**Recommended Period of implementation**	**Responsible Authority for Implementation of the measures**	**Budget Estimates(in MK)**
8.3	Nuisance from smoke and smut from burning of bitumen	a) Use of cold mix asphalt or concrete slabs for road surface which is noted heated	During road construction phase	Project contractors	MK150,000.00
		b) Use of slurry bound macadam surfacing which is not heated			
		c) Provision of protective wear to workers.			
8.4	Physical injuries from accidents– fall from trucks and machinery etc.	a) Provide protective clothing to workers	During road construction phase	Project contractors	MK200,000.00
8.5	Exposure and poisoning from cement	a) Provision of adequate protective clothing to workers in use of agro-chemicals such as mouth masks, goggles and gloves.	During road construction phase	Project contractors	MK200,000.00
		b) Adequate training of workers calibration of equipment, handling storage materials			
		c) Restriction of access to storage of cement to trained staff only			
8.6	Solid wastes and sewage from contractors camp	b) Refuse pits for disposal	During road construction phase	Project contractors	MK300,000.00
		c) Ventilated pit latrines for workers			
					6,000,000.00

Table 7-5: Environmental and Social Management Plan for construction/ rehabilitation and operation of irrigation schemes

SN	**Identified Negative Impacts for mitigation**	**Recommended mitigation measures**	**Recommended Period of implementation**	**Responsible Authority for Implementation of the measures**	**Budget Estimates (in MK)**
1	**Impacts on vegetation resources.**				
1.1	Loss of vegetation and greenery beauty on the site	Maintain some trees as buffer zones around the scheme	Rehabilitation and re-construction phases	Farm management	K300, 000.
		Establishment tree nurseries including tree seedlings for natural trees		Scheme management	
		Promote the use of wood – energy efficient cooking stoves among schemes workers and local communities around the scheme.			
2	**Impacts on wildlife Resources**				
2.1	Loss of habitat for wild animals	Maintain some trees around the scheme blocks as tree belts	Rehabilitation and re-construction phases	Scheme management	K200,000.
2.2	Loss of biodiversity mice, snakes	Afforestation within local villages around the scheme for fuel wood supply to local people.		Farm management	
3	**Impacts on land and soils.**				
3.1	Increase in surface runoff and soil erosion due to increase in exposure of soil	Implement soil conservation measures within all the fields (check dams, box ridges)	During rehabilitation phase and operational phase	Scheme management	K200,000.
		Regular tilling of land for infiltration		Farm management	
3.2	Incision of road verges and culverts.	Installation of storm water outlets involving a flared apron to spread out flow at all culvert outlets.	During road re-construction	Project contractors	K200,000.

		Establishment of appropriate grass lining further downstream to provide good protection again erosion.			
3.3	Risks of water logging and salinization	Apply correct amount of water to irrigated area and correct amount of fertiliser	During scheme operational phase	Scheme management	K1000, 000.
		Ensure sufficient infield drainage and minimise over-irrigation.			
		Use overhead irrigation system (centre pivot)			
		Add lime to soil where there are problems of salinization			
					MK5,000,000
3.4	Disturbance to the growth of micro - organisms	Use correct amount of fertilisers in fields	During scheme operational phase	Scheme management	Not applicable
		Use of a combination of organic fertiliser; minimum tillage and recycling of crop residue			
4	**Impacts on water resources.**				
4.1	Increase in suspended solids and sediments delivery into surface water resources.	Water harvesting measures (box ridges, check dams) and improvement of soil infiltration	During scheme operational phase	Scheme management	K300,000.00
4.2	Pollution from human waste within the area	Provision of appropriate pit latrines to construction workers and cane cutters.	During operational phase	Contractors; scheme management	K200,000
4.3	Pollution from spillage of petroleum products	Proper storage facilities for oils, diesel and minimise spillage	During scheme operational phase	Scheme Management	K500,000
		Install an oil collector in workshops/garages to collect oil during maintenance works.			
4.4	Exposure and pollution from agro-chemicals	Use environmentally friendly agro-chemicals, registered with Pesticide Board of Malawi	During scheme operational phase	Scheme management	K500,000

		Train workers in proper storage, handling and use to minimize the spillage. Storage of agro –chemicals within spacious and well-designed storage facilities.			
4.5	Increase in siltation and deterioration of water quality in streams nearby	Maintenance of vegetative buffer zone along sugarcane fields to minimises soil erosion into river. Check out soil erosion on the scheme	During scheme operational phase	Scheme management	Not applicable
4.6	Risks of loss of aquatic fauna within streams and rivers within the scheme	Minimise level of pollution of all drains discharging in to streams Check soil erosion from the scheme	During scheme operational phase	Scheme management	Not applicable
5	**Impacts on air.**				
5.1	Dust emissions in the area	Suppress of dusts from dry civil works by application of water. Provide protective wear to cane cutters to protect workers from contamination	During land preparation phase	Project contractors Scheme management	K100,000
5.2	Noise from farm machinery	Provide protective wear to workers during civil works to protect ear drums	During land preparation phase	Project contractors; scheme management	K100,000
6	**Social impacts on local communities**				
6.1	Loss of land for food crop production	Reserve at least 20% of land for irrigated food crop production on the scheme for each growers Construct a diversion canal to convey water to gardens surrounding Phase IV Scheme for food production	During operational stage	Scheme Management	MK500,000

6.2	Loss of land for livestock grazing.	Village headpersons to show alternative land for grazing of livestock	During planning stage	Local village headpersons	Not applicable
6.3	Marginalisation of women in allocation of land for crop production	Allocation of land to be restricted to households who own land on the site. No migrant people/workers.	During planning stage	Scheme management	MK100,000
		Allocation system to be done by tripartite committee (drawn from KSCGL, local headperson and representative of DC)		District Commissioner	
		Reserve number of pieces of land for women participation.		Local village headperson	
6.4	Disputes in land allocation, ownership and benefits from sales of produce	Register all households and sizes of their gardens on the site. Use this register as basis of allocation of land at scheme.	During planning and scheme development stages	Scheme management	MK100,000
		Disputes to be presided over by tripartite committee-.		District Commissioner	
		Committee to define and agree with growers on the formulae of distribution of benefits		Local village headpersons	
6.5	Influx of migrant workers leading to competition of land and natural resources in the area	Recruitment of local people as general labour force as priority.	During operational phase	Scheme management	K100,000
6.6	Risks of interferences in local marriages	Recruitment of local people as general labour force as priority.	During operational phase	Scheme management	Not applicable
		Sensitization of migrant workers to desist from interferences in local marriages.		Local village headperson	
6.7	Risks of introduction and spread of communicable diseases and sexually	Put in place HIV/Aids Work Policy and operationalize it for benefit of workers	During operational phase	Scheme management	K1,000,000

	transmitted diseases including HIV/Aids	Establishment of scheme HIV/Aids Workers' committee.		Local village headperson	
		Regular sensitisation meetings among scheme workers, on dangers of HIV/Aids.		District HIV/Aids coordinator	
6.8	Conflicts between migrant workers and local people	Recruitment of local people as general labour force as priority	During operational phase	Scheme management	K100,000
		Sensitisation of migrant workers to respect local cultures and live with local people in harmony.		Local village headperson	
6.9	Closure of communal paths	Provide alternative foot paths through the schemes or along the perimeter of the scheme.	During operational phase	Scheme management	Not applicable
6.10	Risks of child labour	Recruitment of workers through district labour office. No recruitment of school going children or persons below 18 years for any work at scheme.	During operational phase	Scheme management; district labour officer	K100,000
7	**Health and Safety of workers/people**				
7.1	Spread of sexually transmitted infections including HIV and Aids	Adoption and operation of HIV and Aids policy for the scheme	During construction and operational stage	Scheme management	MK500,000
		Distribution of condoms		District labour officer	
		Civic education on dangers of the HIV and Aids among the workers and local people			
7.2	Prevalence of pools of stagnant water and multiplication of mosquitoes	Regular flashing of pools of stagnant water.	During operational stage	Scheme management	MK100,000
		Distribution of mosquito nets to workers			
7.3	Risks of accidents –children and livestock falling in canals	Provide culverts and foot bridges over canals for pedestrians and livestock	During operational	Scheme management	MK500,000
7.4	Physical injuries from accidents– fall from trucks and machinery etc.	Provide protective clothing to workers	During construction	Scheme management	MK100,000

7.5	Exposure and poisoning from agro-chemicals	Provision of adequate protective clothing to workers in use of agro-chemicals such as mouth masks, goggles and gloves.	During operational	Scheme management	MK500,000
		Adequate training of workers calibration of equipment, handling storage			
		Restriction of access to storage of agrochemicals to trained staff only			

Table 7-6: Mitigation Plan for Labour Influx Related Risks

Description of Potential risks	Proposed Mitigation measures for risks	Authorities responsible for implementation	Proposed Budget	Performance Indicators
Deforestation around the project site	Purchase fuel wood from commercial plantations	Commercial farmers	MK200,000.00	Use of soft
	Use of energy saving stoves. No charcoal on camp	Contractor		Energy saving stoves
	Planting of trees around the workers camp			
Overcrowding and poor within housing camps	Recruitment of local workers	Commercial farmers	Not applicable	No overcrowding
	Provision of sanitation facilities	Contractor		
Competition over natural resources	Desist from recruitment of migrant workers. Recruit workers locally	Commercial farmers	Not applicable	No competition
		Contractor		
Increase in gender based violence	Periodic sensitisation of workers against gender based violence in homes	Commercial farmers	Not applicable	No reports of violence
		Contractor		
Risks of child labour in the area and increase in school drop out	Recruitment workers through labour office	Commercial farmers	MK200,000.00	No children working on the site
	Recruit workers above 18 years old	Contractor		
	Put sign board " NO CHILD LABOUR" at site			
Increase in theft of properties in local communities	Periodic sensitisation meetings for migrant workers to desist from theft	Commercial farmers	MK200,000.00	Few reports of theft
	Establishment community policing programme	Contractor		
Increase in population by migrant workers and "followers"	Desist from recruit of migrant workers.	Commercial farmers	MK500,000.00	No followers on camp
	Relocate migrant workers to homes after project	Contractor		
Increase in pressures on service infrastructure – portable water, health services etc.	Provide additional boreholes	Commercial farmers	MK1000,000.00	No pressure on facilities
	Provide more drugs to health centre	Contractor		More boreholes
Increase prices of goods in the area	Designate site for temporary market for goods	Commercial farmers	MK100,000.00	Stable market prices
		Contractor		
Increase in pressure on accommodation and rent	Recruit workers locally to commute from their homes. Reduce recruitment of migrant workers	Commercial farmers	Not applicable	No pressure of accommodation
		Contractor		
Proliferation of unsightly temporary housing structures	Clear unsightly workers camp.	Commercial farmers	MK500,000.00	No unsightly workers camp
	Recruit more local people to commute from homes	Contractor		
Indiscrimination solid waste disposal in the area	Promote compost for some wastes	Commercial farmers	MK200,000.00	No indiscriminate waste disposal
	Designate site for waste disposal	Contractor		
Poor sanitation at workers camp	Provide adequate toilets and bath rooms in homes	Commercial farmers	MK200,000.00	Proper sanitation facilities
		Contractor		
Interference in local marriages by unmarried migrant workers	Periodic sensitisation meetings for host communities and migrant workers to desist from illicit behaviours	Commercial farmers	Not applicable	No reports of conflicts and marriage break ups
		Contractor		

7.6 Environmental and social monitoring plans

The environmental and social monitoring plans are presented in Table 7-7 and Table 7-8. The monitoring plans are in tabular format to clearly show linkages between recommended mitigation measures, monitoring indicators, frequent of monitoring and stakeholders responsible for monitoring.

There will be two levels of monitoring to enhance effective follow up on implementation of proposed mitigation measures. One level of monitoring will be by safeguards expert resident at project implementation unit. The second level of monitoring will be carried out by environmental inspectors or specialists from the Malawi Environment Protection Authority.

The safeguards experts from project implementation unit will work on day-to-day supervision of implementation of environmental and social safeguards. The environmental and safety officer will also be responsible for training of construction workers on adherence to occupational health and safety measures within the contractors' camps and construction site.

The Malawi Environment Protection Authority will designate environmental inspector or specialist during construction phase of the project. The environmental inspector or specialist will carry the following tasks on the project:

- Supervise adherence to environmental and social mitigation measures for contractors.
- Orient and supervise construction workers on use of relevant personal protective equipment or clothing during construction period.
- Sensitise workers and communities around on community health aspects including preventative measures on communicable diseases.
- Provide technical guidance on implementation of environmental and social mitigation measures.
- Sensitise migrant workers on dangers of sexually transmitted diseases including HIV and AIDS. Train workers on HIV and AIDS workplace policy, mitigation measures for contraction or spread of HIV and AIDS among workers, family members and members of surrounding communities.
- Prepare periodic monitoring reports on environmental and social safeguards. The reports will be shared with all stakeholders including World Bank Office,

Budget estimates for all activities under environmental and social monitoring plans have been incorporated under column four of the monitoring plan. Ministry of Agriculture will provide funds for monitoring environmental and social mitigation measures.

Table 7-7: Environmental and Social Monitoring Plan of mitigation measures for rural warehouses, feeder roads, and electricity and water facilities

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
Impacts on vegetation resources.					
Loss of vegetation and greenery beauty through clearance of trees on gardens Risks of spread of invasive alien plants/seeds in gardens	• Use of firewood from exotic tree species such as pipe trees and blue gum trees at contractors camp • Promote the use of wood – energy efficient cooking stoves for workers. • Migrant workers to ensure clean out clothes to get rid of alien plants • Clean construction equipment used elsewhere before use on the site	• .Volume of firewood from exotic tree species • Number of stoves used • Number of migrant workers who clean clothes • Use of clean equipment	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Impacts on climate change					
Increase in greenhouse gas emissions from the area.	• Ensure construction equipment and project vehicles are well maintained.	• Number of new vehicles on site • Number maintained construction plants	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Impacts on land and soils.					
Increase in surface runoff and soil erosion due to increase in exposure of soil	• Construction of drainage structures • Compaction of the road and drains • Stone pitching on road side cut in mountains	• Length of water drains • Number of culverts	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Creation of borrow pits and risks of soil erosion.	• Back fill and regenerate natural vegetation in all borrow pits after construction works	• Number of borrow pits backfilled	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Pollution of soil from contamination of petroleum products	• Proper storage facilities for oils, diesel and minimise spillage. Minimise spillage from machinery on site through proper maintenance • Fence to storage facilities for fuel to reduce unauthorised personnel	• Upright fuel tanks installation	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections
Impacts on water resources.					
Increase in suspended solids and sediments into surface water resources.	• Construct drainage structures	• Length of storm water drains • Number of culverts.	Every six months	• MEPA • PIU Safeguards Expert	• Inspections • Records

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
				• MK200,000.00	
Pollution from human waste within the area	• Provision of appropriate pit latrines to construction workers	• Pit latrines for construction workers at camp	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Pollution from spillage of petroleum products	• Security of storage facilities for oils, diesel at camp and minimise spillage • Use of well-maintained vehicles and construction equipment	• Upright fuel tanks • Used oil kept in drums for recycle elsewhere • Used of well-maintained vehicles/equipment	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Impacts on air.					
Dust emissions in the area	• Suppress of dusts from dry civil works by application of water. • Provide protective wear to workers to protect workers from contamination	• Number of days per month for application of water to dry civil works • Number of protective wear e.g. dust coats	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Noise from construction machinery and transportation trucks in the area	• Provide protective wear to workers during civil works to protect ear drums	• Number of ear muff for workers	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Social impacts on local communities.					
Influx of migrant workers leading to competition of land and natural resources in the area	• Recruitment of local people as general labour force as priority.	• Number of local people employed.	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Risks of interferences in local marriages	• Recruitment of local people as general labour force as priority. • Sensitisation of migrant workers to desist from interferences in local marriages.	• Number of local people employed. • Number of sensitisation meetings.	Every six months	• MEPA • MK200,000.00	• Inspections • Records
Risks of introduction and spread of communicable diseases and sexually transmitted diseases including HIV/AIDS	• Put in place HIV/AIDS Work Policy and operationalize it for benefit of workers • Establishment of roads HIV/AIDS workers' committee.	• HIV/AIDS workplace policy for project. • HIV/AIDS Workers Committee	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
	• Weekly sensitisation meetings among roads workers, on dangers of HIV/AIDS. • Distribution of condoms and IEC materials for free of workers, and, local people around • Paste stickers with HIV/AIDS messages on project vehicles and construction equipment	• Number of sensitisation meetings • Number condoms distribution. • Number stickers pasted on vehicles			
Conflicts between migrant workers and local people	• Recruitment of local people as general labour force as priority • Sensitisation of migrant workers to respect local cultures and live with local people in harmony.	• Number of local people employed. • Number of sensitisation meetings	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Risks of child labour	• Recruitment of workers through the district labour office. No recruitment of school going children or persons below eighteen years for any work at roads. • Put a sign board at contractors camps " **No employment for person under age of eighteen (18) years**"	• Minimum age of workers at works. • Sign board in place	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Loss of trees, structures, land uptake for gravel pits and feeder roads	• Compensation for land uptake for gravel pits and feeder roads • Compensation for small structures, trees (miscellaneous)	• Number structures, trees compensated • Number of borrow pits compensated	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Spread of sexually transmitted infections including HIV and AIDS	• Adoption and operation of HIV and AIDS policy for road • Distribution of condoms and IEC materials to both men and female workers • Civic education on dangers of the HIV and AIDS among the workers and local people	• HIV and AIDS policy in place. • Number workers distributed with condoms every month • Number of civic education meetings.	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Prevalence of pools of stagnant water and multiplication of mosquitoes	• Regular flashing of pools of stagnant water. • Distribution of mosquito nets to workers	• Number of pools of stagnant water flashed	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
Nuisance from smoke and smut from burning of bitumen	• Use of cold mix asphalt or concrete slabs for road surface which is noted heated • Use of slurry bound macadam surfacing which is not heated • Provision of protective wear to workers.	• Use of alternative surfacing materials	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Physical injuries from accidents– fall from trucks and machinery etc.	• Provide protective clothing to workers	• Number of protective wear with workers	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records
Solid wastes and sewage from contractors camp	• Refuse pits for disposal • Ventilated pit latrines for workers	• Number of toilets • Number of refuse pits • Number of ventilated pit latrines	Every six months	• MEPA • PIU Safeguards Expert • MK200,000.00	• Inspections • Records

Table 7-8: Environmental and Social Monitoring Plan for mitigation measures for construction/ rehabilitation and operations of irrigation schemes

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
Impacts on vegetation resources.					
Loss of vegetation and greenery beauty on the site	• Maintain some trees as buffer zones around the scheme • Establishment tree nurseries including tree seedlings for natural trees • Promote the use of wood – energy efficient cooking stoves among schemes workers and local communities around the scheme.	• Vegetative buffer zones • Tree nurseries established at the scheme. • Number of energy – efficient stoves used by scheme workers.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
Impacts on wildlife Resources					
• Loss of habitat for wild animals • Loss of biodiversity mice, snakes	• Maintain some trees around the scheme blocks as tree belts • Afforestation within local villages around the scheme for fuel wood supply to local people.	• Vegetative buffer zones around the scheme. • Number of trees planted in villages around the scheme	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
Impacts on land and soils.					
• Increase in surface runoff and soil erosion due to increase in exposure of soil	• Implement soil conservation measures within all the fields (check dams, box ridges) • Regular tilling of land for infiltration	• Regular harrowing and tilling of land • Soil conservation measures – box ridges, check dams.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Pollution of soil from contamination of petroleum products	• Proper storage facilities for oils, diesel and minimise spillage. Minimise spillage from machinery on site through proper maintenance • Install a collector in workshops/garages to collect oil during maintenance works.	• Fuel tanks well-constructed no leakages. • Fuel collectors installed in garage/workshops	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Risks of water logging and salinization	• Apply correct amount of water to irrigated area and correct amount of fertilisers • Ensure sufficient infield drainage and minimise over-irrigation. • Use overhead irrigation system (centre pivot) • Add lime to soil where there are problems of salinization	• Regulation of correct amount of water and fertilisers to soils • Centre pivot irrigation system in place • Degraded soil reclaimed.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
• Disturbance to the growth of micro - organisms	• Use correct amount of fertilisers in fields • Use of a combination of organic fertilisers; minimum tillage and recycling of crop residue	• Use of organic fertiliser, minimum tillage and residue recycling methods	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
Impacts on water resources.					
• Increase in suspended solids and sediments delivery into surface water resources.	• Water harvesting measures (box ridges, check dams) and improvement of soil infiltration	• Water harvesting/land conservation measures in place • Regular tillage.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Pollution from spillage of petroleum products	• Proper storage facilities for oils, diesel and minimise spillage • Install an oil collector in workshops/garages to collect oil during maintenance works.	• Proper fuel tanks with no leaks • Oil collectors installed in garage	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Exposure and pollution from agro-chemicals	• Use environmentally friendly agro-chemicals, registered with Pesticide Board of Malawi • Train workers in proper storage, handling and use to minimise the spillage. • Storage of agro –chemicals within spacious and well-designed storage facilities.	• Use of registered agro - chemicals	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Increase in siltation and deterioration of water quality in streams nearby	• Maintenance of vegetative buffer zone along sugarcane fields to minimises soil erosion into river. • Check out soil erosion on the scheme	• Vegetative buffer zone along cane fields	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
Social impacts on local communities.					
• Loss of land for food crop production	• Reserve at least 20% of land for irrigated food crop production on the scheme for each commercial farmer • Construct a diversion canal to convey water to gardens surrounding Scheme for food production	• Reserve of land for food crops • Extension of canal to gardens of local people around the scheme	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Marginalisation of women in allocation of land for crop production	• Allocation of land to be restricted to households who own land on the site. No migrant people/workers.	• Restriction of land allocation to original owners of land.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
	• Allocation system to be done by tripartite committee (, local headperson and representative of DC) • Reserve number of pieces of land for women participation.	• Establishment of tripartite committee for land allocation. • Percentage of land reserved for female headed households			
• Disputes in land allocation, ownership and benefits from sales of produce	• Register all households and sizes of their gardens on the site. Use this register as basis of allocation of land at scheme. • Disputes to be presided over by tripartite committee-.	• Establishment of tripartite committee • Definition of formulae for distribution of benefits.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Influx of migrant workers leading to competition of land and natural resources in the area	• Recruitment of local people as general labour force as priority.	• Number of local people employed.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Risks of interferences in local marriages	• Recruitment of local people as general labour force as priority. • Sensitisation of migrant workers to desist from interferences in local marriages.	• Number of local people employed. • Number of sensitisation meetings.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Risks of introduction and spread of communicable diseases and sexually transmitted diseases including HIV/AIDS	• Establishment of scheme HIV/AIDS workers'' committee. • Regular sensitisation meetings among workers. • Distribution of condoms and IEC materials for free to workers	• HIV/AIDS workers' committee • Number of sensitisation meetings • Number workers and condoms distribution.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Conflicts between migrant workers and local people	• Recruitment of local people as general labour force as priority • Sensitisation of migrant workers to respect local cultures and live with local people in harmony.	• Number of local people employed. • Number of sensitisation meetings	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Risks of child labour	• Recruitment of workers through district labour office. No recruitment of school going children or persons below eighteen years for any work at scheme.	Minimum age of workers at the scheme.	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Prevalence of pools of stagnant water and multiplication of mosquitoes	• Regular flashing of pools of stagnant water. • Distribution of mosquito nets	Number of pools of stagnant water flashed	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records

Identified Negative Impacts for mitigation	Recommended mitigation measures	Monitoring indicators	Frequency of monitoring	Monitoring authorities and budget estimates	Means of verifications
• Physical injuries from accidents– fall from trucks and machinery etc.	• Provide protective clothing to workers	Number of protective wear with workers	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records
• Exposure and poisoning from agro-chemicals	• Provision of adequate protective equipment. • Integrated pest management methods	Protective wear Training of farmers in IPMP	Every six months	MEPA PIU Safeguards Expert MK200,000.00	Inspections Records

7.7 ESMF implementation arrangements

The implementation of the ESMF is the responsibility of the Ministry of Agriculture (Moa) through the PIU. This section describes the implementation arrangements of the ESMF and subsequent site-specific ESMPs. PIU and governmental institutions are to benefit from the project, and their regulatory and advisory roles will be needed, recognized, and utilized when necessary. For example, those public institutions that are important at the preparatory stage (mainly for technical advice and regulatory information provision) will include the MEPA, who will support screening of sub-project and categorisation, and eventually monitoring the implementation of the sub-projects ESMPs; Ministry of Agriculture (Moa) who will provide support in the selection of sub-projects and other related project interventions; the local authorities such as the offices of the district environment office, district labour office and other district environmental sub-committee (DESC). Local government councils have long-established relationships with beneficiaries' communities and can therefore play a role, for example, in convening and facilitating discussions between the project implementing unit and stakeholders. Roles and responsibilities in ESMF implementation are presented below.

7.7.1 Project Implementation Unit (PIU):

The daily management of the project has been vested in a dedicated PIU. The staff of the PIU include an environmental specialist and a social specialist who will be responsible for the follow-up of the implementation all aspects of the ESMF/ESIA/ESMPs of the project.

- ***Project Coordinator:*** the coordinator will oversee the project's implementation. He will be responsible for initiating the ESIA/ESMP process of subprojects that require clearance from MEPA.
- ***Environmental Specialist and Social Specialist of the PIU:*** These specialists will provide progress reports on all environmental and social issues and activities, including implementation of the ESMF and ESMPs. Progress reports will be submitted to the MEPA and World Bank. The specialists will ensure integration of environmental and social mitigation measures in the bidding documents, ensure that the contractor prepares his ESMP, gets it approved, and integrates the relevant measures in the works breakdown structure or execution plan. The officers will ensure that contract documents contain environmental and social safeguard clauses that contractors must fully implement. The officers will also support district councils in implementation of environmental and social safeguards.

7.7.2 District Councils

Members of district environmental subcommittee (DESC) which will consist of at least three technical specialists and led by the environmental district officer, will be responsible for carrying out the environmental and social screening of planned activities using forms in Annex 3. The committee may include the district forestry officer, district water officer, director of planning and development, district agriculture officer, district lands officer, and district HIV officer. Members of district environmental subcommittee will be responsible for determining the appropriate environmental mitigation measures the proposed sub-projects and to arrange for the appropriate level of environmental work to be carried out.

The budget for the district environmental offices in all districts is estimated at US$200,000.00. Malawi Government will provide financial resources to all environmental district officers to supervise adherence to environmental and social safeguards by contractors and POs during implementation of MFSRP and the AF.

7.7.3 Contractors

The contractors will be responsible for implementation of all environmental and social related activities under the subproject. Each contractor obliged to follow the ESMF and ESMP provisions during project implementation, including preparation and delivering to implementing agencies for approval of the site-specific implementation plans. Construction contractor will make proposal for environmental or social protection, including safety of persons associated with the works and the public, during a preconstruction period. The proposal will be reviewed and approved by implementing agencies (MOA) through the supervision contractor. In this regard, attention will be given to:

- Taking all reasonable steps to protect the environment on and off-site to avoid damage or nuisance to implementing persons or property arising from its operations,
- Maintaining conditions of safety for all Implementing persons entitled to be on site, and
- Ensure separate, safe and easily accessible facilities for women and men working on the site.

7.7.4 Producer organisations or farmers or beneficiaries

These are the direct beneficiaries of the proposed project. They will receive training and farming tools from the project proponent as well as cultivate the land for which the proposed project will be implemented.

7.7.5 Malawi Environmental Protection Authority (MEPA)

The MEPA will be responsible for overall external monitoring of the implementation of this ESMF and subsequent ESMPs. It will provide technical support and participate in training and sensitisation of stakeholders (if requested) to enhance understanding of the national environmental and social safeguard instruments. The authority has a monitoring and supervisory role and shall be responsible for confirming the results of the screening process, reviewing and clearing subproject-specific safeguard instruments, and conducting compliance monitoring within the context of the national laws and regulations, as well as the World Banks' policies and procedures.

8 Capacity Development and Training

8.1 Capacity building

Capacity building for effective implementation of the environmental and social safeguard requirements is a key element of the ESMF. Capacity building for environmental and social safeguard management will need to be carried out at all tiers of the project. At the district level, it is envisaged that the DESC will need capacity building. The orientation of the DESC will be a sub-set of the orientation of district executive committee on proposed project works in the districts. At the construction site, PIU will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers. The various aspects that are covered under the capacity building will include general environmental and social awareness, key environmental and social sensitivities of the area, and key environmental and social impacts of the program, ESMP requirements, OHS aspects, and waste disposal.

8.2 Completed training

Under the MSFRP Two training sessions have been conducted:

I. Grievance Redress Management Training:

Target Audience was the district Technical Officers and the newly established Community Grievance Redress Management Committee members (CGRC). The focus was mainly on grievance handling and resolution.

II. Two regional Training on environmental and social screening exercise, ESMP development, OHS, GRM and GBV

The main purpose was to orient district safeguards stakeholders with participation ranging from the district environmental officer who is the safeguards desk officer in district councils, the agribusiness officer who is the technical desk officer of the project, the agricultural gender officers and the AGCOM TIS Brokers.

It should be noted that these kind of trainings are still needed and will form part of the training requirements for the completion of the MSFRP and AF since they are tailor made, especially on the GRM training which depends on the operation of productive alliances. Hence the training programs are ongoing throughout the project cycle.

8.3 Training requirements to support the completion of the MSFRP and AF

The first step in pursuing capacity building will be to identify the capacity building needs of the various stakeholders. However, in addition to the needs identified, an indicative list of areas of training has been proposed which includes the following:

Infrastructural development activities under Malawi Agricultural Commercialisation Project

- Environmental and social screening checklist.
- Environmental and social safeguards instrument under MFSRP and the AF,

- Grievance Redress Mechanisms,
- Resettlement Issues
- Preparation of environmental and social management plans for sub-projects.
- World Bank Environmental and Social Standards.
- Environmental and social clauses in procurement process and in local contractors' contract.
- Development of environmental and social management tools.
- Monitoring of environmental and social safeguards.
- Occupational health and safety.
- Gender assessment and mainstreaming within project activities.
- HIV /AIDS mainstreaming within project activities.
- Pesticide management plans.

Specific information, education and communication materials will be prepared to guide on matters of environmental and social screening to councils, non-governmental organisations. Materials will include fact sheets and briefing notes. There will be 2 Training of Trainers Programmes; one for national participants and the second one for district council staff and the tentative training programme is indicated in Table 8-1.

Table 8-1: Tentative Training of Trainers Programme

Day	**Topic**
Day 1	• ESIA process
	• Concept of ESMF
	• World Bank ESSs
	• Malawi EIA Policy and Regulatory Framework
	• Difference between ESIA and ESMF
	• Brief overview of other safeguards instruments under MFSRP and the AF (LMP, SEP)
Day 2	• Screening Process and tools to be used (Environmental and Social Screening Form/Checklist)
	• Roles of stakeholders
	• Environment and Social priority issues;
	• Environmental and social clauses in local contractor's contract documents
	• HIV and AIDS and other STIs
	• Gender Based Violence
	• Child Labour
	• Occupational and public/learners health and safety risks
	• Covid-19 prevention
	• Grievance redress mechanism
	• Construction standards for MFSRP and the AF
Day 3	• ESMP development
	• Identification mitigation measures and filling into ESMP'
	• Responsibilities and Budget for implementation of ESMP
	• Monitoring implementation of environmental and social safeguards instruments
	• Project monitoring and reporting

	• Incident reporting
Day 4	• Practical session on how to conduct screening and develop ESMP at the identified site

8.4 Technical Support in preparation of environmental and social management plans s for sub-projects

Consultants must prepare detailed environmental and social management plans for the sub-projects such as building or rehabilitation of rural warehouses, construction or rehabilitation of small-scale irrigation schemes, feeder roads, electricity, and portable water facilities. Ministry of Agriculture will provide the resources to project implementation unit in each financial year to carry out environmental and social impact assessment reports and environmental and social management plans for sub-projects.

8.5 Estimated costs to implement the ESMF

This section estimates all costs that will be incurred to implement the requirements or recommendations of this ESMF. The ESMF requires that implementation of the project integrates environmental and social issues for the long term environmental and social sustainability of the project as well as its components and sub-components. Among other things the ESMF recommends the following key issues, namely; preparation of the project's ESMP, preparation of site-specific ESIAs, training and capacity building, reviewing and monitoring mechanisms among other requirements.

Building the capacity of staff from the implementing unit and the project implementers as well as local government officials at district level will be very important. This will enable them to screen, review and monitor environmental issues in the project to ensure compliance with requirements of the national policies and Acts as well as World Bank ESF. Based on experience from AGCOM1.0 the estimated cost for implementing the recommendations of this ESMF will be approximately US$1,350,000. Details of these costs are presented in Table 8-2. PIU and local government officials at district level will be responsible in the implementation of capacity development activities on environmental and social management framework. Budget estimated costs for the various activities under this project will be built in the overall project budget. Malawi Government has agreed to provide financial resources to implement activities listed above. Ministry of Agriculture will provide the resources to project implementation unit each financial year to implement the list activities above.

Table 8-2: Summary of budget estimates for environmental and social management activities per component of the project

No.	Activity	Timeframe	Responsibility	Cost (USD)
1	Training of project implementers, district council staff and other MoA staff	Years 1 and 3 of project implementation	MoA / PIU	250,000.00

2	Preparation of site-specific ESMP/ESIAs	Years 1, 2 and 3 of project implementation	PIU / Consultants	400,000.00
3	Capacity building of POs in environmental and social risk management	Years 1, 2 and 3 of project implementation	PIU / District council	150,000.00
4	Support extension work and training of farmers in integrated pest management.	Years 1 of project implementation	MoA	50,000.00
5	Institutional strengthening in implementation of environmental and social mitigation measures at District levels	Throughout the project management period	PIU / District council	200,000.00
6	ESMP Monitoring – supervision and control missions	Throughout the project management period	MoA / PIU	300,000.00
			Total	**1,350,000.00**

9 Conclusion and Recommendation

The proposed MFSRP and the AF Project has potential to significantly improve smallholder production, productivity and income in the country. An improvement in the income of the Smallholder farmers will translate to improved food security as they now will have cash to secure other needs. The implementation of MFSRP and the AF will provide considerable economic opportunity for material or equipment suppliers, construction contractors and agriculture professionals.

The envisaged environmental and social impacts include disturbance of soil from digging of pits and foundations, and irrigation and value addition infrastructures construction activities, solid and liquid waste generation, tree cutting and general vegetation clearing, emission of dust and generation of noise, employment creation, etc. These envisaged environmental impacts will generally be localised, minimal, short term and can be mitigated. However, this will entail incorporating the requisite waste and effluent handling units to the facilities and adhering to the requirements of the current ESMF. The Final benefits of this project to the nation will, by far outweigh potential negative effects.

It is therefore recommended that:

- All agricultural and value addition infrastructure must include the requisite waste disposal or handling systems.
- The choice and type of construction materials and finish should maximise the blending concept.
- It is important that stakeholder organisations such as District Commissioners, Department of Environmental Affairs, NGOs and other interested parties are consulted and kept informed of the implementation progress so that they can play their part.
- Reduction and control of noise levels to minimise any disruption to the living conditions of wildlife be strictly adhered to.
- The land around any sub-project works should be left intact and pollution be minimised.
- Bush clearance should be confined to the necessary part, buffer strips be maintained and huge indigenous trees in the area should be preserved as much as possible.
- Labour intensive methods should be encouraged as they benefit the local community in terms of job creation. For this the project should employ locals as much as possible to ensure that benefits remain in the area where development is taking place.
- The use of destructive machinery should be avoided as much as possible. Machinery will adversely affect soils and undergrowth.
- The recommended mitigation measures should be implemented to reduce significant environmental impacts.

The programme overall will not have any apparent significant environmental impacts if the recommended mitigations are carried out.

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Annex 1: Terms of reference for Environmental and Social Management Framework (ESMF)

TERMS OF REFERENCE
FOR
CONSULTANCY SERVICES TO UPGRAD ENVIRONMENTAL AND SOCIAL MANAGEMENT INSTRUMENTS FOR THE AGCOM PROJECT

Reference No MW-MOAIWD-288674-CS-INDV

1. PROJECT BACKGROUND

The Government of Malawi is implementing a six-year (2018-2023) Agriculture Commercialisation (AGCOM) Project with funding from the World Bank through an International Development Association (IDA) credit amounting to USD 95 million. The project development objective is to increase commercialisation of agriculture value chain products with strong prospective market or commercial (value chain – buyer) linkages.
The project is being implemented by Ministry of Agriculture (MoA) in collaboration with Ministry of Trade and Industry Trade (MoTI). Other key implementing agencies are the Ministry of Lands, Malawi Bureau of Standards (MBS) and Malawi Investment and Trade Centre (MITC). The Project is implemented through a governance structure that comprises a Project Steering Committee (PSC), a Project Technical Committee (PTC) and a Project Implementation Unit (PIU).
Based on the success of AGCOM, the Government of Malawi is preparing a second phase ('MFSRP and the AF'). The new project will primarily foster the agricultural commercialization agenda in line with the Malawi Vision 2063. The building blocks of the second phase include scaling up the productive alliance approach, financing strategic infrastructure, and continuing to improve the systems, policies, and public service delivery to stimulate agricultural growth and job creation, as well as climate resilience.

2. BRIEF BACKGROUND OF THE AREA OF INTERVENTION

Implementation of the MFSRP will have to be undertaken in line with Government of Malawi and World Bank Legal Safeguards requirements. The implementation of various project activities is expected to interact with both the social and physical environments in various dimensions. This interaction will certainly lead to some impacts that may be positive or negative in nature.
To enable the project enhance or mitigate any such impacts the project activities would generate, the project is supposed to develop a set of safeguards instruments. These instruments would guide the project implementations on how environmental and social impact assessments would be conducted if the project is to be implemented sustainably. Furthermore, the instruments will provide a general guidance on how the project should implement the anticipated mitigation measures plus engaging both the affected and interested parties so that they are all part and parcel of project implementation.
It is therefore required that a consultant be identified that should support to develop various environmental and social safeguards instruments that will guide both the preparation and implementation of MFSRP, in accordance with the Environmental Management Act (1997) and World Bank Environmental and Social Framework (ESF).

3. OBJECTIVES OF THE ASSIGNMENT

The general objective of this assignment is to develop environmental and social safeguards (ESS) instruments for the project in fulfilling the requirements for Environmental and Social Framework (ESF) and Environmental Management Act (2017). Specifically, the objectives of the assignment are:

a. To develop a stakeholders engagement plan (SEP) that will be used by AGCOM Project; the SEP will include a summary of updated AGCOM GRM.

b. To develop an environmental and social management framework (ESMF) that shall guide the implementation of activities under AGCOM Project;

c. To develop labour management procedures (LMP) that have to be applied to various construction works under AGCOM Project.

d. To develop AGCOM's resettlement framework (RPF);

e. To update AGCOM's grievance redress mechanism(GRM);

AGCOM prepared a set of instruments and, the consultant will, for the new project, build on those instruments to develop new set of safeguards instruments.

4. SCOPE OF THE ASSIGNMENT

The assignment contains five elements a) the ESMF b) the SEP c) the LMP d) RPF and e) GRM. These documents are the key environmental and social instruments to ensure compliance with the World Bank Environmental and Social Framework. While these documents are prepared separately, they are interrelated and the consultant should ensure their consistency throughout.

4.1 Preparation of the ESMF

The following are terms of reference (TORs) for the preparation of an environmental and social management framework (ESMF) which will inform the approach to environmental and social management which is to be adopted under the new project. In particular, the ESMF will provide guidance for environmental and social assessment and management during preparation of the sub-projects to be identified during project preparation. An ESMF (as opposed to an ESIA – environmental and social impact assessment) is chosen because the specific portfolio of projects is not yet defined, dimensions and designs for the investments (e.g. roads, electricity line routes, buildings, offices, etc.) and their specific locations are not yet clear, and a detailed assessment of potential environmental and social impacts is thus not feasible at this time. The ESMF will be prepared in line with international good practice and the World Bank's Environmental and Social Framework (ESF) and the World Bank Group Environmental, Health and Safety Guidelines (ESHG) and national environmental legislation.

The project is expected to trigger the following Environmental and Social Standards: ESS 1 Assessment and Management of Environmental and Social Risks and Impacts; ESS 2 Labour and Working Conditions; ESS 3 Resource Efficiency and Pollution Prevention and Management; ESS 4 Community Health and Safety; ESS 8 Cultural Heritage and, ESS 10 Stakeholder Engagement and Information Disclosure (predicated on the assumption that the agricultural infrastructure investments that may result from the project, particularly the civil work activities, could result in significant impacts on the biophysical and social environments). These TORs represent the one of the environmental and social instruments to be submitted before appraisal of the Project, and will thus be subject to public disclosure, review and comments.

Objectives of consultancy for preparing the ESMF

The main objective of this assignment is to develop an environmental and social management framework (ESMF), including the collection of all required data, information and materials. This shall provide clear, comprehensive and practical guidance to the Government of Malawi on integrating an environmental or social due diligence process into MFSRP implementation. The ESMF will at a minimum:

i. Identify all relevant potential environmental risks and social concerns that may arise as a result of the proposed project and the sub-projects that it will support;
ii. Specify appropriate roles and responsibilities of involved actors and parties;
iii. Develop a screening and assessment methodology for potential sub-projects, that will allow an environmental and social risk classification in line with the ESF and the identification of appropriate safeguards instruments;
iv. Develop environmental and social criteria for screening and prioritisation within a portfolio of potential projects and activities;
v. Outline the required procedures for managing and monitoring environmental risks and social concerns related to the projects, and identify the need for developing the TOR for appropriate environmental and social instruments (such as ESIA, ESMP or other studies) as appropriate and required;
vi. Determine the training, capacity building and technical assistance needed to successfully and effectively develop and implement the required ESF instruments for investments planned during the AGCOM Project;
vii. Establish the funding required to implement the ESMF requirements; and
viii. Provide practical information resources for implementing the ESMF.

After the completion of the assignment, the Government of Malawi should be knowledgeable on the key due diligence issues to be expected within the project portfolio identified under the AGCOM Project, and have the capabilities and capacity to manage them in line with national requirements, the World Bank ESF and international good practice.

Scope of work for preparing the ESMF

Preparation of an ESMF that ensures that sufficient guidance is provided to the project in the selection, preparation and implementation of sub-projects in order to avoid or minimise environmental and social risks and negative impacts and enhance the environmental and social performance. This will be accomplished through the development and application of proper selection criteria for specific investment projects, planning that takes into account environmental and social criteria, sound implementation and monitoring, and disclosure, consultation and feedback. To achieve this objective, the consultant(s) will carry out the following tasks through research, interviews and fieldwork:

i. Based on a detailed description of the AGCOM Project, its components (especially those relating to the identification and development of specific investment projects), and implementation arrangements develop and provide guidance on environmental and social criteria to be used during the identification and selection of priority investment projects. Also, develop a negative list of activities and potential investments not recommendable for support, due to their poor environmental or social performance.
ii. Compile a summary of key domestic legislative, regulatory and administrative regimes; the requirements of the World Bank ESF's ESS and the World Bank Group ESHS within which the programme will operate, with a focus on requirements that will apply to the planning, approval and implementation of projects; research and summarise regional agreements and treaties that are relevant to project planning and implementation, as well as environmental management and due diligence.
iii. Establish a clear understanding of the institutional requirements, roles and responsibilities for adopting and implementing the ESMF. Importantly, this should include a thorough review of the authority and capability of AGCOM Project

institutions at different levels (e.g. local, district, and national) and their capacity to manage and monitor ESMF implementation. The ESMF should also consider relevant implications for management procedures and training, staffing, operation and maintenance, budgeting and financial support.

iv. Develop a screening and assessment methodology for potential specific investment projects, that will include environmental and social performance criteria, allow an environmental and social risk classification and the identification of appropriate safeguards instruments in line with the requirements of the World Bank ESF; identify all relevant potential environmental risks and social concerns that may arise as a result of the AGCOM Project and specific investments.
v. Identify and describe the required instruments and procedures for managing and monitoring environmental and social risks related to the sub-projects, such as assessments (e.g. ESIA), management plans (e.g. ESMP) and respective monitoring instruments.
vi. Propose realistic and effective arrangements for the Government of Malawi to develop the capacity to manage environmental and social processes and activities in the project portfolio; propose reporting lines, review and approval functions; identify the required resources and technical assistance measures to establish and maintain the Government of Malawi's capacity for the AGCOM Project duration and beyond; develop a process (including timeline, budget, organizational requirements, required trainer profiles and expertise) for building and enhancing the capacity of the institutions responsible for implementing the ESMF;
vii. Define the requirements for technical assistance (where appropriate) to the Government of Malawi, civil society organisations (CSO), service providers and public sector institutions to implement, manage, supervise, observe or support the implementation of the ESMF.
ix. Estimate a realistic budget to be allocated for timely implementation of the ESMF.

It is expected that the consultancy will involve a series of in-country consultations at various levels and fieldwork to all levels where subprojects are likely to be proposed in order to prepare the ESMF.

Deliverables of the ESMF

The key deliverable will be the ESMF report, which will have the following suggested sections:

a) Executive summary.
b) Introduction describing the ESMF purpose, objectives, principles and methodology.
c) Description of environmental and social-relevant aspects of the planned AGCOM Project, summary of approximate nature and scale of the portfolio, project types, locations and dimensions.
d) Description - in appropriate level of detail – of environmental and social baseline conditions for the anticipated project areas, including physical and biological conditions, as well as socio-economic information.
e) Summary of the regulatory framework, including key national policies, laws and regulations, as well as regional agreements and treaties, requirements of the World Bank ESF and identification of any gaps between national and World Bank ESF requirements as well as proposed measures to address such gaps.
f) Summary of types of risks and impacts that may result from the anticipated AGCOM Project activities interacting with environmental and social baseline typologies, and what probability, magnitude, duration and geographic scope these risk and impacts could assume, the assessment would include cumulative and induced impacts.
g) List of realistic, effective, practical mitigation measures to address and manage the spectrum of potential environmental and social risks and impacts; develop

environmental management plans for similar impact typologies, and produce rough estimates for the cost of mitigation measures;.

h) Methodology for screening, categorisation and typology of identified investment projects: ESS trigged, risk classification, instruments required to be prepared for policy compliance; for due-diligence-related management and decision making;
i) List of environmental and social screening and selection criteria, to be used for project identification, characterisation and prioritisation, including negative ones.
j) Range of appropriate safeguards instruments for identified investment projects (ESIA, ESMP, etc.); description, required expertise, timeframe, review and clearances, disclosure and consultation procedures, expected tables of contents, guidance for preparation.
k) Roles and responsibilities for project screening and selection, determination of environmental and social risk, instruments and process, for disclosure and consultations, financing, supervision of studies and subsequently implementation of works, quality assurance, and decision making.
l) Capacity analysis and proposals for improving and consolidating capacity and skills required for programme implementation and beyond the programme for general due diligence management.

Annexes should complement the main ESMF Report with detailed, additional information and resources. As a minimum, the following Annexes are suggested:

a) List of persons and organisations involved with the preparation of the ESMF;
b) References: documents, whether published or not, that were used to prepare the studies and outputs; list of related reports;
c) Minutes of meetings among the relevant institutions and of consultations, including those undertaken to obtain the authorised views of the affected populations and local non-governmental organisations (NGOs). The annex should also include specific formats used (such as surveys) to obtain these views;
d) Table of contents, templates, samples and guidance for ESIA, ESMP, etc.

4.2 Preparation of the SEP

The following are terms of reference for the preparation of a social engagement plan (SEP) which will inform on the approach to engaging with stakeholder to be adopted under the Project (which is described above). The objective is to establish a systematic approach for stakeholder engagement, maintain a constructive relationship with them, consider stakeholders' views, promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life-cycle, and ensure that appropriate project information is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner. The project will set up a project-specific grievance redress and feedback mechanism for people to report concerns or complaints if they feel unfairly treated or are affected by any of the sub-projects. The SEP will be disclosed publicly and will be updated as and when necessary.

Objectives of consultancy for preparing the SEP

The overall objectives of SEP as stated in the World Bank's Environmental and Social Framework ESS-10 are to:

a. To identify the roles and responsibilities of all stakeholders and ensure their participation in the complete project cycle.

b. To establish a systematic approach to stakeholder engagements that will help SPESSE identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties.

c. To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be considered in project design and implementation.

d. To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them.

e. To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format with special consideration for the disadvantaged or vulnerable groups.

f. To provide project-affected parties with accessible and inclusive means to raise issues and grievances and allow relevant authorities to respond to and manage such grievances.

g. To devise a plan of action that clearly identifies the means and frequency of engagement of each stakeholder.

h. To allocate budgetary and other resources in the project design, project implementation, and monitoring and evaluation (M&E) for stakeholder engagement and participation.

The SEP will provide an opportunity for all-inclusive approach in project preparation, planning, implementation and monitoring processes. It is geared toward ensuring meaningful and a wide consultative process guided by World Bank's Environmental and Social Framework (ESF), particularly ESS-10.

Scope of the consultancy for preparing the SEP

The key tasks of the consultant will be to prepare the SEP. The consultant shall carry out the assignment and organise the required information taking into account the World Bank Environmental and Social Framework procedures and the relevant legal and policy frameworks of the Government of Malawi. Furthermore, the consultant will in coordination with the AGCOM Project taskforce consult the potential beneficiaries for specific subprojects and also to consult key concerned stakeholders and ensure that all their views have been incorporated into the reports, whose evidence shall be appended to each report.

The key deliverable will be the SEP report, which will have the following suggested sections:

a. Overview and Description of Project
    i. Context
    ii. Objectives
    iii. Application of SEP
b. Previous stakeholder engagement activities
c. Stakeholder Engagement Program
    i. Stakeholder identification and analysis
    ii. Stakeholder engagement program
d. Resources and Responsibilities for Stakeholder Engagement
    i. Resources
    ii. Management functions and responsibilities

e. Grievance Redress Mechanism – The borrower will respond to concerns and grievances of a project-affected parties related to the environmental and social performance of the project in a timely manner. For this purpose, the consultant is expected to update the AGCOM 1 GRM based on lessons learnt during project implementation. The GRM will receive and facilitate resolutions of concerns and grievances.

The grievance mechanism should be proportionate to the potential risks and impacts of the project and should be accessible and inclusive. The grievance mechanism is expected to address concerns promptly and effectively, in a transparent manner and that is culturally appropriate and readily accessible to all project-affected parties, at no cost and without retribution. The mechanism, process or procedure should not prevent access to judicial or administrative remedies.

f. Monitoring and Reporting

4.3 Preparation of the LMP

The following are terms of reference for the preparation of a labour management procedure (LMP), which will inform the approach to meeting national requirements as well as the objectives of the World Bank's Environmental and Social Framework, specific objectives of Environmental and Social Standard 2: Labour and Working Conditions (ESS2) and Standard 4: Community Health and Safety (ESS4) under the Project (which is described above).

Objectives of consultancy for preparing the LMP

The LMP sets out how the AGCOM Project will identify the types of workers who will be engaged in the Project with tenures of respective groups to be recruited and involved, including direct, contracted (and sub-contracted, as appropriate), and Primary Supply Workers. The key objective of this document is to categorically identify, assess, and prescribe on how to address the issues of child and forced labour, labour influx, gender-based violence, occupational health and safety, and trafficking in persons. In addition, the impacts of and restrictions due to Covid-19 should be identified.

Scope of the consultancy for preparing the LMP

The key deliverable will be the SEP report, which will have the following suggested sections:

a. Overview of labour use on the project
    i. Number of project workers and types of workers
    ii. Characteristics of project workers (local, national or international migrants, female workers, workers between the minimum age and eighteen)
    iii. Timing of labour requirements:
    iv. Contracted workers: The anticipated or known contracting structure for the project, with numbers and types of contractors/subcontractors and the likely number of project workers to be employed or engaged by each contractor or subcontractor. If it is likely that project workers will be engaged through brokers, intermediaries or agents, this should be noted together with an estimate how many workers are expected to be recruited in this way.
    v. Migrant workers: If it is likely that migrant workers (either domestic or international) are expected to work on the project, this should be noted and details provided.
b. Brief overview of labour legislation: terms and conditions
    i. National labour legislation with regards to terms and conditions of work, and how national legislation applies to different categories of workers identified in Section 1. The overview focuses on legislation which relates

to the items set out in ESS2, paragraph 11 (i.e. wages, deductions and benefits).

c. Responsible Staff
   i. This section identifies the functions and/or individuals within the project responsible for (as relevant):
   ii. Engagement and management of project workers
   iii. Engagement and management of contractors or subcontractors
   iv. Occupational health and safety (OHS)
   v. Training of workers
   vi. Addressing worker grievances
   vii. In some cases, this section will identify functions and/or individuals from contractors or subcontractors, particularly in projects where project workers are employed by third parties

d. Policies and Procedures
   i. This section sets out information on OHS, reporting and monitoring and other general project policies. Where relevant, it identifies applicable national legislation. Where significant safety risks have been identified as part of Section 2, this section outlines how these will be addressed. Where the risk of forced labour has been identified, this section outlines how these will be addressed. Where risks of child labour have been identified, these are addressed in Section 7.
   ii. Where the borrower has stand-alone policies or procedures, these can be referenced or annexed to the LMP, together with any other supporting documentation.

e. Age of Employment
   i. The minimum age for employment on the project
   ii. The process that will be followed to verify the age of project workers
   iii. The procedure that will be followed if underage workers are found working on the project
   iv. The procedure for conducting risk assessments for workers aged between the minimum age and eighteen

f. Terms and conditions
   i. Specific wages, hours and other provisions that apply to the project
   ii. Maximum number of hours that can be worked on the project
   iii. Any collective agreements that apply to the project. When relevant, provide a list of agreements and describe key features and provisions
   iv. Other specific terms and conditions

g. Grievance Mechanism
   i. This section sets out details of the grievance mechanism that will be provided for direct and contracted workers and describes the way in which these workers will be made aware of the mechanism.

h. Contractor Management
   i. The selection process for contractors.
   ii. The contractual provisions that will put in place relating to contractors for the management of labour issues, including occupational health and safety.
   iii. The procedure for managing and monitoring the performance of contractors.

i. Community Workers

i. Details of the terms and conditions of work and identifies measures to check that community labour is provided on a voluntary basis

ii. Details of the type of agreements that are required and how they will be documented. This section sets out details of the grievance mechanism for community workers and the roles and responsibilities for monitoring such workers

j. Primary Supply Workers
   i. Where a significant risk of child or forced labour or serious safety issues in relation to primary suppliers has been identified, this section sets out the procedure for monitoring and reporting on primary supply workers

4.4 Preparation of the RPF

The following are terms of reference for the preparation of a resettlement policy framework (RPF), which will inform the approach to meeting national requirements as well as the objectives of the World Bank's Environmental and Social Framework as outlined in ESS5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement.

Objectives of consultancy for preparing the RPF

The purpose of the resettlement framework is to clarify principles, organisational arrangement, and design criteria to be applied in subprojects or project components to be prepared during project implementation. The framework is prepared where the likely nature or magnitude of the land acquisition or restrictions on land use related to the project with potential to cause physical and/or economic displacement is known.

Scope of the consultancy for preparing the RPF

The resettlement policy framework should cover the following elements:

a) A brief description of the project and components of which land acquisition and resettlement are required, and the explanation of why a resettlement policy framework rather than a resettlement plan is being prepared;
b) Principles and objectives governing resettlement preparation and implementation;
c) A description of the process for preparing and approving resettlement plans;
d) Estimated displacement impacts and estimated numbers and categories of displaced persons, to the extent feasible;
e) Eligibility criteria for defining various categories of displaced peoples;
f) A legal framework reviewing the fit between borrowers' law and regulations and Bank policy requirements and measures proposed to bridge any gap between them;
g) Methods of assessing affected assets;
h) Organisational procedures for delivery of compensation and other resettlement assistance, including the projects involving private sector intermediaries, the responsibility of the financial intermediary, the government and the private developer;
i) A description of implementation process, linking resettlement implementation to civil works;
j) A description of grievance redress mechanisms;
k) A description of the arrangements for funding resettlement, including the preparation and review of cost estimates, the flow of funds, and contingency arrangements;
l) A description of mechanisms for consultations with, and participation of, displaced persons in planning, implementation and monitoring; and
m) Arrangements for monitoring by implementing agency and, if required, by third-party monitors.

4 DELIVERABLES

The following table includes deliverables and timeline, expressed in calendar days after contract signature:

Instruments	First draft	Final product
SEP	15	30
ESMF	30	60
RPF	30	60
GRM	60	90
LMP	30	60

The PIU will make available the AGCOM's original safeguards instruments and any other information the consultant may require to fulfil the assignment.

5 QUALIFICATIONS

The consultant will meet the following minimum requirements:

i. At least a Master's Degree in a relevant field e.g. environmental/social/development study.
ii. At least 7 years' postgraduate experience with relevant and proven track record in similar assignments related to the environmental and social management;
iii. Work experience in social (including gender, youth and social inclusion), environmental and natural resources management, climate change adaptation, protected areas, wildlife management, and/or integrated water resources management.
iv. Experience in the preparation and implementation of environmental and social safeguards, following World Bank policies or comparable policies of international organizations;
v. Excellent written communication skills, demonstrated by at least one document produced with the complexity of ESMF or a similar document; and
vi. Fluency in spoken and written English.
vii. Understanding of local cultures and values of Malawi.

6 SELECTION OF CONSULTANT

The attention of interested consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016 Revised November 2017 and August 2018 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest.

A consultation will be selected in accordance with the Individual Consultant (INDV) selection method set out in the procurement regulations. The REOI has also been sent to the following:

7 REPORTING REQUIREMENTS

This overall assignment will be managed by the Ministry of Agriculture through the AGCOM Project. Technically and administratively, the consultant will work with PIU safeguards team and will report to the AGCOM National Project Coordinator.

Annex 2: Basic Environmental Screening Form for Sub-projects

Government of the Republic of Malawi

Ministry of Agriculture

Agriculture Commercialization Project

ENVIRONMENTAL AND SOCIAL SCREENING FORM

INTRODUCTION

This Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of planned construction and rehabilitation activities under MFSRP and the AFProject. The form will assist the sub-project implementers and reviewers to identify environmental and social impacts and their mitigation and enhancement measures, if any. It will also assist in the determination of requirements for further environmental work (such as environmental and social Impact Assessment) if necessary.

The ESSF will also assist in identifying potential socio-economic impacts that will require mitigation/enhancement measures and/or resettlement and compensation.

PRERIQUISITE FOR SCREENING

The evaluator should undertake the assignment after:

1. Gaining adequate knowledge of baseline information of the area.
2. Gaining knowledge of proposed project activities for the area.
3. Having been briefed / trained in environmental and social screening.
4. The form is to be completed by consensus of at least three people, knowledgeable of the screening process.

Project Name:	Estimated Cost (MK):
Nature/Size:	Funding Agency:
Project Location District: TA : EPA: GVH:	Date of Field Appraisal: Coordinates:
Proposed Main Project Activities	

Name, Signature & Designation of Evaluator(s): 1…… 2…… 3……
Sketch Map of the site *(include geographical features and public features around the site; where necessary)*

1.0 SCREENING CRITERIA FOR ENVIRONMENTAL IMPACTS DURING IMPLEMENTATION AND OPERATION

Will the implementation and operation of the project activities within the selected site generate the following impacts?

	SCOPE AND FOCUS OF SCREENING	**METHODOLOGY OF SCREENING**					**PROPOSED MITIGATION MEASURES**
		Appraisal of Impacts		Significance of the Impacts			
		Yes	No	Low	Medium	High	
1.1	Loss of trees/vegetation						
1.2	Soil erosion and siltation of water courses						
1.3	Damage of wildlife species and habitat						
1.4	Increased exposure to agro-chemical pollutant						
1.5	Chemical pollution						
1.6	Nuisance from dust emission, bad smell or						

	noise emission or noise or vibrations						
1.7	Reduced water quality						
1.8	Increase in costs of water treatment						
1.9	Soil contamination						
1.10	Loss of soil fertility						
1.11	Reduced flow and availability of water for users						
1.12	Long term depletion of water resources						
1.13	Increased incidence of flooding						
1.14	Salinisation or alkalinisation of soils						
1.15	Changes in migration patterns of animals						
1.16	Introduce alien plants and animals in the area						
1. 17	Increased incidences of plant and animal diseases						
1.18	Poor waste disposal						
1.19	Increased cases of open defecation						
1.20	Disturbalization of river banks and or drainage systems due to sand mining						
1.21	Creation of borrow pits arising from extracting of construction materials						
1.22	Rubble or heaps of excavated soils						

2.0 SCREENING CRITERIA FOR NEGATIVE SOCIAL AND ECONOMIC IMPACTS

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

	SCOPE AND FOCUS OF SCREENING	**METHODOLOGY OF SCREENING**					**PROPOSED MITIGATION MEASURES**
		Appraisal of impacts		**Significance of the impacts**			
		Yes	**No**	**Low**	**Medium**	**High**	
2.1	Loss of land for human settlement, farming, grazing						

2.2	Loss of property – houses, agricultural produce, etc.						
2.3	Loss of cultural sites – graveyards, monuments, etc.						
2.4	Interference in marriages for local people						
2.5	Loss of income generating capacity						
2.6	Spread of HIV and AIDS, STIs						
2.7	Changes in human settlement patterns of villages						
2.8	Conflicts over use of natural resources such as water and forest resources						
2.9	Population influx						
2.10	Conflicts over land use and ownership						
2.11	Disruption of important pathways, roads						
2.12	Loss of access to public facilities e.g. churches, schools						
2.13	Increase in cases of theft and crime						
2.14	Risk of child labour						
2.15	Increase in cases of gender based violence						
2.16	Risk of injuries to workers and communities						
2.17	Increasing incidences of diseases						
3.0	**SCREENING CRITERIA FOR POSITIVE SOCIAL AND ECONOMIC IMPACTS** *Will the implementation and operation of the project activities within the selected site generate the following positive socio-economic impacts?*						
	SCOPE AND FOCUS OF SCREENING	**Yes**	**No**	**Low**	**Medium**	**High**	**PROPOSED ENHANCEMENT MEASURES**
3.1	Creation of job opportunities						
3.2	Promotion of local skills and knowledge						
3.3	Improved transportation						

3.4	Improved standards of living/social status						
3.5	Improved food security						
3.6	Creation of business opportunities						
3.7	Increased income at individual/household level						

Consultation (comments from beneficiaries)

……

……

……

Chairperson's Signature: ……

Overall evaluation of Environmental and Socioeconomic Screening Exercises

The results of the screening process would be either the proposed sub - projects would be exempted or subjected to further environmental and resettlement assessment. The basis of these options is listed in the table below:

Review of Environmental Screening	**Tick**	**Review of Resettlement Screening**	**Tick**
1. Need to prepare ESMP		1. Need to facilitate signing of Voluntary Land Donation (VLD) forms	
2. There is need for further assessment.		2. Need to prepare RAP	

Endorsement by Environmental District Officer	**Endorsement by Director of Agriculture, Environment & Natural Resources**
Name	Name:
Signature: Date	Signature: Date:

Annex 3: Generic Environmental and Social Checklist

The environmental and social checklist below serves as a sample checklist which will be adapted to the particular type and circumstance of the sub-project as well as the relevant local level (village, district) at which the sub-project is planned. The checklist will be completed members of district environmental subcommittee.

General Environmental and Social Checklist for development or rehabilitation of irrigation schemes and rural market infrastructure.

Stage	Potential Negative Environmental and Social Impacts	Tick if relevant	Mitigation Measure	Tick if relevant	Responsible Person
Before construction	Loss of livelihoods, impact on assets, land acquisition		Prepare Resettlement Action Plan as per RPF		
	Landslides and soil erosion on sloppy hillsides		Terracing; excavation to level; control of water flows		
	Destruction of vegetation during excavation; may cause loss of fauna		Construction contracts to include provisions for limiting vegetative removal, and for re-vegetation of the construction area after completion of works		
	Soil erosion, deposition of fine debris (sand, silts, clays) in downstream water courses during construction, particularly in the rainy season		Construction contracts will require re-vegetation as soon as possible; contractors to be limited regarding activities that can be carried out in the rainy season; contractors will be required to treat excavated areas below flood water levels as required under the design contract (use of stone gabions and mattresses, before the start of each rainy season		
	Traffic disruption		Deliver materials during off peak hours Provide slip lanes		
	Noise disturbance		Not likely to be a problem		
	Dust impacts		In extreme cases, particularly near clinics, contractors will be required to moisten		

Stage	Potential Negative Environmental and Social Impacts	Tick if relevant	Mitigation Measure	Tick if relevant	Responsible Person
			the construction area to minimise dust		
	Pit formation from sand mine		Use sand from existing borrow pits; fill back pits		
During construction	Noise		Use of ear protectors		
	Soil erosion		Planting trees and grasses, landscaping works		
	Cement and dust pollution		Dust control by water or other means		
	Pressures on existing water sources		Liaise with local utilities to ensure adequate water supply		
	Soil and water pollution due to large number of labourers on the construction site and related wastes		Build latrines and ensure adequate wastewater disposal; ensure safe storage of construction materials such as oils, paints		
	Increase in theft		Civic education of migrant workers		
	Increase in spread of HIV/Aids and communicable diseases		Distribute condoms Civic education		
	Conflicts between migrant workers and host communities		Civic education to migrant workers. Sensitisation of host communities		
After construction	Soil and water pollution due to remainder of construction wastes, tools, equipment, and temporary infrastructure		Contractors to clear construction site of temporary infrastructures and restore vegetation of the site		
	Increase on solid wastes		Construct pit latrines Provide refuse bins		
	Increase in liquid wastes		Provide latrines		
	Conflicts over use of water with downstream users		Maintain some water for flow and use in downstream of the river		
	Pollution of water with pesticides		Use of minimal amount of pesticides Use of safe pesticides		
	Multiplication of pests and diseases		Drain off stagnant water		
	Salinization of soils due to overuse of fertilisers		Application of lime to soils		

Stage	Potential Negative Environmental and Social Impacts	Tick if relevant	Mitigation Measure	Tick if relevant	Responsible Person
	Clinical wastes		Destroy wastes at incinerator		

This form has been signed by: _____
Chairperson of the VDC / CDC: _____
Chairperson of the Environment Sub-Committee: _____
Date:……..

Annex 4: Environmental and Social Rules for contractors

These environmental and social rules for contractors are prepared for all the contractors to be engaged development or rehabilitation of feeder roads, irrigation schemes, service infrastructure for electricity and portable water under MFSRP and the AFProject. The guidelines include provisions for proper management of construction sites, safe storage of construction materials and safe disposal of wastes.

1.0 General Considerations.

a) The contractor shall, in all his activities ensure maximum protection of the environment and the socioeconomic wellbeing of the people affected by the project, whether within or outside the physical boundaries of the project area.
b) Before any construction works begin, the contractor shall ensure that the relevant environmental and land acquisition certificates of authorisation for the works have been obtained from the Director of Environmental Affairs and/or the Commissioner for Lands and Valuation.
c) In general, the contractor shall familiarise himself with the environmental and social management plans and resettlement action plans. Specifically, the contractor shall make every effort to follow and implement the recommendations and mitigation measures of the ESMP to the satisfaction of client and all relevant agencies.
d) The contractor shall work in cooperation and in coordination with the project management team and/or any other authority appointed to perform or to ensure that the social and environmental work is performed according to the provisions of the environmental and social screening and environmental management plans for sub-projects.
e) The contractor shall always keep on site and make available to environmental inspectors or any authorisation persons, copies of the ESMPs, RAPs and ARAPs for the monitoring and evaluation of environmental and social impacts and the level or progress of their mitigation.

2.0 Acquisition of Construction Materials.

a) The contractor shall ensure that construction materials such as sand, quarry stone, soils or any other construction materials are acquired from approved suppliers and that the production of these materials by the suppliers or the contractor does not violate the environmental regulations or procedures on mining. Collection of sand by communities will be guided by local council's by-laws.

3.0 Movement and Transportation of Construction Materials.

a) The movement and transportation of construction materials to and within the construction sites shall be done in a manner that generates minimum impacts on the environment and on the community, as required by the ESMPs and the RAPs or ARAPs.

4.0 Storage of Construction Materials and Equipment.

Construction materials shall be stored in a manner to ensure that:

a) There is no obstruction of service roads, passages, driveways and footpaths;
b) Where it is unavoidable to obstruct any of the service paths, the contractor shall provide temporary or alternate by-passes without inconveniencing the flow of traffic or pedestrians;
c) There is no obstruction of drainage channels and natural water courses;
d) There is no contamination of surface water, ground water or the ground;

e) There is no access by public or unauthorized persons, to materials and equipment storage areas;
f) There is no access by staff, without protective clothing, to materials and equipment storage areas;
g) Access by public or unauthorised persons, to hazardous, corrosive or poisonous substances including asbestos lagging, sludge, chemicals, solvents, oils or their receptacles such as boxes, drums, sacks and bags is prohibited;
h) Access by staff, without the appropriate protective clothing, to hazardous, corrosive or poisonous substances including asbestos lagging, sludge, chemicals, solvents, oils or their receptacles such as boxes, drums, sacks and bags is prohibited.

5.0 Safe Disposal of Construction Waste

a) Construction waste includes but is not limited to combustion products, dust, metals, rubble, timber, water, waste water and oil. Hence construction waste constitutes solid, liquid and gaseous waste and smoke.
b) In performing his activities, the contractor shall use the best practical means for preventing emissions of noxious or offensive substances into the air, land and water. He shall make every effort to render any such emissions (if unavoidable) inoffensive and harmless to people and the environment.
c) The contractor shall, in particular, comply with the regulations for disposal of construction or demolition wastes, waste water, combustion products, dust, metals, rubble and timber. Wastewater treatment and discharge will conform to the applicable regulations by the relevant local authority, and Ministry of Agriculture, Irrigation and Water Development.
d) Asbestos wastes, PCBs and other hazardous wastes shall be treated and disposed of in conformity with the national regulations and where applicable, with the supervision of qualified personnel.

6.0 Occupational Health and Safety of Workers.

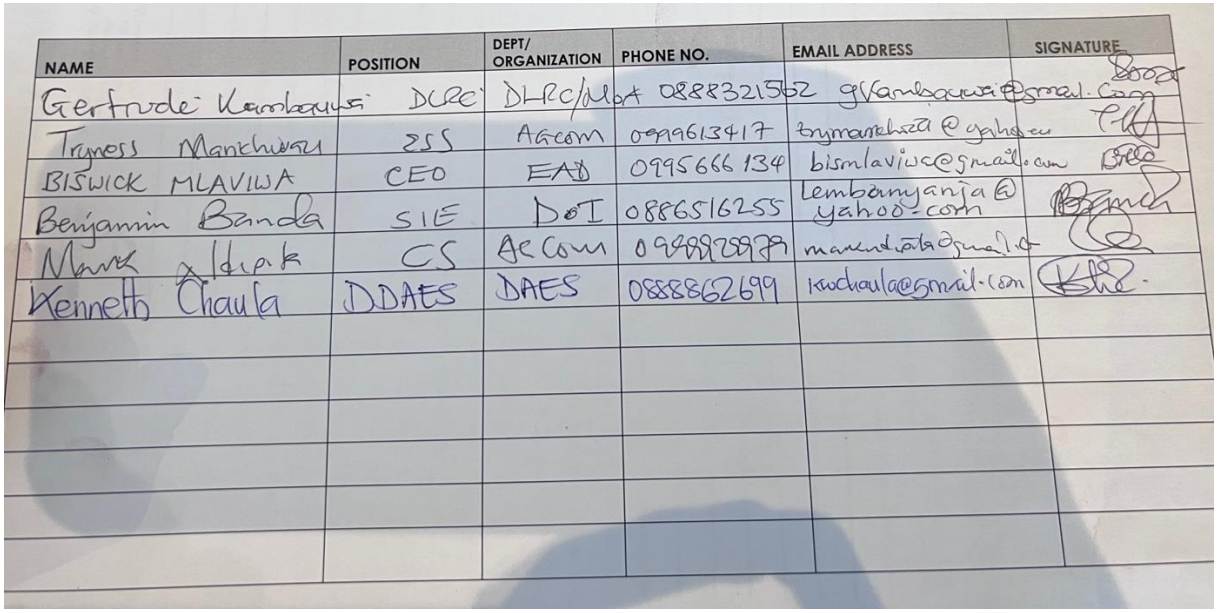
a) The contractor shall provide all necessary protective clothing for workers exposed to hazardous and dangers work activities.
b) All workers shall be regularly sensitised on safety regulations on the site.
c) The contractor shall be guided by and shall adhere to the relevant national safety cardinal rules on the site.
d) The construction shall maintain on the site first aid kits for male and female workers.
e) Workers shall be provide with clean portable water on the site and safety cooking places
f) Workers shall be provide with wash rooms and ventilated pit latrines.

7.0 HIV/Aids Work Place Policy and Training on HIV/Aids for workers.

a) The contractor shall prepare and adopt an HIV/Aids work place policy for construction site.
b) The contractor shall arrange for HIV/AIDS training programmes for the construction crews to ensure their understanding of the relevant issues. These will be budgeted elements within Bill of quantities for a construction project.
c) Appropriate IEC materials shall be distributed to workers on the site.
d) Both male and female condoms shall be distributed to workers on the site.

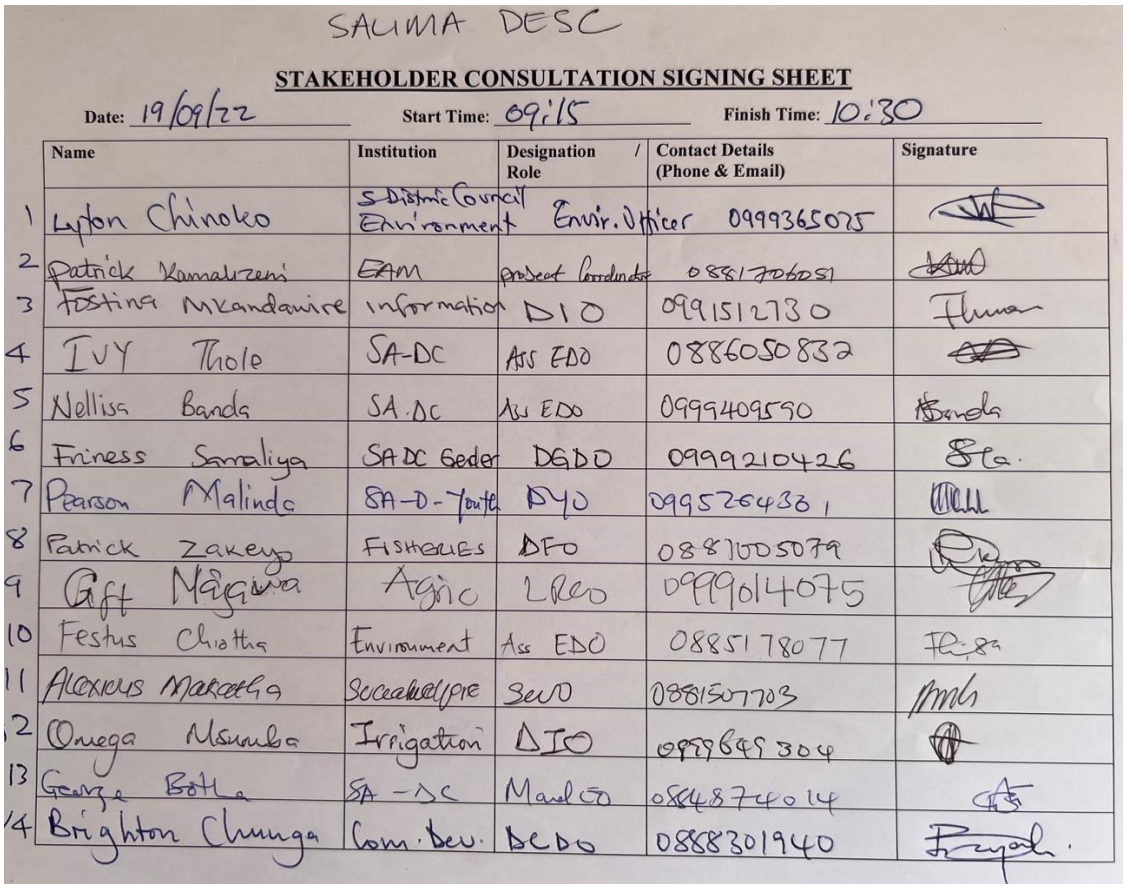
Annex 5: Proof of Stakeholder Consultation

9.1 A5.1 National Stakeholders Signing Sheet



NAME	POSITION	DEPT/ ORGANIZATION	PHONE NO.	EMAIL ADDRESS	SIGNATURE
Gertrude Kambauwa	DLRC	DLRC/MoLA	0888321562	gkambauwa@gmail.com	
Tryness Manchuwa	ESS	Agcom	0999613417	trymanchuwa@yahoo.co	
BISWICK MLAVIWA	CEO	EAD	0995666134	bismlaviwc@gmail.com	
Benjamin Banda	SIE	DoI	0886516255	lembanyanja@yahoo.com	
Mark Aldrick	CS	AgCom	0999928938		
Kenneth Chaula	DDAES	DAES	0888862699	kwchaula@gmail.com	

9.2 A5.2 DESC Signing Sheets



SALIMA DESC

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 19/09/22 Start Time: 09:15 Finish Time: 10:30

	Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
1	Lyton Chinoko	~~S-District Council~~ Environment	Envir. Officer	0999365075	
2	Patrick Kamalizeni	EAM	~~project Coordinator~~	0881706051	
3	Fostina Mkandawire	Information	DIO	0991512730	
4	IVY Thole	SA-DC	Ass EDO	0886050832	
5	Nellisa Banda	SA-DC	Ass EDO	0999409590	
6	Friness Samaliya	SADC Gender	DGDO	0999210426	
7	Pearson Malinda	SA-D-Youth	DYO	0995264381	
8	Patrick Zakeyo	FISHERIES	DFO	0887005079	
9	Gift Magawa	Agric	LRO	0999014075	
10	Festus Chiotha	Environment	Ass EDO	0885178077	
11	Alexious Makaega	Secretariat/pre	Sec'O	0881507703	
12	Onega Msiska	Irrigation	DIO	0999845304	
13	George Botha	SA-DC	Mand CO	0884874014	
14	Brighton Chunga	Com. Dev.	DCDO	0888301940	

SALIMA DESC

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 19/09/22 Start Time: 09:15 Finish Time: 10:30

	Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
15	Waxi Chungwa	Labour Dept	DLWDO	0999661149 wchungwa@gmail.com	
16	Samuel Chimoza	Env	EDO	0997708532	
17	Tiza Mandowela	SDC	Support	0990847843	

NKHATABAY DESC

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: Start Time: Finish Time:

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Francisco Mbotwa	Go-Green	Monitoring & Evaluating Officer	0990005852	
Youngson Ngwira	NB-Youth	DYD	0995928684	
Beatrice Mbakaya	NB Council	DADWR	0888524445	
Gerald Nkhwekuse	NB-DAO	Crops Officer	0995387725	
Never Mulungu	NB-CWT	EDO	0996752802	
Davison Kaonga	NB-DAO	LRCO	0888552216	
Ellen Kadammanja	Social welfare ~~Statistics~~	SWA	0997522670	
Paul M. Leaund	NB-Council	E.O	0882827796	
William Mwambazi	NB-Council	E.O	0887492511	
Watford Banda	NB DAO	CAO	0994658000	
Ellen Sibande	NB-Council	DSO	0881762129	E-Sibande
Owen Chikoti	NB-Council	Planning	0991179326	
Lanwell Mkisi	Labour	DLO	0888524194	
Emmanuel Kanyanda	NB-DC	M&EO	0881240259	
John B. Baluti	NB-DC	DDA	0888512918	

NKHATABAY DESC

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: _____ **Start Time:** _____ **Finish Time:** _____

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
MEL Msomba	Forestry	DFO	0999146882 melmsomba@gmail.co	
Afukaye Jere	Com. Dev.	DCDO-Rp	0995279066	
Edward Ngwemba	Liaison officer	NB-DC	0881543827	
Gift Kelizo	MISO	NB-DC	0999250849	
Dadel Kamanga	NB-Council	RRO	0882624702	
Joy Nglambi	fisheries	ADFO	0995246720	

Mwanza

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 28-09-22 **Start Time:** _____ **Finish Time:** _____

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Bonsie Chidzungu	Agriculture	CRBF officer	0888732820	
Wesley Sudi	Com. Dev	DCDO	0999709724	
Enock Matemba	MN-Lands	Lands Officer	0884052655	
Rodrick Kanangaza	MN-DC	M&E	0994417288	
Osmund Chapotoka	MN-DC	DAENR	0999766739	
Mphatso Phiri	RO-NRB	RO	0999717836	
Rex Namwada	MW-Forestry	DFO	0995420152	
Ernest Kadzokoya	MN DC	DPD	0999313318	
Gloria Kautema	MN DHO	DEHO	0999934523	
Alinafe Makanani	Concern Worldwide	T.L	099588090	
Brian Wasili	MN-DC	PRO	0999004348	
MARVIN MKANDAWA	MN-DC	DTO	0882989552	
Chefundo Thungwa	MN-DC	DLO	0999413585	
Ivy Chammudzi	MN-DC	RRO	0999929454	

MWANZA DESC

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: _____ Start Time: _____ Finish Time: _____

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Edgar Nalivata	Agriculture	Extension	ednalivata@gmail.com 0999166534	
Timothy Kamthunzi	Fisheries	DFO	timothykamthunzi@gmail.com 0999768805	
Joyce Chinyama	Lands	Clerk	0880822000	
Laston Chagunda	Water	DWDO	0995162355	
LEMSON MATAKILA	CONCERN WORLD	RO	0991113266	
Jackson Million	Irrigation	Intern	0880864868	
Micheal PHIRI	MM-DC	DLO	0888072010	

Thyolo DESC

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 28/09/2022 Start Time: _____ Finish Time: _____

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
TOBBY MILAPZI	Social	SWO	0999245831	
Tiyanjane Banda	Gender	GO	0881107054	
Mercy Garnet	Information	DIO, Rep.	0992713115	
Dingani Mwalwanda	Irrigation	SIC	0999366506	
Akusaimba Sisya	Agriculture	LRCO	0888305623	
Innocent Yohane	fisheries	INTERN	0884852755	
Maggie Mesy	com dev	ACDO	08555 99134	
Peter Livison	Community	Messenger	0884477818	
James master	Messenger	Thyolo	0881214838	
Jackson Mkombezi	Agric. & NR	DAEMR	0888366045	
PHILIP PENSULO	IRR	INTERN	0880864885	
Clement Kilion	com. dev	Intern	0998121052	
Athanasi Mvula	LRCO	Intern	0881100788	
Eunice Phiri	Police	T/O. Police	0888436482	

Thyolo DESC

ALLOWANCE SIGNING SHEET

Date: 28/09/2022.

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Amount (MWK)	Signature
TOBBY MIJANJI	Social	SWO	0999245831	6,000	
Mercy Garnet	Information	DIO Rep.	0992713115	6,000	
Tiyanjane Dauda	Gender	G.O	0881107054	6,000	
Dingani Mkandawire	Irrigation	SIC	0999366506	6,000	
Akwsainda Sitoka	Agric	LRCO	0888305623	6,000	
Innocent Yohane	fisheries	INTERN	0884852755	6,000	
Maggie Mang'ombe	Com Dev	FRO	0888574934	6,000	
Peter Livison	Community	Messenger	0888477818	6000	
JAMES MASTER	DEM	Thyolo	0881214838	6000	
Jackson Mkwezalamba	Agric. & NR	DAENR	0888366095	6,000	
PHILLIP PEMPHERO	IRR	INTERN	0880866885	6,000	
Clement Kitioni	COM. DEV	INTERN	0993121054	6000	
Nthani Mvula	LRCO	Intern	0881100788	6000	
Eunice Phiri	Police	To-Police	0884436482	6,000	

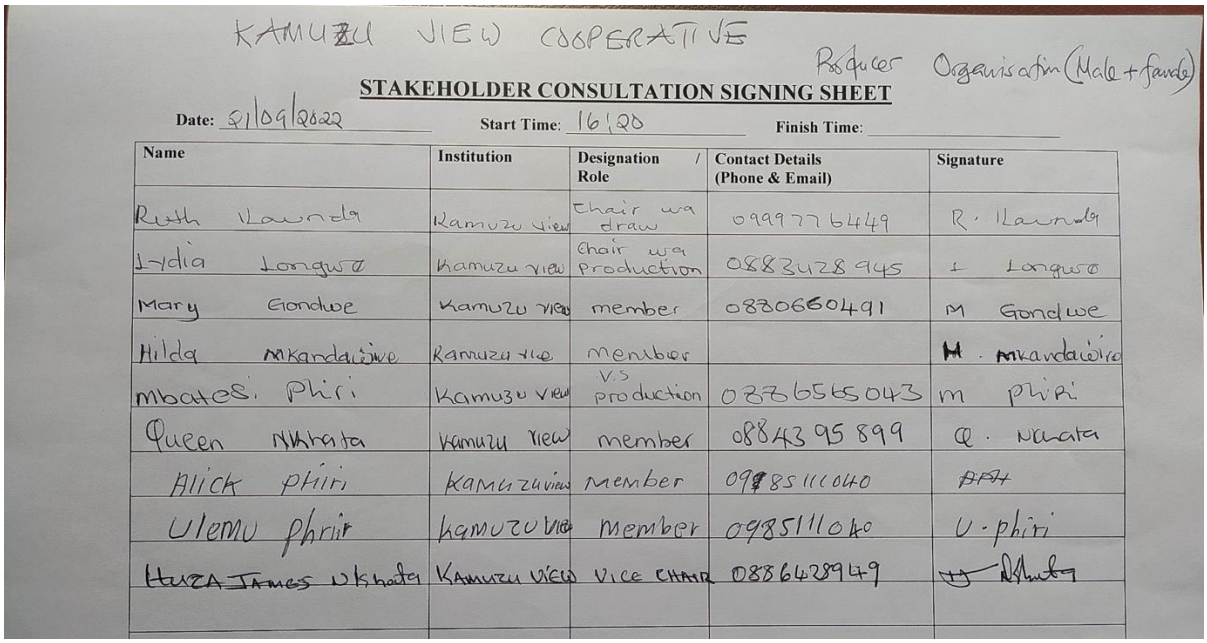
Chikwawa DESC

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 27/09/2022 Start Time: _____ Finish Time: _____

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Evans Chithira	CD-C	Environment	0883658077 AvastChithira@gmail.com	
Thokozani Masauko	CD-C	Environment	0883658077 Dosmarttoonni@gmail.com	
Lloyd Kachonde	CK-DAO	Crops officer	kachondelloyd7@gmail.com	
Emmanuel Banda	CK-SCRM	SSWO	Emmanuelbanda1@gmail.com	
Rodney M'buka	Labour	ALO	rodneymbuka@gmail.com	
Auxima Phiri	CK-DAO	CPO	auxmaphiri@gmail.com	
Steve Chirombo	CK-Infor	DIO	stevechirombo@gmail.com	
Immaculate Hussein	CK-comm Devt	CDO	Susantambala@gmail.com	
Felix [illegible]	police		0888715975	
Naphiri Mdoga	CK-DHO	HO	0997595758	
Francis Sayenda	Environment	EDA	sayendaf@gmail.com 0882497883	
Lapkin Chikolwa	fisheries	DFO	0884126907	
Thandiwe Matewatewa	Lands	Housing officer	0888591931	
Andrew Gambuleu	Lands	intern	0884540577	

9.3 A5.3 Community Consultation Signing Sheets



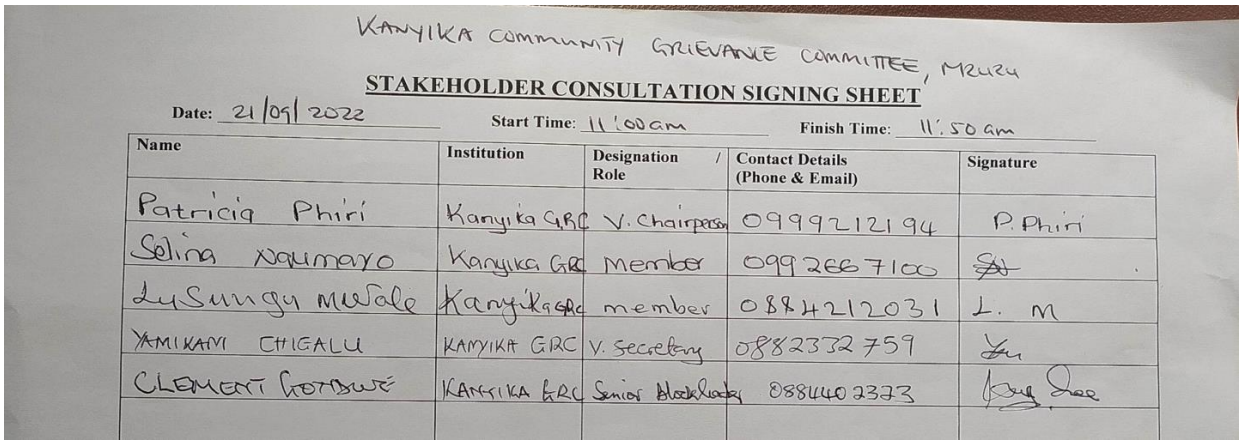
KAMUZU VIEW COOPERATIVE

Producer Organisation (Male + female)

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022 Start Time: 16:20 Finish Time:

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Ruth Lawnda	Kamuzu view	Chair wa draw	0999776449	R. Lawnda
Lydia Longwe	Kamuzu view	Chair wa production	0883428945	L Longwe
Mary Gondwe	Kamuzu view	member	0830660491	M Gondwe
Hilda Mkandawire	Kamuzu view	member		H. Mkandawire
Mbatesi Phiri	Kamuzu view	V.S production	0887655043	M Phiri
Queen Nkhata	Kamuzu view	member	088439 5899	Q. Nkata
Alick phiri	Kamuzu view	member	0985111040	APH
Ulemu phiri	kamuzu view	member	0985111040	U. phiri
Hilda James Nkhata	Kamuzu view	Vice chair	0886428949	Nkhata

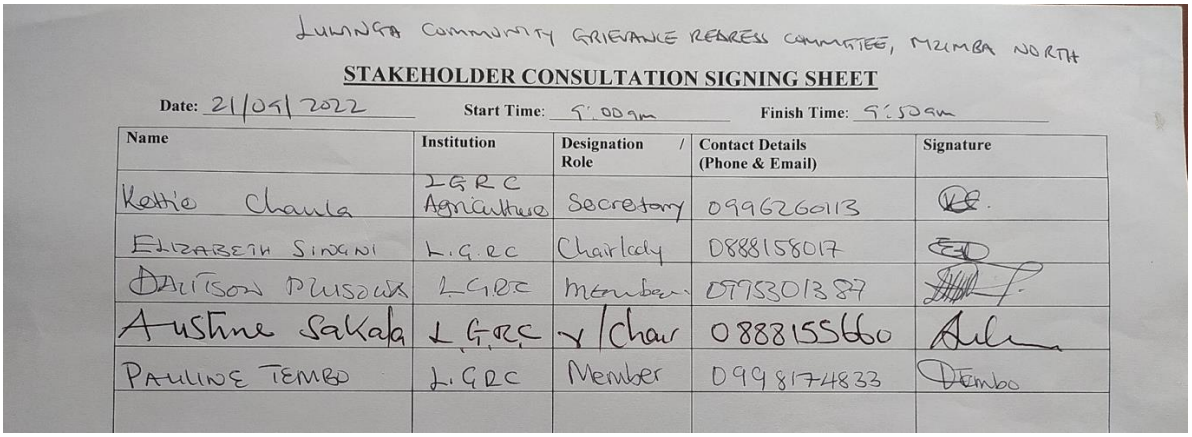


KANYIKA COMMUNITY GRIEVANCE COMMITTEE, MZUZU

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022 Start Time: 11:00am Finish Time: 11:50 am

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Patricia Phiri	Kanyika GRC	V. Chairperson	099921219 4	P. Phiri
Selina Ngumayo	Kanyika GRC	Member	0992667100	SN
Lysungu Mwale	Kanyika GRC	member	0884212031	L. M
Yamikani Chigalu	Kanyika GRC	V. Secretary	0882332759	Yc
Clement Gondwe	Kanyika GRC	Senior Block leader	0884402373	Cg



LUWINGA COMMUNITY GRIEVANCE REDRESS COMMITTEE, MZUMBA NORTH

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022 Start Time: 9:00am Finish Time: 9:50am

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Kettie Chanda	LGRC Agriculture	Secretary	0996260113	
Elizabeth Singini	L.G.R.C	Chairlady	0888158017	
Dalitso Phiri	L.G.R.C	Member	0995301387	
Austine Sakala	L.G.R.C	V/Chair	0881555660	
Pauline Tembo	L.G.R.C	Member	0998174833	Tembo

HIGHLANDS MACADEMIA COOPERATIVE UNION LIMITED (NTCHISI)
Producer Organisation.

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 20/09/2022 Start Time: 09:35 Finish Time: 10:38

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Mwai Moses	Himacul	Administrator	0995[illegible]21 mwaimoses36@gm ail.com	M. Moses
Thomson Banda	Himacul	Member	0994002929	Thomson
Samuel Phiri	Himacul	Member	0996512134	
Oswin Chavita	Himacul	Member	0999723900	
Rosemary Kaphakale	Himacul	Member	0991476024	RK
Elias Kaparasa	Himacul	Member	0999319647.	

CGRC – Hamalco, Ntchen (Mac

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 20/09/2022 Start Time: 10:00 am Finish Time: 10:45am

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Tiezs Chiziko	Hamcal GRC	Secretary	0999330981	Chiziko
STANFORD JENKERAN	HAMACAL	CHAIR	0999922284	SMJ
MOFFAT Nkauthama	Hamcal GRC	Member	0991407774	
Tereza Maisen	Hamal GRC	Member	0993359005	

RAWICO (RETIRED ARMY WIVES COOPERATIVE), LILONGWE

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 23/09/2022 Start Time: 10:55 Finish Time: 11:50

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Nina Ghambi (Mrs)	RAWICO	Chairperson Procurement	0999987909 ninaghambi997@gmail.com	
Grace Chimbaya (Mrs)	RAWICO	President	0999933265 gracechimbaya@yahoo.com	
Jeany Banda (Mrs)	RAWICO	ENVIRON-MEMBER	0994407833	
Ivy Ngwira (Mrs)	RAWICO	Envim-Member	0994137603 mzomeraivy@gmail.com	
Alinda Mazunguli	RAWICO	Secretary	naphiri2000@yahoo.co.uk 0999850628	

SANKHANI CGRC, LILONGWE
BHG Cooperative

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 9:15am 24/09/2022 Start Time: 9:15am Finish Time: 10:00am

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
MATIAS LANGWANI	SANKHANI GRC	CHAIR	0991163463	
Rt. I.M. Gladson	GRC	Rt. Member	0995486821	
mercy chika	GRC	member		MC
Lovene chilaso	GRC	member		Lc
zeies. Banda	GRC	member	0998921528	ZB
Noria Unyolo	GRC	Secretary	0999360260	

CHALERA CGRC, LILONGWE

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 23/09/2022 Start Time: 2pm Finish Time: 14:45pm

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Tikambe wyson	Chalela GRC	chair	0998535188	
mang'ander Banda	Chalera GRC	member	—	
Kapakapa Chingira	Chalela GRC	Member	—	
Jenifa Mafikeni	Chalela GRC	vayisi chair	—	J. Mafikeni
Patilisha yohane	Chalela GRC	member	—	P. yohane
mwayiwabo manuel	Chalela GRC	nember	0883530893	M. yohane

LUWUWO CGRC – NKHATABAY

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022 Start Time: 02:15pm Finish Time: 15:00pm

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
WESTON. KHAWAZA	LUWUWO GRC	VH DUKE	0888159414	
Tamala Botha	LUWUWO GRC	Vice Chair VH SAKALAN	0886303555	T. Botha
Regina chisale	LUWUWO	member VH DUKE	088 47 97 866	R. Chisale
Ruth Longwe	LUWUWO	member V.H DUKE	0884973283	R. Longwe
Matrida mjoni	LUWUWO	member VH Chapola nzika	088 11 79545	M. mjoni
Crisey masewo	LUWUWO	member member	0888302977	C. masewo
Iless mbizi	LUWUWO	member	088 89544	I. mbizi

KAMUZU VIEW COMMUNITY GRIEVANCE REDRESS COMMITTE FGD

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022 Start Time: 15:40 Finish Time:

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Grace Botes	KAMUZU VIEW	PROCUREMENT CHAIR	0999720441	[illegible]
PATRICK CHISALE	KAMUZU VIEW	MEMBER	0883627169	[illegible]
Moses Kayuni	KAMUZU VIEW	MEMBER	0881899?5	M.Kayuni
MERINA PHIRI	KAMUZU VIEW	MEMBER	0888192969	MO PHIRI
Dockson A Phiri	KAMUZU VIEW	M.Forum Chair	0995022643	[illegible]
Lams Gama	V.H Fwiyamwali	Madundo	0884652000	[illegible]
Saimon manda	G/V Hchikhu	member	884558582	[illegible]

Tisange Co-operative

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022. Start Time: 10:48 Finish Time: 11:55.

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
HUXTER CHOMO	TISANGE	~~ACTING~~ TREASURER	0885053775	[illegible]
Mathews G Phiri	"	member	0888027034	[illegible]
Martha Chigalu	"	Secretary	0882412413	M.Chigalu
Qipase Nkosi	"	member	0884547507	[illegible]
Joyce Mfawali		Director	0992607483	[illegible]
Fyness Botha	"	Chairlady	0888603875	[illegible]

CHILUWA 2 HONEY PROCCESING AND MARKETING COPERATIVE (MEN'S GROUP)

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 19/09/2022 Start Time: Finish Time:

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Joseph Daliken	vic secretary	chiluwa honey cooperative.	0843743258 0997092977	[illegible]
MAXWELL MWARE	c.membala	"	0991057431	[illegible]
Binaya Nawngwe	Treature	"	0998 020 706	[illegible]
Braston Wilson	membala	"	0991040882	B.Wilson
MANUEL THOKOZANI	Sect	"	0999806127	M.Thokozani
BLACKSONI Banda	member	"	0992274682	B. Banda
Harrison AS Samuel	Member	"	0995019688	[illegible]
Fasoni masoni	membala	"	0991973949	Banda
MAXWELL DALIKEN	PROCUREMENT	"	0996739268	[illegible]
MAJAYA CHAKHAZA	member	"	0990944472	M. Chakhaza

CHALERA MUSHROOM PRODUCTION COOPERATIVE

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 23/04/2022 Start Time: 1:15 Finish Time: 3:20

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Notice Chishasha	Chalera mushroom coop	chairperson	0993302720	
Chifundo Vi Chithonje	Chalera m Secretary Gen	Secretary/ Vice		
Esnat Kalipinde	Vice	chair.	0999364070	
Joyleti Maniwele				
RIANA Chithonje	Va	Chalela		
Manuel Ndamvana.	Chalela.	Chair wa Zachilengedwe.		
ALISE	chalela	M&E		
MwaJawalko	maFikeni	LoanVchair		
Lesita	Dakashoni	Chair Loan Committe	0999256939	
Getrude sombanjere	Chalera mushroom coop	committee		
Alice njerwa	Chalera mushroom coop	member	0990213241	
ALEMEKEZEKE MAYSONI	CHALELA	member		
Sitetiya KOPAKOPA	Chalela	member		

BY HIS GRACE (BHG) COOPERATIVE

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 24/09/2022. Start Time: 9:30 Finish Time:

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Eliza Ngwira	BHG	Member	0881222666	
Lyma Unyolo	BHG	Member	0991078472	
Agnes waison	BHG	member		
Alice Daka	BHG	Member	0885338683	
Gideon Yohane	BHG	production	0992061762	
Yotam Reson	BHG	Member	0994021266	
Cleopatra Chirwa	BHG	chairperson	0993952293	
Brenda Thengo	BHG	Member	0999897639	

NAMBAMBA SEED MULTIPLICATION COOPERATIVE

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 20/09/2022 Start Time: 13:30 Finish Time:

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Eliza Julius	Nambamba Coop	Vice Chair	0994130936	E Julius.
Emily Phiri	Nambamba	finance	0991789293	
BRIGHT NTHARA	NAMBAMBA	CHAIR PERSON	0995439737	
Isaac Sumba	Nambamba	member	0997746715	
Eunice Moyo	Nambamba	GRC Member	0991323177	E. moyo
Alex Mtemwende	Nambamba	GRC Chair	0999793113	
Christina Cosmas	Nambamba	GRC Secretary	0997416676	C. Cosmas
Gloria Kutchemba	Nambamba	Member	0995516025	
Alexander Kamata	Nambamba	member	0999394695	
MNOKOTE GAMA	Nambamba	Member	0999109586	

Chilawa Cooperative {Women}

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 19/09/2022 Start Time: 10:15 Finish Time: 11:00

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Rute Magomba	Chilawa	V Chair	0997625300	R magomba
Dolore Langitoni		Membala	0911568558	D. Langitoni
Grece Dembe		C membala	0992912503 G. Dembe	G. Dembe
Lades chilombo		membala		L. chilombo
Vailesi Folotiya		membala	09822 19485	V. Folotiya
Khiristina matiyasi		membala		K matiyasi
Feliya santhe		membala		F. santhe
zelina chikawonda		membala		Z chikaonda
Febe Katiyi		C Membala	0980638165	F Katiyi
Malita mchenga		membala	083923446	m mchenga

MZUZU LIVESTOCK COOPERATIVE (EXECUTIVE COMMITTEE)

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022 Start Time: 8:55 Finish Time:

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Albert Kumwenda	Mzuzu Livestock	Secretary	0999930687/0881023922	
Selina Nyirenda	Mzuzu 4	Chairlady	0995278995	
LENNARD SOKO	Mzuzu Livestock	Ex MEMBER	0995323907	
Arnold D.P Mwale	MLICO	Treasurer	0992555007	
CHARITY MHANGO	MLICO	Member	0884437537	
Lameck Ntirenda	MLICO	Vice Chair	0888548924	L Ntirenda

LUYUWO IRIS POTATOES PRODUCTION.

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 21/09/2022 Start Time: 02:15 Finish Time: 02:50

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
SHADRICK SALIMU	LUYUWO	CHAIRMAN	0995720720	
Pius Longwe	LUYUWO COOPERATIVE	FINANCE	0888555042	
Jane mkandawire	" "	irrigation	-	J. mkandawire
STOCKER NYONI	" "	MARKETING	0880501387	
Rose nyoni	" "	displin.		R. nyoni.
Doreen mpata	" " "	Vice Chair	0880848644	D. mpata
MACANOSY Mkandawire	"	Auditor	0884464570	
Jeradi nenda	"	displin.	" "	J. Nenda
osten Kabichi	"	displin.	" "	O. Kabichi.

Salima Dairy Cooperative (women).

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 19/09/2022 Start Time: 3:30 Finish Time: 3.50.

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Joyce Njilima	SDC	Vice Chair	0888560009	
Chifundo chipeta		Member	0888119194	
Mervice Mahwere		Member	0999795569	Mervice
PATRICIA KASAMBA		MSE Secretary	0992193691	P. Kasamba
Magdalena Mpungalume		Member	0991371141	M. Mpungalume
Gertrude Singano		Member	0994442691	G Singano

SALIMA DAIRY FARMERS' COOPERATIVE, SALIMA

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 19/09/2022 **Start Time:** 2:30pm **Finish Time:**

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Clemence Mabonwa	SDFC	M&E V/s	0996947590	CMabonwa
Wehzani Mkambani	SDFC	Secretary	0888669966	
Innocent E-Kalazi	SDfC	finance member	0999675890	
Kiddie Lubanga Chawla	SDfC	Environmental mate	0999112 005	
Shadrick Chiwaula	SDfC	M & E	0995312774	
MICHAEL MWASIYA	S&FC	Member	0998659 988	
JOHN KWECANI	SDfC	Member	0999685 2638	J. K
Nelson Mkochi	S.D.F.C.	Chairperson	0999930907	
Limbani Chavi	"	Treasure	0999444753	
Stanley Chintaya	"	Member	0997361575	Chintaya
Hestini Muli	"	Member	0999193259	

CHILUWA COMMUNITY GRIEVANCE REDRESS COMMITTEE - SALIMA

STAKEHOLDER CONSULTATION SIGNING SHEET

Date: 19/09/2022 **Start Time:** 10:00 Am **Finish Time:** 10:45 AM

Name	Institution	Designation / Role	Contact Details (Phone & Email)	Signature
Annie Banda	Agriculture	Chiluwa GRC AEDO Secretary	0999371795	A Banda
Anne Kamanja	mzangizi wa kumud	Chiluwa GRC	0991160791	A Kamanja
Lunesi Helebati	Olimila kopeletuli	Chiluwa GRC	0991523038	L. Helebati
Honest Chingalawa	VDC Chair	Chiluwa GRC	0990878766	
NAPHTALE sinoya	VCPC chair	"	0998394471	
Samuele Stivin	police Force	"		
Evaseni Thyole	chair	"	09968573 55	E. Thyole