

**DEPARTMENT OF FISHERIES
REPUBLIC OF MALAWI**

Environmental and Social Management Framework

FOR

**Sustainable Fisheries, Aquaculture Development and
Watershed Management Project**

AUGUST 2019

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List of Acronyms

ADD	Agriculture Development District
AfDB	African Development Bank
ARAP	Abbreviated Resettlement Action Plan
BVCs	Beach Village Committee
CBO	Community based Organization
CSO	Civil Society Organizations
DEC	District Environmental Committee
DESC	District Environmental Sub Committee
DFO	District Fisheries Officer
DOCA	Donor Committee on Agriculture
DoF	Department of Fisheries
E&S	Environmental and Social
EAF	Ecosystem Approach to Fisheries
EAFa	Ecosystem Approach to Fisheries and Aquaculture
EIA	Environmental Impact Assessment
ESAP	Environmental and Social Assessment
ESAPs	AfDB Environmental and Social Assessment Procedures
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMPs	Environmental and Social Management Action Plans
ESMS	Environmental and Social Scoping
ESS	Environmental and Social Management Systems
ESSF	Environmental and Social Screening Form
FAO	Food and Agriculture Organization
FRAP	Full Resettlement Action Plan
GDP	Gross Domestic Product
GEF	Government of Malawi
GoM	Global Environmental Facility
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HIV-AIDS	Human Immunodeficiency Virus-Acquired Immune Deficiency Syndrome
IESIA	Integrated Environmental and Social Impact Assessment
ISS	Integrated Safeguards System
MoAIWD	Ministry of Agriculture Irrigation and Water Development
MoFEPD	Ministry of Finance, Economic Planning and Development
NCE	National Council for the Environment
NFAP	National Fisheries and Aquaculture Policy
NGO	Non-Governmental Organization
OS	Operational Safeguard
OS	Operational Safeguard
PIU	Project Implementation Unit

PS	Principal Secretary
PSC	Project Steering Committee
RAP	Resettlement Action Plan
SFADWMP	Sustainable Fisheries, Aquaculture Development and Watershed Management Project
STIs	Sexually Transmitted Infections
TORs	Terms of Reference

1 INTRODUCTION OF THE PROJECT

The African Development Bank is supporting the Malawi Government to implement a Sustainable Capture Fisheries, Aquaculture Development and Watershed Management Project (SFADWMP) project. The project will finance the development of value chains in both capture fisheries and aquaculture taking into account the changing climate and environment on the lakes of Malawi. In the course of implementation, the project will strive to make provisions of basic infrastructure, supporting research and extension services for wild captured fisheries, provision of training to SMEs and the encouragement of competitive fish value chains.

The project was assigned Category 2, in line with AfDB environmental and social assessment procedures. The sub-projects are yet to be defined and therefore the scale of their impacts will only be known later. A need for a document that will ‘guide’ the planning, design and construction elements of sub-projects is therefore deemed relevant for this project. In this context, an Environment and Social Management Framework (ESMF) has been prepared for the Sustainable Capture Fisheries, Aquaculture Development and Watershed Management Project (SFADWMP).

1.1 Rationale for the Environmental and Social Management Framework

The rationale for preparing this ESMF is that the exact location and design of the proposed activities are not known at this time, though the types of potential subprojects may be fairly well-defined. As a result, potential environmental and social impacts of the project activities cannot be identified through traditional safeguards instruments (e.g. an environmental and social impact assessment). In these situations, the appropriate safeguard document at this time is an Environmental and Social Management Framework (ESMF) which aims to establish a unified process for addressing all environmental and social safeguards issues on subprojects from preparation, through review and approval, to implementation. For development project activities whose design details and locations are known, the Malawi Environment Management Act (1996) and the Malawi EIA Guidelines (1997) prescribe the conduct for Environmental Impact Assessment. However, these instruments do not have guidelines for the screening process for the identification, assessment and mitigation of potential localized impacts, where the project details and specific project sites are not yet known.

The Environmental and Social Management Framework (ESMF) will provide a unified process to address all environmental and social safeguard issues for subprojects within the Sustainable Fisheries, Aquaculture and Watershed Management Project in Malawi, from preparation, through appraisal and approval, to implementation.

1.2 Aims and Objectives of the ESMF

The objective of this ESMF is to ensure that the Sustainable Capture Fisheries, Aquaculture Development and Watershed Management Project (SFADWMP) project is implemented in an environmentally and socially sustainable manner. The ESMF will provide the project implementers with an environmental and social procedures that will enable them to identify, assess and mitigate potential environmental and social impacts of the project components.

The screening results would indicate whether additional environmental and/or social work will be required or not. Thus, the ESMF is designed to determine the appropriate level of environmental management, which could range from (i) the application of simple mitigation

measures (assessed through the environmental checklists); (ii) to the preparation of a comprehensive EIA Report (according Malawi's EIA Guidelines), or, (iii) no additional environmental work. The ESMF will outline the:

- a) Environmental and social mitigation measures that can be applied and adopted;
- b) Summary of the Bank's safeguard policies to ensure they are observed during project implementation
- c) Environmental and Social Management Plan (ESMP)

The screening process has been developed because the locations and types of activities to be funded under the Sustainable Fisheries, Aquaculture and Watershed Management Project in Malawi are not yet known at this time; and therefore, potential impacts cannot be precisely identified. The screening process will assist the project implementers to identify, assess and mitigate potential negative environmental and social impacts; and to ensure proper mitigation of these impacts. It will assist in determining whether preparation of a comprehensive ESIA and/or RAP is appropriate for the project components. The screening process, the environmental management and monitoring plans, the ESMF implementation arrangements and the proposed capacity.

1.3 Potential Users of the ESMF

The ESMF is prepared to be used as a reference manual by key stakeholders involved in the planning, implementation, management and operation of the Nutrition Sensitive Agriculture Project activities. Implementation of this ESMF will also support and assist with the achievement of compliance with applicable laws and regulations and with relevant Bank policies on environment and social development issues. As a reference manual, the framework would be useful to the following:

- a) Donor Committee on Agriculture (DOCA)
- b) Project Steering Committee (PSC)
- c) Department of Fisheries
- d) Ministry of Agriculture, Irrigation and Water Development
- f) District Councils, district and local structures
- g) Politicians and local traditional leaders involved in Sustainable Fisheries, Aquaculture and Watershed Management Project in Malawi
- h) Government extension workers in the Sustainable Fisheries, Aquaculture and Watershed Management Project areas;
- i) Non-governmental organizations involved in the activities of the Sustainable Fisheries, Aquaculture and Watershed Management Project in Malawi

1.4 Preparing the ESMF

The focus of the ESMF is to provide a screening process for potential environmental and social impacts for planned future project activities of the Sustainable Fisheries, Aquaculture and Watershed Management Project in Malawi, and to recommend a generic management plan for addressing the potential negative impacts. In the development of the ESMF, consultations with

key stakeholders were employed. The rationale of these extensive consultations was to solicit views of a cross section of people, at the local, district, and Central Government level. The ESMF includes indicating the consultation events that took place (including dates and venues), the organizations and interest groups which participated, and the main issues discussed during the consultations in Section 4 and Annex 4. The consultation meetings were organized in order to ensure that all the information pertaining to the project and its likely impacts is disseminated to the District Councils and the concerned stakeholders. Particular focus was given to the issues related to the positive and negative impacts and the instruments which have been put in place to mitigate against the negative impacts. The consultation meetings further provided an opportunity for stakeholders to express their views and opinions on the project and to raise issues of concern relating to the Project. These extensive consultations were carried out to share the views of key stakeholders and to obtain their input in the identification of environmental and social impacts of the project. A list of individuals and institutions consulted is included in Annex 3. The strategies used and activities performed in the preparation of the ESMF included:

- a. Review of existing national biophysical and social conditions. Some of the sources of information included Socio-economic Profiles and Environmental Reports;
- b. Review of typical implementation approach and processes for the proposed. This information was obtained from the project description, project concept note, project appraisal documents and other related literature.
- c. Determination of the project stages and activities which are likely to have environmental and social impacts on the various environmental components;
- d. Identification and analysis of potential environmental and social impacts of the project; based on the field investigations and public consultations, project description, other similar documents and professional knowledge;
- e. Determination of the environmental and social components to be impacted by the project activities;
- f. Development of the appropriate screening process for the proposed project sites and project activities.
- g. Identification of appropriate mitigation measures for the likely potential environmental and social impacts and;
- h. Compilation of a generic management and monitoring plan for addressing the impacts during implementation, operation and maintenance of the project activities.

2 PROJECT DESCRIPTION AND IMPLEMENTATION OF ACTIVITIES

2.1 Project Background

The Malawi's fisheries sector is of great importance to the national economy as it estimated to contribute 4% to the Gross Domestic Product (GDP) and is also a source of employment, food, rural income, export, import substitution and conservation of biodiversity. The sector directly employs over 60,000 fishers and 9,000 fish farmers and indirectly supports 500,000 people who are involved in other ancillary activities like fish processing, fish marketing, fishing and fish farming input supplies, boat building and engine repairs. Over the past years, more women have

become engaged in the fish production sector mainly through fish processing and marketing. In addition, millions of people also depend on fish for their dietary requirement.

The sector has, however, been experiencing a number of challenges that has led to dwindling fish supplies especially the high value fish species such as the Chambo (*Oreochromis* spp.) and has subsequently reduced per capita fish consumption at national level from 12.9 kg in the 1980s, to about 8 kg over the past five years. The decline in the per capita supply and protein intake can result in serious nutritional implications especially to some vulnerable groups. The main issues related to the declining catches of the commercial fish species such as the Chambo (*Oreochromis* spp.) include the open access to the fishing systems in Malawi that leads to subsequent over-fishing; limited capacity to enforce fishing laws such as closed seasons/sanctuary areas, fishing times; use of restricted fishing nets and methods; catching of immature fish; weak fisheries governance structures, limited alternative income sources among the fishing communities; gender inequality; environmental degradation due to poor land use; and increased pressure on natural resources including fish due to high population growth

2.2 About the Project

The African Development Bank is supporting the development of a Sustainable Capture Fisheries, aquaculture Development and watershed management project (SFADWMP) in Malawi. The project focuses on the development of value chains in both capture fisheries and aquaculture taking into account the changing climate and environment on the lakes of Malawi. The project strives to make provisions of basic infrastructure, supporting research and extension services for wild captured fisheries, provision of training to SMEs and the encouragement of competitive fish value chains.

The project has four main components: i) sustainable capture fisheries and watershed management; ii) aquaculture development; iii) fish value chain strengthening; and iv) project coordination, monitoring and evaluation.

The overall strategic objective of the SFADWMP is to increase fish production in order to contribute to the well-being of Malawians, improve on food security and nutrition sensitive diets, reduce on poverty levels through employment opportunities and enhance adaptive capacity of value chain enterprises. The specific objective is to strengthen fisheries and watershed management, resilient livelihoods and improved fish value chains to meet the nutritional needs and towards competitive markets.

These objectives would be achieved with the project's support and promotion of best fisheries management practices, enforcement of fishing laws and regulations, promotion of competitive value chains, making available improved inputs (feeds, fingerlings) for aquaculture; support small to medium scale (SMEs) for youth and women.

Component 1: Sustainable Capture Fisheries & Watershed Management (USD 7.4 million)

This component aims at utilizing fisheries resources from offshore waters of Lake Malawi through an Ecosystem Approach to Fisheries (EAF) and within a blue economy paradigm. The program of investments into the fisheries will be assessed to recognize the level of over-capitalization and the poor status of the wild fish stocks. The component will enable project beneficiaries be engaged in both pre-harvest (aquatic ecosystem management) and harvesting capacity. Other activities in this component are intended to ensure sustainable exploitation of fisheries resources based on the EAF by strengthening fisheries governance as outlined in the

National Fisheries and Aquaculture Policy (NFAP) as well as integrated shoreline and watershed management. Additional measures include consideration of climate change and variability (droughts, floods, falling lake water levels, water quality) and effects on capture fisheries; restoration of breeding /spawning grounds; land use change and deforestation in critically degraded ecosystems/upstream water sheds; management of invasive weeds at selected locations; and addressing pollution and eutrophication through water supply and sanitation interventions at fish landing sites. Further activities linked to governance will include resource monitoring, and environmental management, community based inspectorate services, extension services by both the Community Outreach Unit and a network of existing extension officers across the country, and the rehabilitation of centralized fish landing facilities including dockyards and slipways for regulated offshore fishing units.

A summary of the districts and activities related to this component are presented below:

- **Karonga- Kaporu, Chipamira Ngara, Gumi and Chilumba:** construction/rehabilitation of fish landing sites, refrigerated truck and access roads and bridges and water and sanitation while at Chilumba the project will support on storage (dry and cold rooms), refrigerated truck and water and sanitation.
- **Mzuzu:** upgrading facilities at the Demonstration site especially the hatchery and the feed mill, the construction of a market and processing facilities on a third party arrangement model to support regional cluster for fish value chain development.
- **Nkhata Bay:** relocation and maintenance of the ice plant and cold rooms and slipway and support Women group at Tukombo on fish processing and marketing including a refrigerated truck.
- **Likoma:** rehabilitation of one dilapidated landing site and support women fisheries cooperatives to scale-out their value chain operations.
- **Salima-** support will be provided to Senga Bay fisheries research unit to foster integrated shoreline development; Salima Technical College to improve its transdisciplinary curriculum and incentivize girl's enrollment in the boat building and engineering degree programs. The project will also refurbish the Chia market and cold room and train fishers and vendors on developing competitive fish value chains. Mbenji Island communities will benefit from community enforcement training and post-harvest processing facilities.
- **Nkhotakota:** fish processing facilities and water and sanitation infrastructures.
- **Mangochi:** reconstruction and refurbishment of the fish processing facilities at Msaka and support Malembo uptake in addition to provision of water and sanitation facilities. Malembo water tank will be reconnected to the lake instead of the borehole for better water quality.
- **Monkey Bay Research Unit:** support for the research and slipway maintenance while at the Malawi College of Fisheries support is needed for the construction of classrooms, hostel maintenance, IT equipment and laboratory, hatchery and training boat.
- **Lilongwe &Blantyre fish market:** training of fish vendors, provision of refrigerated trucks, and fish handling and packaging. Similar activities are expected in Blantyre market and the repairs of the cold room storage to support fish vendors and cooperatives such as in Chilomani for fresh fish trade and cold room chains.

Component 2: Aquaculture Development (USD5.3 million)

The aquaculture development component will promote commercial aquaculture ventures, integrated pond-based aquaculture systems and various pilots in selected areas as an adaptive measure to the changing offshore fisheries. Aquaculture is a viable livelihood option to complement open lake fishing and will help reduce the pressure on the depleting fish stocks and declining biodiversity. The farmed fish value chain will target profitable aquaculture ventures especially by SMEs led by women and youths as individuals or cooperatives. These production systems, however, depend on formulated feeds, intensive land-based hatcheries, and initial capital outlay. Long-term sustainability of aquaculture will depend on relevant technologies (from harvesting, to breeding, feeds, and processing) to effective prevention of environmental degradation, infrastructure maintenance and repairs, adequate management to water quality, including effluents. Freshwater aquaculture co-exists with other water uses, with potential synergies such as rice-fish culture for nutrition sensitive production, for example, between fish farmers and rice farmers, and between livestock and lake fishers in cooperatives or unions. Relationships between fresh-water aquaculture and other sectors will be assessed based on the availability of freshwater bodies and finding ways to seek co-benefits for resource users. The project will also ensure that capacity for better pond management is enhanced through establishment of demonstration sites in strategic locations in the districts, rehabilitating training facilities and utilizing the existing learning institutions such as residential training centers by introducing aquaculture units. Staff training in aquaculture at higher degree levels in addition to regular short term/refresher courses will be provided to ensure sustainability of the investments. The project will further support research and knowledge development in collaboration with the WorldFish Center (a member of the CGIAR) and national universities to develop: i) a fish genetics improvement program (genetic mapping exercise), ii) the development of foundation breed stock building on the on-going improvement of the indigenous *Oreochromis shiranus* fish species; (iii) feed development; and (v) aquatic animal health. WorldFish will support to build feeds based on international standards for local and international markets based on the experience in feed development currently underway in Egypt, through the partnership with Skretting. This component will also develop a National Aquatic Health System to stem the possible tide of an outbreak of epidemic fish disease. Based on a Memorandum of Understanding between MoAIDW and WorldFish since 1987 and last updated 2015, a cooperation agreement will facilitate the implementation of the defined project activities. The project will also provide support to the on-going fish genetic improvement program being implemented at the National Aquaculture Centre with capacity support from the AfDB-WorldFish Aquaculture TAAT Compact.

This component will be implemented in the following sites:

- **Zomba:** support the National Aquaculture Research Centre on fingerlings, fish feed supply, structures for broodstock multiplication centers and nurseries and breeding facilities at the institution & water settlement tank.
- **Chikwawa (Kasinthula Research Station):** boreholes to supply water to the 270 ha fish farm to enable the farm to function throughout the year.
- **Chitipa:** aquaculture value chain especially the PolePole scheme for rolling out.
- **Mzuzu:** provide resources towards upgrading facilities at the Demonstration site especially the hatchery and the feed mill, the construction of a market and processing

facilities on a third party arrangement model to support regional cluster for fish value chain development.

Component 3: Fish Value Chain Strengthening (USD 4.6 million)

Here, a special consideration will be on the existing small and medium entrepreneurs (SMEs) to graduate to medium or large-scale category so that they are able to expand their businesses and employ other people. In some cases, the existing commercial fishing or fish farming enterprises will also be considered for training to be competitive for incubation financing in expanding their operations. In aquaculture, fish farmers in clusters or as individuals will be targeted to be self-organized as SMEs or cooperatives to expand their existing businesses. The SMEs and cooperatives will be linked to various financial institutions favorable to SME business climate to access capital and promoting their businesses. Value chain activities including supply of cooling facilities for storage and transportation to markets will be facilitated and strengthened through public-private-partnerships and other empowerment models especially with cooperatives. Most of the fish landing areas on the shores of Lake Malawi do not have appropriate processing facilities; even where they exist they are in poor conditions. Under this activity, funds will be provided for the rehabilitation of existing facilities and new facilities would be constructed in some project sites including major cities like Mzuzu. Essential infrastructure development work at each of these sites will include an area for fish marketing and retail, feeder roads, seafood restaurants, and provision of water piping and floodlights as well as ice plants, cold rooms, and dry fish stores. The project will also provide resources for capacity building for the SMEs, cooperatives and other groups on agro-processing and value addition to ensure quality fish products and reduction of post-harvest losses. The Malawi Bureau of Standards will also be engaged to ensure that national and international standards are attained and thereby enhance food safety that is compliant with phyto-sanitary measures and HCCAP.

Component 4: Project Coordination, Monitoring and Evaluation (USD 2.3 million)

This component will ensure effective implementation of the project based on a set of target indicators. A Project Implementation Unit headed by a Project Coordinator will be established for day to day monitoring of project activities and supported by a Steering Committee. Monitoring and Evaluation framework will be developed to guide assessment of progress on monthly, quarterly and annual basis. The Ministry of Finance, Economic Planning and Development will jointly carry out monitoring activities of the project implementation through field visits, reports (monthly, quarterly, semi-annual and annual) with Department of Fisheries by involving the beneficiaries especially district councils. Steering and technical meetings will also provide appropriate platform for monitoring of the project. Project implementation plans, annual plans of actions, progress reports and financial reports will be tabled at project coordination meetings as well as project steering committee meetings for consideration and approval. Periodic evaluation will be conducted to assess effectiveness and efficiency of the project design by focusing on how the project is achieving its objectives against the set targets against while project completion report will be prepared to determine impact of the project on the livelihoods of the beneficiaries.

2.3 Project Implementation Arrangements

The executing agency will be the Ministry of Agriculture Irrigation and Water Development MoAIWD through the Department of Fisheries (DoF). A Project Implementation Unit (PIU) comprising a team of experts, housed in the DoF and within decentralized district offices, will

undertake the operational and daily administrative tasks, monitoring and evaluation (M&E), and project implementation. The PIU will comprise the following experts: A Project Coordinator, a Fisheries Resources Management Specialist, an Aquaculture Production specialist, a Community Development Officer (with specialty in rural economy, social inclusion, gender, and governance), a Nutrition Officer, an Agribusiness and Value Chain Specialist, a Finance Officer, a Procurement Officer, M&E officer, Infrastructure Engineer, and supporting Staff (Secretary and Drivers). These staff positions will be recruited on a competitive basis with provisions for annual performance review. The PIU will manage the project on a day to day basis and ensure that project resources are properly accounted for and that all project targets are timely delivered. The PIU will directly report to the Principal Secretary (PS), Ministry of Agriculture Irrigation and Water Development (MoAIWD) through the Director of Fisheries.

The Project will be governed by a Project Steering Committee that will be chaired by the Principal Secretary (PS) of the MoAIWD and co-chaired by the PS for Planning of the Ministry of Finance, Economic Planning and Development (MoFEPD). Other members will include representatives from: Ministry of Natural Resources, Energy and Mining; Ministry of Transport and Public Works; Ministry of Industry and Trade; Ministry of Ministry of Local Government and Rural Development; Ministry of Gender; Ministry of Youth and Vocational Training, as well as specialized agencies like the Public Private Partnership Commission, Malawi Investment and Trade Centre, and the Malawi Bureau of Standards. At district level, there is a District Task Team consisting of key stakeholders in the district including traditional authorities and the BVCs. For operations at district level, the project will utilize available staff from the ADD and district councils based on the decentralized framework and utilizing the BVCs, DFOs and Program Managers. There will be a stakeholder consultative platform with representatives from the Fisher Associations, youth and women in agribusiness, retailers, CSOs, and others that will be involve in program planning and monitoring. All reporting will be done through the Project coordinator (on behalf of the PIU) and in collaboration with the DFOs and Beach Village Committees and the District Councils.

2.4 Project financing

The indicative total Project cost, excluding taxes and duties, is UA 14.18 million (USD 19.60 million). The project will be funded from three sources of financing namely ADF, GEF and Government contribution. A total of ADF grant of UA 3.05 million and ADF loan of 6.51 giving a total of UA 9.56 million will be made available for the project. In addition a total of UA 3.62 (USD 5 million) from the Global Environmental Facility has been secured to primarily focus on the watershed management component of the project. Government contribution of UA 1 million is expected to be made available in kind through staff salaries, provision of office facilities and other activities financed under the ORT. The breakdown, per source of financing, is shown below:

Table 1: Financing Arrangements for the Project

Source of Financing	USD million	UA million
1. ADF Loan	9.00	6.51
2. ADF Grant	4.21	3.05
3. Government Contribution (in-kind)	1.38	1.0
4. GEF	5.0	3.62
Total	19.60	14.18

3 EXISTING SOCIAL AND ENVIRONMENTAL BACKGROUND

3.1 Fisheries sector

The fisheries sector is of great importance to Malawi's economy as a source of employment, food, rural income, export, import substitution and bio-diversity. For many Malawians, fish is the most important source of protein. The sector directly employs nearly 63,000 fishers, over 8000 fish farmers (De Graaf and Garibaldi, 2014) and indirectly over 500,000 people who are involved in fish processing, fish marketing, boat building and engine repair. Furthermore, nearly 1.6 million people in lakeshore communities derive their livelihood from the fishing industry (2017 Frame survey). The Fisheries sector comprises two subsectors; (i) capture fisheries, which is dominant and (ii) aquaculture which is relatively smaller than the former.

3.2 Capture fisheries

The main fishing areas in the country include Lake Malawi with a surface area of 29,000km², Lake Chilwa (2,000km² depending on the season), Lake Malombe (390km²), Lake Chiuta (about 200km²), and the Lower Shire River system. Lake Malawi and Lake Chilwa provide most of the fish for the region and a significant quota goes to bordering nations. Lake Malawi supports a highly diverse capture fishery that can be grouped into large-scale commercial, small-scale commercial and subsistence, and are characterized by various fishing methods ranging from stern to hook and line fishing. The estimated number of fishing vessels in 2017 on Lake Malawi was at 17,935 fishing vessels (2017 Frame Survey). The capture fisheries sector in Malawi is divided into commercial fisheries, artisanal fisheries and ornamental fisheries. Although the export of live fish as ornamental fish provides an important source of employment and revenue to the local economy, the majority of Lake Malawi's fish is harvested for food by industrial and artisanal fisheries (Wely, 2010). The artisanal fisheries encompass many highly commercialized, small-scale endeavors that support village economies (Ganter et al., 2001). The artisanal sector uses gill nets, longlines, open water seines locally termed chirimila nets, traps and beach seines. Their vessels for fishing range from planked boats with or without engines to dugout canoes (Weyl et al, 2005). The industrial sector operates stern trawlers and pair trawlers, but also purse seining is done (GoM, 2012; Wely, 2010).

Fish production in the country varies annually. The catch and effort data collection system established and introduced into Malawi by Food and Agriculture Organization (FAO) shows that production of less than 15,000 tonnes was recorded between 1964 and 1974. The catches

increased to around 80,000 tonnes in the 1980s and then declined to less than 40,000 tonnes in the mid-1990s.

Recently, there has been a general increasing trend for fish production at national level despite annual fluctuations of most of the fish species. The national catch statistics from all the water bodies show that total fish production increased from 157,268 tonnes in 2016 to 199,454 tonnes in 2017, representing 26.8 percent increase. In terms of catch composition, there have been shifts in catch composition. The most pertinent example of species specific biomass depletion is the decline of the fishery for the endemic *Oreochromis* (*Nyasalapia*) species flock (FAO 1993; Weyl et al., 2010). Chambo are the most valuable component of the fishery with prices at least twice as high as that of comparably large Haplochromine cichlids (Weyl, 2002) and have been considered fully or over-exploited since the first assessment over 60 years ago. Prior to 1980 Chambo CPUE was primarily influenced by fluctuating lake levels, but post 1980, a strong negative correlation with increasing fishing effort was shown (Tweddle & Magasa, 1989).

Changes in the species composition in Lake Malawi (Turner, 1995) provide an excellent example of species loss and replacement as a result of overfishing. Other views on what caused these composition changes are contested, but El Niño, climate change, global warming and overfishing were frequently mentioned as factors that impacted on the productivity of the small pelagic resources, fishing possibilities and the distribution of the resource. The fish catches of small pelagic, have dominated to the extent that over 70% of the capture fisheries industry in Malawi consists of cyprinidae family, mainly *Engraulicypris sardella* which comprised of 55% of the total catch and Utaka 18% Figure 1.

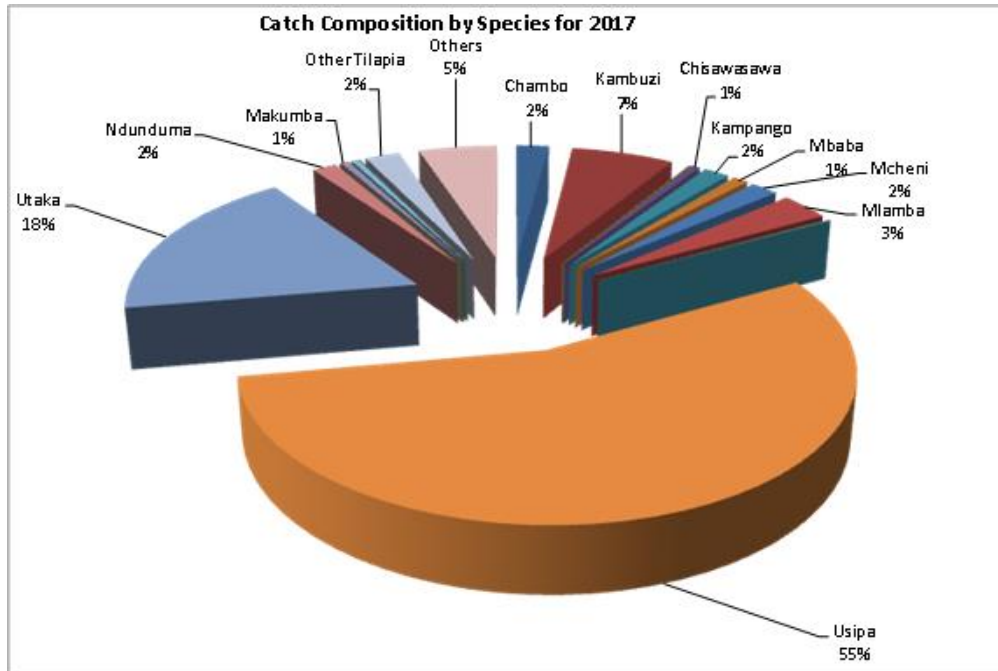


Figure 1: Percent species composition of total national catches for 2017

3.3 Aquaculture

Aquaculture has grown strongly in most regions of the world where the potential exists, especially in Asia. This has not happened in sub-Saharan Africa, and Egypt is the only African country to have achieved the scale of change observed elsewhere. As of 2015, Africa's share in world aquaculture production was only 2.3% despite recording the second highest growth rate of 3.6% after Asia over the same period. Two thirds of this amount comes from Egypt such that aquaculture in sub-Saharan Africa contributes less than 1% of the total global production (Kaminski et al., 2017).

Aquaculture in Africa has come a long way since it was first introduced. However, in comparison to other African countries, aquaculture production in Malawi has remained rather low. Given the steady decline in capture fisheries (especially of Chambo production) and an ever-increasing population, Malawi needs to increase its aquaculture production in order to meet the growing deficit. The current production from aquaculture stands at 7464 tons (FAO FishStatJ, 2018) (Figure 2).

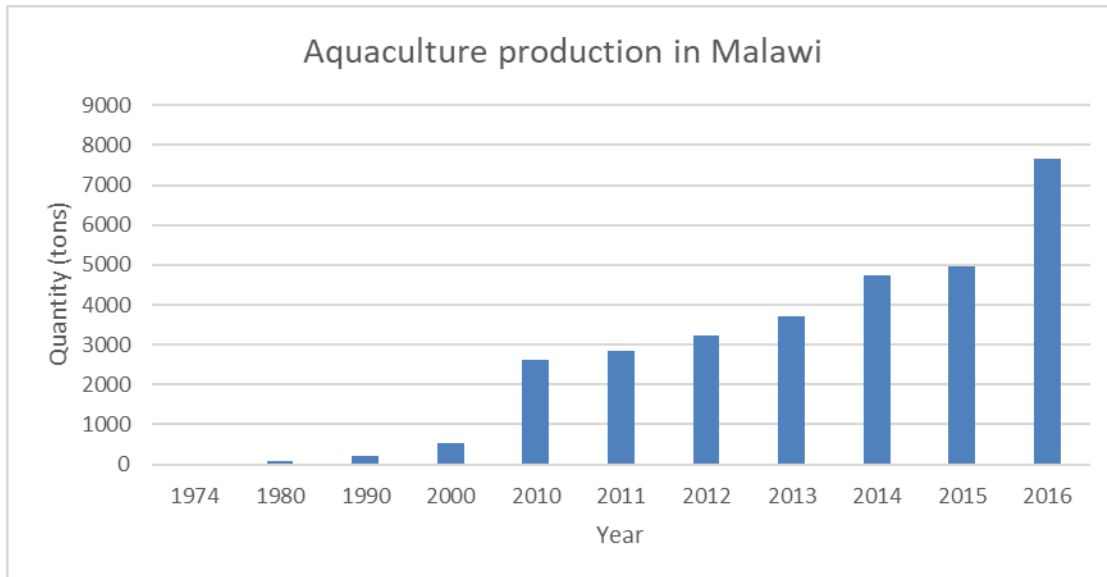


Figure 2: Aquaculture production in Malawi in 2016

Source: FAO FishStatJ (2018)

There are three main aquaculture systems in Malawi: pond-based, cage farming and recirculation system. The aquaculture sub-sector has potential for substantial increase in fish supply. Enhanced aquaculture production especially at commercial level would improve fish protein intake and has potential to contribute to generation of wealth and employment in the country through fish exports. Many parts of the country have seen the initiation of small-scale village aquaculture for nutrition and small-scale commercial aquaculture operations, as well as the development of cage culture in Lake Malawi (currently only undertaken by MALDECO Fisheries). Cage culture of *O. Shiranus* is relatively a new fish farming technology in the country, as it was introduced in the country around 2004. While pond-based culture is widely adopted, cage farming has been practiced at commercial level to produce tilapia from cages for

domestic market. A recent study conducted in 2010 shows that that Lake Malawi has vast area suitable for cage farming

Government and people of Malawi are trying to develop aquaculture, which is still in its infancy. The locally farmed tilapia, also known as “Chambo”, does not grow to commercially viable standards primarily due to poor quality feed that is used. The country is said to have shortfall of greater than 10,000 tons of tilapia. About 8,000 small scale farmers and few commercial operators including MALDECO are engaged in aquaculture production. In addition to unavailability of quality feed, other constraints to growth of tilapia industry in Malawi include, limited availability of quality fingerlings, considerable site/water availability and low participation of large scale investors

Malawi doesn't allow outside strains of tilapia into the country. Nile tilapia (*Oreochromis niloticus*) is not allowed, so the fish farmers grow indigenous species such as tilapia rendalli. This appears to be one of the most controversial plans bearing in mind that the introduction of *O. niloticus* into Lake Victoria resulted in the disappearance of the endemic species in the lake due to hybridization with the indigenous species (Kapute, 2008). Considering that tilapia are frequent breeders, there is worry that they could easily affect the Lake's biodiversity and become an invasive species. Because of that, *O. shiranus*, the local Tilapia is used. *O. shiranus* is not as fast growing as the Nile Tilapia, but it is a native species to Lake Malawi.

Though aquaculture is emerging, undeveloped approaches for managing fingerling and on-growing, high cost of commercial feed, poor transportation links, among other factors, present challenges to fish farmers and the development of the sector.

3.4 Social economic status of the fishing communities

With the ever increasing population in Malawi, and specifically lake shore areas, coupled by scarcity of alternative opportunities, raise the concern of over-investment of capital and labour in fishing leading to resource decline. Frame surveys have revealed that there is an increase in both the number of fishermen and fishing gears in Malawi. Most fishing communities, are characterized by high poverty levels, low educational levels, and frequently struck by hunger cases. Although this been the case, incomes and asset status of households involved in fishing, particularly those of boat and gear owners, are significantly higher than those of non-fishing households in the same villages (Allison et. Al, 2002). Most of the fishers have no other sources of income which they can rely upon, and access to arable land for agricultural activities remains a problem to these fisherfolks, hence fishing remains their major source of livelihood. As such, for these communities, any failure in fisheries means intensified poverty levels, prolonged hunger, stagnated or decline in rural economic growth.

3.5 Fisheries resource management in Malawi

The fisheries resources are managed by Department of Fisheries was established in 1946 by an Act of Parliament. Its mandate includes development, protection and conservation of the national fisheries. It is also involved in the development of aquaculture. The Department conducts research programmes and provides guidance based on technical information for the development of the fishing industry in Malawi. The Departmental goal is therefore to ‘provide professional

services to ensure sustainable fisheries resource utilization and enhanced aquaculture. The Department falls under the Ministry of Agriculture and Food Security and the Director of Fisheries is responsible to Principal Secretary of the Ministry.

At local level, the fishing communities are governed by local leaders who are responsible for most decision making. These among others are responsible for setting up local rules and regulations together with their villages which govern local fisheries management. In aquaculture, these chiefs have power over land, and makes decisions on who to get which piece of land who can establish aquaculture farms. Family lineages also play a crucial role in these. In Addition to the local leaders, there are beach village committees in the local communities which acts as a bridge between the government and fisher folks regarding fisheries management. At local level there are Beach Village committees (BVCs) and Fisheries Associations (FAs) while in aquaculture there is Innovation Fish Farmers Network (IFFNT) that are empowered to make decisions and advise Department of fisheries on any policy issue regarding fisheries management and aquaculture development.

4 DESCRIPTION OF POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK FOR THE PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENTS FOR PROJECTS

The components in the project should meet the requirements of:

- 1) Malawi's policies and legislation that guide environmentally sustainable especially policies and legislation that have a bearing on fisheries, aquaculture and environment.
- 2) The African Development Bank safeguards

4.1 Malawi's laws and regulations

There are a number of legislations that have a bearing on the fisheries and aquaculture sector.

4.1.1 National policy and legal frameworks

4.1.1.1 Fisheries Conservation and Management Act (FCMA) of 1997

The principal statute governing fisheries management and fish farming development is the Fisheries Conservation and Management Act (FCMA) of 1997 which has been under review since 2010. The statute regulates the utilization of fisheries and its preservation and also guides development of fish farming. Most importantly, the legal framework promotes community participation in the protection of fish, reflecting a gradual shift that has occurred in the fisheries management philosophy since the 1990s, from the conservation paradigm to the social/community paradigm that focuses on community involvement in the management of fisheries resources; it also provides for the establishment and operation of aquaculture.

Specifically, the FCMA contains provisions on vessel registration, issuance of permits and licenses to regulate fishing, prohibition of fishing measures, enforcement, monitoring compliance, designation of fishing districts, formation of management plans, seizure and retention of illegal fish, and administrative penalties.

The FCMA is implemented through the subsidiary legislation, the **Fisheries Conservation and Management Regulations (FCMR) 2000**. The subsidiary legislation provides specific regulations for the conservation and management of all the fisheries including the following:

- Licensing of fishing gears: Licenses are required to operate gillnets, chirimila (open water seines), beach seines and trawl nets on the lake.
- Mesh restrictions: Gillnets with meshes less than 95mm are prohibited in south east arm and those with less than 89mm in the area lying south of latitude 12° 15' of Lake Malawi. There is no mesh restriction for the rest of the lake lying north of latitude 12° 15' and regulations on length and depth sizes do not exist.
- Fish size limits: All species of Chambo and Mpsa of less than 15cm and 30cm are prohibited to be landed by gillnet.
- Aquaculture permit: aquaculture establishment occupies an area of not less than four hectares; or where fish bred, reared or kept at the establishment are intended for export shall require an aquaculture permit.

4.1.1.2 The National Fisheries and Aquaculture Policy (NFAP)

The National Fisheries and Aquaculture policy approved in 2016 was formulated to revise the National Fisheries and Aquaculture Policy of 2001 in order to effectively contribute to sustainable economic growth in Malawi, as outlined in the Malawi Growth and Development Strategy II (MGDS II). The revised Policy seeks to provide guidance to all stakeholders in the implementation and provision of fisheries services as well as interventions that will continue rendering the sector as a key source of food and wealth in Malawi. The primary objective of the NFAP is to promote sustainable fisheries resource utilisation and aquaculture development in order to contribute to food and nutrition security and economic growth of the country.

4.1.1.3 National Environmental Policy

The National Environmental Policy of 2004 calls for development of mechanisms for cross sector management; facilitating active participation of local communities and other stakeholders in enforcement of legislation; and integration of environmental planning, management and institutional frameworks into the decentralized structure. The goal of the NEP 2004 is *to promote sustainable social and economic development through the sound management of the environment and natural resources*. One of its strategies highlights the need to promote biodiversity conservation programmes undertaken by sectors such as forestry, fisheries, and wildlife that protect biodiversity and provide benefits to local communities so that they are motivated to conserve the resources and use them in a sustainable manner. Within the NEP, the fisheries

sectoral *objective to manage fish resources for sustainable utilization and conservation of aquatic biodiversity* is clearly highlighted.

4.1.1.4 Malawi Growth and Development Strategy (2017-2022) (MGDS III).

The Malawi Growth and Development Strategy (MGDS) III is the successor to the Malawi Growth and Development Strategy (MGDS) II which covered the years 2011 to 2016 and expired in June 2016. The MGDS III is intended to cover the period from 2017 to 2022 and therefore straddles the final three years of Vision 2020 and the start of the next vision. The MGDS II which it succeeds was itself a successor to the MGDS I which covered the period 2006 to 2011. These two earlier medium term strategies (i.e. MGDS I and II) had the objectives of reducing poverty and creating wealth through sustainable economic growth and infrastructure development in order to propel Malawi to a middle income status at the end of Vision 2020. The MGDS III aims at building a productive, competitive and resilient nation by consolidating achievements of the earlier strategies.

Notably, a number of fisheries specific activities have been or are being implemented under the MGDS III. Underpinning the implementation of fisheries related activities in the policy is Agriculture and climate change Key result area (KPA) where promoting and encouraging sustainable fisheries management and commercial aquaculture development is one of the strategies to achieve its goal.

4.1.1.5 National Land Resources Management Policy

The National Land Resources Management Policy of 2000 aims to promote the efficient and diversified and sustainable use of land resources both for agriculture and other uses in order to avoid sectoral land use conflicts and ensure sustainable socio-economic development.

4.1.1.6 National Forestry Policy

The goal of the National Forest Policy of 1996 is to sustain the contribution of the national forest resources to the quality of life in the country by conserving the resources for the benefit of the nation. In one of its strategies (2.8.1.1), the policy seeks to harmonise the Forest Act with the Fisheries Conservation and Management Act among others. This shows that the indirect impacts of deforestation on the fisheries resources are recognised.

4.1.1.7 Wildlife Policy

The Wildlife Policy of 2000 aims to ensure proper conservation and management of wildlife in order to provide for: sustainable utilization; equitable access to the resources; and fair sharing of the benefits from the resources for both present and future Malawians.

4.1.1.8 Water Resources Policy

The overall goal of the National Water Resources Policy of 2005 is sustainable management and utilization of water resources, in order to provide water of acceptable quality and of sufficient quantities, and ensure availability of efficient and effective water and sanitation services that

satisfy the basic requirements of every Malawian and for the enhancement of the country's natural ecosystems.

4.1.1.9 Malawi Decentralisation Policy

The Malawi Decentralization Policy of 1998 seeks to create a democratic environment and institutions in Malawi for governance and development at the local level which will facilitate the participation of the grassroots in decision making; eliminate dual administrations (field administration and local government) at the district level with the aim of making public service more efficient, more economical and cost effective; promote accountability and good governance at the local level in order to help Government reduce poverty; and mobilize the masses for socioeconomic development at the local level.

4.1.1.10 Gender Policy

The Gender Policy of 2008 seeks to mainstream gender in the national development process in order to enhance participation of women and men, girls and boys for sustainable and equitable development.

4.1.1.11 Malawi National HIV/AIDS Policy

The goal of the Malawi National HIV/AIDS Policy of 2013 is to prevent HIV infections, reduce vulnerability to HIV, to improve the provision of treatment, care and support for people living with HIV/AIDS and to mitigate the socio-economic impact of HIV/AIDS on individuals, families, communities and the nation.

4.1.1.12 Fisheries Policy Implementation, Monitoring and Evaluation Strategy (IMES) (2016-2020)

The strategy was developed to enable the implementation of the Policy for Fisheries and Aquaculture is approved by the Cabinet. Key priority areas, specific objectives and strategies to achieve them with, are elaborated upon. This is in line with policy and responsible institutions mandated to implement actions so as to achieve the agreed set and time bound targets. Priorities relevant to this project straddle all seven priority areas of the Policy (i) Capture Fisheries (ii) Aquaculture, (iii) Fish Quality and Value Addition, (iv) Governance, (v) Social Development and Decent Employment, (vi) Research and Information, and (vii) Capacity Development, but are most specifically articulated in terms of addressing climate change under priority 6, Objective 2: "To monitor and adapt to the impact of pollution and environmental changes, including the threat of climate change on fisheries and aquaculture".

4.1.1.13 The National Aquaculture Strategic Plan (NASP) (2006 – 2015)

With support from JICA the National Aquaculture Strategic Plan (2006-2016) was developed in 2006 to guide development of aquaculture in Malawi. The overall objective of the NASP was to facilitate the necessary institutional, legal, and administrative changes in the sector, and to increase the capacity of stakeholders to enable improved livelihoods among rural small-holder fish farmers; a successful commercial aquaculture sector; and the provision of quality aquaculture services at a national and local level.

4.1.2 International Instruments

At international level, Malawi is a signatory to several agreements and protocols. The Policy takes into account key agreements and protocols including the SADC Protocol on Fisheries of 2001 and the 2005 Abuja Declaration, both of which call for an end to open access in capture fisheries; the Convention on Biodiversity and its subsidiary protocols, which commits Malawi to the preservation of biodiversity; and the FAO Code of Conduct for Responsible Fisheries (CCRF) of 1995. The Policy furthermore supports Malawi’s obligation related to the ILO Minimum Age for Employment Convention No. 138 of 1973 and Voluntary Guidelines on the Management of Smallscale Fisheries. Finally, the 1971 RAMSAR Convention on Wetlands is also considered for the principle of wise use of natural resources including fisheries with participation of the fishing communities.

The Government of Malawi signed the **United Nations Framework Convention on Climate Change** (UNFCCC) on June 10 1992 and ratified it on April 21 1994. It acceded to the **Kyoto Protocol** in 2013. The Department of Environmental Affairs (DEA) is designated as the national focal point for the UNFCCC. Malawi has completed and submitted a number of reports to the Convention, including Greenhouse Gas Inventories, National Communications and the National Adaptation Programme of Action (NAPA). The Government has also formulated various other measures to achieve specific requirements in the Agreements including preparation of various reports and plans such as the National Environmental Action Plan (NEAP) of 1994 and State of Environment and Outlook Reports, In the NEAP, the need for increased public environmental awareness and participation in environmental management was highlighted as a key priority to address the environmental problems.

4.2 Applicable AfDB safeguard policies

Table 1 below discusses the AfDB safeguard policies that will be triggered upon implementation of the Sustainable Fisheries, Aquaculture and Development and Watershed Management project in Malawi. A brief description of how the safeguard is to be triggered is provided.

Table 1: African Development Bank Safeguards policies and their relevance to the proposed Project

Operational Safeguard	Relevance
<p>OS1: Environmental and social assessment. The safeguard governs the process of determining a project’s environmental and social category and the resulting environmental and social assessment requirements. It updates and consolidates the policy commitments set out in the Bank’s policy on the environment.</p>	<p>Yes: the project components or activities can generate negative environmental and social impacts. The rehabilitation of feeder roads to landing sites, rehabilitation of infrastructure and empowerment of women is expected to have likely negative environmental and social impacts. In order to comply with this safeguard, the project ensure that site specific activities are assessed to minimise potential negative</p>

	impacts.
<p>OS 2: Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation. This safeguard consolidates the policy commitments and requirements set out in the Bank’s policy on involuntary resettlement, and it incorporates refinements designed to improve the operational effectiveness of those requirements. The safeguard retains the requirement to provide compensation at full replacement cost. It emphasises the need to ensure that social considerations, such as gender, age, and stakes in the project outcome, do not disenfranchise particular project-affected people</p>	<p>No- the project will not support the development of ponds and infrastructures in settled areas activities that will displace persons.</p>
<p>OS 3: Biodiversity and Ecosystem Services. This safeguard aims to conserve biological diversity and promote the sustainable use of natural resources. The safeguard reflects the importance of biodiversity on the African continent and the value of key ecosystems to the population. It also protects and encourages customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements</p>	<p>Of Yes- improvement of the value chain might lead to increased participation of fishers, posing a risk of overexploitation in the shallow and off shallow waters. This ESMF has been prepared to minimize the possible negative impacts by presenting mitigations such as monitoring and enforcement of regulations.</p>
<p>OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency – This safeguard covers the range of impacts of pollution, waste, and hazardous materials for which there are agreed international conventions and comprehensive industry-specific standards that other multilateral development banks follow. It also introduces vulnerability analysis and monitoring of greenhouse gas emissions levels and provides a detailed analysis of the possible reduction or compensatory measures framework.</p>	<p>Yes- the project presents pollution risk from improper disposal of effluents from processing plants, improper disposal of construction materials as well as overuse of feed in aquaculture (cage culture). The ESMF details possible mitigation measures such as promotion of proper waste handling procedures and good fish farming management practices</p>
<p>OS 5: Labour Conditions, Health and Safety – This safeguard establishes the Bank’s requirements for its borrowers or clients concerning workers’</p>	<p>Yes- current fish processing and preservation methods, such as the use of mosquito nets to dry fish and poor hygiene</p>

conditions, rights and protection from abuse or exploitation. It covers working conditions, workers' organisations, occupational health and safety, and avoidance of child or forced labour.	conditions at processing sites are likely to cumulate to health risks for consumers. There is also a possibility of proliferation water borne diseases.
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5 PUBLIC CONSULTATION DURING THE PREPARATION OF THE ESMF

Procedures for project environmental assessment in Malawi and African Development Bank Safeguard policies require that adequate and informed consultations be carried out during preparation of environmental and social management framework. Consultations are supposed to provide opportunity for stakeholders/project affected persons to air views/concerns on project activities and contribute to design of project and development of appropriate plans for sustainable management of environmental and social risks during implementation. Consultations also help to avoid possible conflicts or misunderstandings on the potential negative risks and also offer measures for addressing concerns. In addition, consultations help to identify enhancement measures for positive impacts.

Stakeholder consultations were held to gather the concerns and feedback from any persons affected by the project such as the local community, associated department/agencies and other stakeholders. Overall, the project is well accepted and appreciated by the local communities. The consultative process took place between 1st and 5th July, 2019. List of people and institutions consulted is presented as Annex 3. The team further held a validation meeting with stakeholders on 17th July, where the draft ESMF report was presented. The feedback from the meeting was used to further finalize the report.

Discussions centered on the aims and objectives of the project, the scope of the project, design and modalities of implementation. The stakeholders were then asked to present their opinions on the impacts of the project. The summary of the issues are as highlighted below:

Governance Issues: governance issues were highly noted by stakeholders as being a key area to be considered in the project. Specifically, stakeholders noted the current limited governance arrangements in the Malawi water bodies, which have been impacting on the sustainability of fishing activities. Power relations amongst Beach Village Committees (BVCs) and commercial fishers were noted as being strained and leading to lack of adherence to management plans for the water bodies.

Ownership and sustainability: It was noted by stakeholders that previous projects have not been sustainable as there was low involvement of all stakeholders, especially the district councils in planning and execution stages of projects. This consequently led to the project activities being abandoned at the end of the project life. It was therefore indicated that the project should ensure that all relevant stakeholders are adequately engaged in the project for maximum output.

6 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

This step involved the systematic outline of the identified impacts, their sources/causes and the potential risks and effects of the impacts in the project impact area. The environmental and social impacts of the proposed fisheries and aquaculture project cannot be identified and assessed at this appraisal stage of the project.

6.1 Negative Impacts

Results from the consultations indicate that the proposed sub-projects are likely to incur environmental and social impacts that would require mitigation measures. Component 1 of the project has triggered OS 1, OS 3 and OS4; component 2 has triggered OS 1, OS 3 and OS 4; component 3 has triggered OS 1, OS 4 and OS 5; and component 4 has triggered OS 1. It is considered that fish handling and processing at landing sites pose a risk of pollution of the lake, affecting water resources which are used by surrounding communities. The risk of deforestation due to increased need for firewood for fish processing activities is a risk that will need to be handled in the project. All of the identified negative impacts in this project can be reduced or in some cases avoided, with timely implementation of the mitigation measures outlined in Management Plan.

Table 2: Component 1: Sustainable capture fisheries and watershed management

Component of the environment to be affected.	Potential environmental and social impacts	Source of impacts/cause of the impacts	Potential significance
Land resources	Civil works	Rehabilitation of landing sites may cause limited, temporary, and localized negative impacts due to depletion or degradation of natural resources such as stone, earth, and water.	Medium
Soil and water resources	Increased pollution	Improper disposal of effluents at processing and landing sites might result in pollution of surrounding areas as well as water bodies around it.	Medium
Vegetation resources	Increased deforestation	Increased need of firewood for processing fish and land degradation from upland human activities might further deforestation of watershed areas.	Medium
Human	Conflicts	Increasing access of small scale fishers to the fisheries resource and empowerment of BVCs might result in conflicts between large-scale and small-scale fishers. Conflicts might also arise between fisheries and tourism industry (lodge owners) for space.	Marginal
Human	Disruption of Gender Dynamics	possible losses by fish traders (who are mostly women) from repressed fish market prices as result of increased fish landings with no concomitant reduction in cost of fishing	Marginal

Table 3: Component 2: Aquaculture development

Component of the environment to be affected.	Potential environmental and social impacts	Source of impacts/cause of the impacts	Potential significance
Fish	Biodiversity Disruption	Introduction of alien aquaculture species in the catchment area of Lake Malawi pose a challenge as they may find their way into the natural water bodies.	Marginal
Water and soil	Pollution	Sex reversal hormones, chemicals, antibiotics and other hormones used in aquaculture pose a threat to natural water bodies when they find their way to the streams and other water bodies. Excessive feeding in cages and waste and effluents from aquaculture may also induce localized eutrophication.	Marginal
Fish and Humans	Diseases	There is a risk of introduction of diseases due to collection of broodstock from different locations during selective breeding programs. There is also a risk of exposure to water borne diseases.	Medium
Human	Conflicts	Competition between aquaculture (cage culture) and fisheries for space and aquatic resources; competition between aquaculture and agriculture on land and water and conflicts over water rights among multiple users.	Medium
Human and fish	Water Pollution	Poor water management impacting on people (drinking water) and other aquatic organisms' health (eutrophication).	Marginal

Table 4: Component 3: Fish value chain strengthening

Component of the environment to be affected.	Potential environmental and social impacts	Source of impacts/cause of the Impacts	Potential significance
Vegetation	Deforestation	Increased deforestation for fuelwood, including in protected/restricted areas for smoking fish is common, posing a considerable threat to environmental sustainability, affecting the vegetation around the lake and contributing to problems of soil erosion and the siltation.	Medium
Human	Increased health risks	Current fish processing and preservation methods, such as the use of mosquito nets to dry fish and poor hygiene conditions at processing sites are likely to cumulate to health risks for consumers. There is also a possibility of proliferation water borne diseases.	Medium
Human	Unbalanced Market Dynamics	Improvements of value chains with no deliberate efforts to ensure access and affordability of the value added products is likely to create unfavorable dynamics for consumers.	Medium

Table 5: Component 4: Project Management

Component of the environment to be affected.	Potential E&S impacts	Source of impacts/ cause of the impacts	Potential significance
Human	Poor stakeholder engagement.	Not including all relevant stakeholders could hamper the expected outputs of the project.	Medium
Human	Ownership	The risk of low sustainability of Project activities will remain high if relevant stakeholders do not exercise ownership of the project from design and during implementation phases.	Medium

6.2 Expected positive impacts

The key possible positive impacts to arise from implementation of the Sustainable Fisheries, Aquaculture Development and Watershed Management Project are:

- (i) improved fish handling and increased incomes by actors;
- (ii) creation of employment opportunities through fish processing;
- (iii) improved nutritional and food security in the country;
- (iv) improvement of environmental conditions through catchment management activities;
- (v) improved infrastructure through development and repairs of road networks and fish handling plants;
- (vi) capacity building targeting local communities, youth empowerment, the management of natural resources, value addition and fish processing and entrepreneurial skills;
- (vii) contribution to improved health initiatives;
- (viii) improved biodiversity and recovery of fish stock in the fisheries bodies in Malawi;
- (ix) Improved livelihoods and reduced incidences of “fish for sex” which increase vulnerability of women to pandemics such as HIV and AIDS.

7 FRAMEWORK ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

7.1 Environmental and social management procedure for ESMPs

The environmental and social screening process will take place once sub-projects are identified but prior to implementation. This section identifies and illustrates the specific steps to be taken in the environmental and social screening process leading towards the review and approval of the from environmental and social management aspects. The procedures followed incorporate the requirement of both, relevant national laws and African Development Bank’s environmental and social safeguards policies. Preparation of any ESMPs will be carried out in consultation with the relevant sector Ministries including potentially affected persons as well as Environmental Affairs Department and Local Assemblies with the facilitation from the PIU. The objectives of the screening process are to:

- Screen sub-projects/activities for environmental and social impacts.
- Identify safeguards policies that have been triggered;
- Assign environment category to the project;
- Determine specific instruments that need to be prepared to respond to triggered safeguards policies.

7.1.1 Summary of ESMP procedures

The ESMP will follow the following procedures.

- Screening procedure: Using a screening form, the subprojects will be assessed to identify potential adverse environmental and social impacts. This will provide information on the

assignment of the appropriate environmental and social category to a particular activity as either low, medium, high or very high environmental and social risk.

- **Assessment procedure:** this process will finalize environmental and social risk status, a site visits may be made by Programme Implementation Unit (PIU) to determine if there gather more information about the situation and highlight if there are any key environmental or social concerns that need to be considered, that were not previously mentioned.
- **Documentation:** this procedure outline the necessary documentation needed and monitoring and reporting requirements – This step of the implementation is key to providing updates on environmental aspects, especially on the mitigation measures, if any, being used and take action if new or additional mitigation action is needed.

7.1.2 Steps in Environmental and Social Screening of the Project components

7.1.2.1 Step 1: Screening of Sub-Project Activities and Sites

The initial screening of Project components and sites will be completed using of the Environmental and Social Screening Form (Annex 1). The screening form, when correctly completed, will facilitate the:

- Identification of potential environmental and social impacts;
- Determination of their significance;
- Assignment of the appropriate environmental category;
- Determination of appropriate environmental mitigation measures and;
- Need to conduct an Environmental and Social Impact Assessment (ESIA) where required

7.1.2.2 Step 2: Assigning the Appropriate Environmental Categories

The environmental and social screening form, when completed, will provide information on the assignment of the appropriate environmental category for each project components activities. The Environmental Sub-Committee and PIU will be responsible for assigning the appropriate environmental category to the proposed subprojects consistent with the banks categorization principle. The principle uses the appropriate type and level of environmental and social assessment for each component. The following categorization will be followed:

- **Category 1 projects** are likely to induce significant and/or irreversible adverse environmental and/or social impacts, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. E.g any project requiring a Full Resettlement Action Plan (FRAP) under the provisions of the Bank's policy on involuntary resettlements and activities indicated in the Negative List (Annex 2). If yes, the activity will be excluded.
- **Category 2 projects** are likely to have detrimental site-specific environmental and/or social impacts that are less adverse than those of Category 1 projects. The activities will require an Environmental And Social Assessment (ESIA)
- **Category 3 projects** activities do not directly or indirectly affect the environment diversely and are unlikely to induce adverse social impacts. They do not require an

environmental and social assessment but it may be necessary to carry out gender analyses, institutional analyses, or other studies on specific, critical social considerations to anticipate and manage unintended impacts on the affected communities.

- **Category 4 projects** involve Bank lending to financial intermediaries that on-lend or invest in subprojects that may produce adverse environmental and social impacts. This type of activities will be excluded.

7.1.2.3 Step 3: Carrying Out Environmental and Social Work

In this step the the District Environmental Sub Committee (DESC) will determine whether the project component activities will need the following options based on step 1 and 2 outcomes.

- **Option 1: The application of simple mitigation outlined in the ESSF will suffice (Category 3)** – The checklists cover potential environmental and social impacts as well as typical mitigation measures. Activities categorized as 3 will benefit from the application of mitigation measures outlined in ESMF as well as in the checklist. This project will not involve resettlement hence they will be no need for Resettlement Action Plan.
- **Option 2: A full ESIA will need to be carried out, using the national environmental assessment guidelines (Category 2)** – The environmental and social impact assessment process will identify and assess the potential environmental and social impacts of the proposed activities, evaluate alternatives, as well as design and implement appropriate mitigation, management and monitoring measures. These measures 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 activities under each project component, based on the environmental and social screening.
- **Option 3: No additional environmental work will be required.**

7.1.2.4 Step 4: Review and approval of the screening activities

Under the guidance of the District Environmental Sub Committees, the PIU will review the outcomes and recommendation in ESSF and the proposed mitigation strategies presented in the ESSF. Environmental Affairs Department will be required to review ESIA reports, where it is recommended.

7.1.2.5 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 Committees, in case of projects that do not require environmental assessment, will make recommendations to the District Executive Committee (DEC) for approval/disapproval of the screening results and proposed mitigation measures. As regards ESIA reports, Director of Environmental Affairs will recommend ESIA reports to the National Council for the Environment (NCE) for approval.

7.1.2.6 Step 6: Approval of the reports and environmental and social management plans.

Approval based on the results of the environmental and social screening form will be done by the District Environmental Sub Committees based on submissions by the PIU. Approval of the results of the ESIA will be provided by the National Council on the Environment (NCE).

7.2 Public communication and consultation mechanism/plan

Procedures for project environmental assessment in Malawi and AfDB Safeguard policies require that adequate and informed consultations be carried out during preparation of environmental and social management framework. AfDB Bank requires that consultation and disclosure of information shall be considered an on-going process, not just as a step in the procedures for obtaining project approval. It shall begin at the project identification stage or at least at an early stage during project preparation, and shall continue throughout the life of the project implementation. As the Bank recognizes local requirements in addressing E & S considerations, stakeholders' consultation and engagement will also incorporate the national requirements as prescribed in Malawi Environmental legislations such as Malawi's Guidelines for EIA (1997).

Modalities for regular consultations with stakeholders and monitoring arrangements to ensure the intended outcomes from the ESMPs are achieved are described below:

- The project should strongly recommended defining roles and responsibilities of the entity that will handle this program.
- The project's information such as sites, scale of impacts- adverse and beneficial social benefits, sustainability, monitoring system and the outcome of the project need to be compiled in a language that concerned people can easily understand.
- The potential mode of consultation and ways of dissemination at various stages of consultation include press conferences, information notices, brochures/fliers, interviews, questionnaires and polls, open houses, community meetings, advisory committees, and public hearings.
- All stakeholders (PIU, District Councils and the whole District Executive Committee, Beneficiary community including Chiefs, BVCs, Fisheries Associations and Area Development Committees, Project consultants and contractors) will need some orientation if they are to appreciate conditions which trigger social and environmental action. It is proposed that social and environmental management issues are included: In all monthly project site meetings; and in discussions at all Project review/ evaluation workshops to further sensitize stakeholders. This would result in:
 - Facilitating access to information on the project through conducting informal meetings with the community members regularly;
 - Informing stakeholders of on-going communications and meetings;
 - Informing stakeholder about project progress, issues to expect, construction time table etc.;
 - Providing feedback from stakeholders on issues that have been raised
- Additionally, separate focus group meetings should be conducted with women, young people and vulnerable groups in order to be able to voice their concerns and worries.
- The client and the Bank will make available to the public the ESIA documents. The procedures require the public disclosure of summaries in accordance with specified deadlines. All category 2 operations shall be disclosed for 30 days before Board deliberations.

- The Project should also disclose any information which directly touches the concerns of different ranges of stakeholders. The mechanism of information dissemination should be simple and be accessible to all. The program will use two mechanisms which include briefing material and organization of community consultation sessions.
- Disclosure of information will enhance governance and accountability specifically with respect to strengthening of monitoring indicators to help the AfDB monitor compliance with the agreements and assess impact on outcomes. In accordance with AfDB Integrated Safeguard System (ISS), the project management should ensure disclosure of relevant project information including:
 - The purpose nature and scale of the project
 - The duration of proposed project activities
 - Any risks to and potential impacts with regard to environment, worker health and safety, public health and safety and other social impacts on communities, and proposed mitigation plans
 - The envisaged consultation process, and opportunities and ways in which the public can participate
 - Time/venue of any envisaged public meetings, and the process by which meetings are notified, summarized, and reported.
- Information is to be disclosed in the local language(s) and in a manner that is accessible and culturally appropriate, taking into account any vulnerable people (for example ethnic groups or displaced persons). The following describes the proposed arrangement.
- PIU is responsible for managing information dissemination, overseeing public consultation and assuring compliance to the guidelines and protocols set out by safeguard instruments on consultation, supported by the Fisheries Management Officer and District Fisheries Officers who will be responsible for the coordination and execution of the engagement activities as well as day to day follow up.

7.3 Specific and target capacity building

In order to achieve the objectives of the program and to successfully implement the environmental mitigation measures and recommendations in the ESMF, it is important to ensure that target groups and stakeholders who have a key role in the implementation of the EMP are provided with the appropriate awareness, skills and training. In addition to the training, there is need to strengthen the capacity of various key institutions to effectively manage the environmental and social impacts of the program.

7.3.1 Institutional Capacity Assessment

The Project will be implemented by MoAIWD through the Department of Fisheries as mentioned in Section 2.2 but coordinated by PIU. The Comprehensive assessment of these institutions' capacity as well as institutions at district and community level to implement the ESMF recommendations and other aspects of project will be carrying out at the beginning of the project. The capacity needs assessment should focus on:

- The institutional structure, and its authorities at all relevant levels, to address environmental management issues;
- The number and qualifications of staff to carry out their ESMF responsibilities;
- Resources to support staff in their work; and
- Knowledge and experience relevant to carrying out environmental analyses and designing mitigation measures for small-scale infrastructure.

7.3.2 Capacity Building

Capacity building and training constitute an integral component of ESMF and adequate resources will be allocated to ensure effective implementation of the ESMF. Accordingly, for the ESMF to be effectively operationalized, capacity building at all levels i.e., community, district and national will be undertaken to ensure that the personnel are exposed to rapid training in the management of environmental and social issues. Capacity building will enhance the stakeholders' ESMF management capacity by allowing real application of the critical practices such as screening impacts, scoping assessments, planning mitigation options, public consultation to assess feasibility and acceptability options, application of mitigation measures, management of impacts and monitoring.

7.3.3 Training Plan

Training programs will be coordinated and anchored within the MoAIWD at national level and District at local government level. Individuals experienced in environmental and social aspects of subprojects will be called upon through a competitive process to develop and conduct short term trainings on various aspects of implementing the ESMF guidelines.

The objectives of the training under the ESMF are to:

- Support representatives and leaders of community groups to prioritize their needs, and to identify, prepare, and implement environmental and social aspects of their subprojects;
- Ensure that local government officials have the capacity to analyze potentially adverse environmental impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans;
- Strengthen local NGOs/CBOs and other stakeholders which may be involved in the public participation in preparing and implementation of project.

Different groups involved in the project implementation have different training needs hence the training will be in the following 3 can be in a form based on their needs:

- **Awareness-raising** for participants so that they are able to appreciate the significance or relevance of environmental and social issues;
- **Sensitization for participants** to be familiar enough with environmental and social issues that they can make informed and specific requests for technical support; and
- **Detailed technical training** for participants who will need to analyze potentially adverse environmental and social impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans.

The training program for various role players will include

- (i) Orientation program on the ESMF,
- (ii) Environmental Assessment Processes,
- (iii) Participatory Methodologies
- (iv) Project Management
- (v) Environmental analysis;
- (vi) Using the environmental and social screening checklist and assignment of environmental categories
- (vii) Design of appropriate mitigation measures
- (viii) Integrating environmental and social management aspects into the implementation of the project activities
- (ix) Reporting;
- (x) Project components supervision and monitoring.

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

7.4 Grievance mechanism

The grievance mechanism provides a formal avenue for affected groups or stakeholders to engage with the project implementers or owners and present concerns, lodge complaints and manage conflicts. The ESMF has developed a grievance management process to serve as a guide during project implementation and to be adapted to the different sites and realities on the ground as necessary. Project Grievance Redress Committee (GRC) will be established comprising of chosen representative of key stakeholders in implementation of the project. This Project GRC will ensure that user friendly mechanism is put in place to ensure that vulnerable people are taken care of. Outside of GRC mandate, At local level, Informal courts that are managed by traditional leaders (village headmen, traditional authorities) will handle the processing of complaints in form of primary justice. Where applicable, the project should also use existing conflict resolution systems already in place in the project implementing areas this will ensure that the complaints are first be reported and attempts to address them initiated at the community levels. Type of grievances addressed at this level may include failure to implement agreed upon mitigation measures, inequitable sharing of benefits from project intervention, neglect of assigned responsibilities by community members, corruption among others. If this fails, the complaints will be referred to Project GRC through districts assemblies or PIU with the minutes of the hearing that took place at community level. If this fails, Individuals or communities with complaints that have not been resolved to their satisfaction may also seek legal recourse consistent with laws and procedures of the country as such Malawi Legal Aid Bureau. In additional, the PIU should also ensure that communities and individuals in project locations are aware of AfDB Grievance Redress System. People who believe that they are adversely affected by project activities or communities may directly submit complaints (through letters/phones/complaint box) to AfDB.

7.5 Mitigation measures and Performance Indicators for monitoring of ESMPs

Environmental and social monitoring during the implementation of the sub-projects is done in order to measure the success of the mitigation measures. Monitoring is a key component of the ESMP during project implementation. It is essential that the basis for the choices and decisions made in the sub-project design and other environmental and social safeguard measures implemented are verified. Monitoring will verify the effectiveness of impact management, including the extent to which mitigation measures are successfully implemented. Some monitoring indicators to assess the effectiveness of the institutional arrangement, and also mitigation measures implemented are suggested in the table 6 below. The monitoring plans are in tabular format in order to clearly show linkages between recommended mitigation measures, monitoring indicators, frequent of monitoring and stakeholders responsible for monitoring.

Table 6: Linkages between mitigation measures and Performance Indicators for monitoring of ESMPs

Identified Negative Impacts for mitigation	Recommended mitigation measures	Responsible Authority for Implementation of the measures	Budget Estimates(in MK)	Performance Indicators
Impacts on Vegetation Resource				
Deforestation due to increased need for firewood for fish processing	<ul style="list-style-type: none"> Adoption of modern processing methods(solar driers) Promotion of Ecosystem Approach to Fisheries and Aquaculture (EAFA) in project sites Promotion of fast growing trees to be used in afforestation as a sustainable solution. 	<p>D of Forestry</p> <p>D of Fisheries</p>	TBD	<p>Number of modern processing methods Adopted</p> <p>Ecosystem Approach to Fisheries and Aquaculture (EAFA) in project sites</p> <p>Number of fast growing trees planted in the affected sites</p> <p>Areas planted with fast growing tree species</p>
Impacts on land and soil resources				
Negative impacts from civil works likely to create localized impacts	Develop site specific management plans	D of Fisheries	TBD	Number of site specific management plans
Impacts on Water				
Increased pollution from improper disposal of effluents at landing sites	Adopt and adapt waste management procedures at project sites.	D of Fisheries	TBD	Number of landing sites that have Adopted improved waste management procedures at project sites.
Pollution from chemicals from aquaculture activities	Enhance biosecurity policy currently under development at National Aquaculture Centre	D of Fisheries	TBD	Biosecurity policies in place

Siltation of water resources from upland activities	Maintenance of vegetative buffer zone along rivers to minimize soil erosion into rivers	D of Fisheries Department of Forestry	TBD	Area (ha) with vegetative buffer zone
Impact on Fish				
Biodiversity disruption	Enhance enforcement of biodiversity protection plans	D of Fisheries	TBD	Biosecurity policies in place
Health and Safety of people				
Exposure of consumers to health risks due to use of mosquito nets to dry fish and poor hygiene conditions at processing sites	Adoption of alternative processing methods , especially solar tent driers and modern smoking kilns	D of Fisheries	TBD	Number of modern processing methods Adopted and used by fish traders
Spread of communicable diseases including HIV and AIDS	Conduct HIV and AIDS awareness and training through Reproductive Health Rights	D of Fisheries Ministry of Health	TBD	Number of HIV and AIDS awareness and training initiatives Number of fishers, traders, processors etc training in reproductive health
Project sustainability impacts				
Poor stakeholder engagement	Engage district councils & communities	D of Fisheries	TBD	Number of district councils & communities
Low ownership of project	Project to establish stakeholder engagement processes	D of Fisheries	TBD	Number of stakeholder engagement activities

7.6 Institutional arrangements

7.6.1 Roles and responsibilities for implementing this ESMF

The roles and responsibilities of project staff and associated agencies in implementation of this ESMF is as follows.

- The executing agency: (MoAIWD through the Department of Fisheries (DoF)) to ensure that the ESMP are developed, disclosed for public consultation and approved, and management measures are adopted and integrated during project implementation;
- Project Steering Committees: to provide strategic guidance to implementation of the project including oversight for safeguards and the implementation of this ESMF.
- AfDB: to provide oversight on all matters related to safeguards, ensure that the Compliance Review and the Stakeholder Response Mechanisms are operational during the lifetime of the projects and Provide technical guidance on implementation of this ESMF and administrative assistance in recruiting and contracting expert safeguards services (as required), as well as monitor adherence of each subproject to the ESMF and AfDB policies and procedures.

Project Implementing Unit will be required to:

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

At district level, available staff at the District Council based on the decentralized framework of Malawi, District Task Team consisting of key stakeholders in the district including traditional authorities as well as Beach Village Committees, district Fisheries officers (DFOs) and program Managers will be key in collecting data, monitoring/reporting on compliance of due diligence mechanisms set forth the ESMF. There will be a beneficiaries' platform with representatives from the Fisher Associations, youth and women in agribusiness, retailers and others that will be involved in program planning and monitoring.

Further, ESMPs will also describe the roles and responsibilities of different stakeholders in the implementation of those plans. Those new roles and responsibilities will be assessed and integrated, as appropriate, as part of the participatory decision making and implementation proceedings of the project.

7.7 Itemized Budget estimate

Consultants have to prepare detailed environmental and social management plans for the sub-projects such as construction/rehabilitation of feeder roads. The budget for one such assignment will be determined based on requirements. AfDB will provide financial resources to implement this ESMF. The Project Implementation Unit will need resources in each financial year in order to carry out environmental and social impact assessment reports and environmental and social management plans for project components. The tentative budget for the implementation of the project environmental and social due diligence is estimated at USD187, 500.00, an equivalent to MK150, 000,000.00 (at 1USD =MK800).

Table 7: Budget Estimate for the implementation of ESMPs

#	Item	Unit	Unit Cost		Total Cost		Source of financing
			Local (MK)	US\$	Local (MK)	US\$	
1	Preparation of specific ESIA/EMP	1	48,000,000.00	60,000.00	48,000,000.00	60,000.00	AfDB
2	Capacity Building	2	12,000,000.00	15,000.00	24,000,000.00	30,000.00	AfDB
3	Implementation of specific ESMP/year	4	15,000,000.00	18,750.00	60,000,000.00	75,000.00	AfDB
4	Mid-term audit of ES performance	1	8,000,000.00	10,000.00	8,000,000.00	10,000.00	AfDB
5	Completion audit of ES performance	1	10,000,000.00	12,500.00	10,000,000.00	12,500.00	AfDB
Grand Total					150,000,000.00	187,500.00	

8 REFERENCES

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- Turner G.F., Tweddle D. & Makwinja R.D. (1995) Changes in demersal cichlid communities as a result of trawling in southern Lake Malawi. In: T.J. Pitcher & P.J.B. Hart (eds) The Impact of Species Changes in African Lakes. London: Chapman & Hall, pp. 397–412.
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9 ANNEX

9.1 Annex 1: Environmental and Social Screening Form (ESSF)

PART A: GENERAL INFORMATION

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

PART B: BRIEF DESCRIPTION OF THE PROPOSED ACTIVITIES

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

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

AfDB OSs	Triggered		If YES (Reason/details)	Safeguard Instrument/Document Needed
	Yes	No		
OS1				
OS2				
OS3				
OS4				
OS5				

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

Conclusion and Safeguards Instruments Required

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

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

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

Category of Baseline Information	Brief Description
GEOGRAPHICAL LOCATION	
* Name of the Area	
* Proposed location of the project (Include a sitemap of at least 1:10,000 scale / or coordinates from GPS)	
LAND RESOURCES	
* Topography and Geology of the area	
* Soils of the area	
* Main land uses and economic activities	
WATER RESOURCES	
* Surface water resources (e.g., rivers, lakes, etc.) quantity and Quality	
CLIMATE	
* Temperature	
* Rainfall	
SOCIAL	
* Number of people potentially impacted	
* Type and magnitude of impacts (i.e., impact on land, structures, crops, standard of living)	
* Socio-economic overview of persons impacted	

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

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

Areas of Impact				Impact Evaluation		Mitigation Measures/ Remarks Potential
		Y	N	Extent or coverage (on site, within 3-5km or beyond 5km)	Significance (Low, Medium, High)	
1.1	National parks and game Reserve					
1.2	Wetlands					
1.3	Productive traditional agricultural /grazing lands					
1.4	Areas with rare or endangered flora or fauna					
1.5	Areas with outstanding Scenery/tourist site					
1.6	Within steep slopes/mountains					
1.7	Dry tropical forest					
1.8	Along lakes, along beaches, riverine					
1.9	Near industrial activities					
1.10	Near human settlements					
1.11	Near cultural heritage sites					
1.12	Within prime groundwater recharge area					
1.13	Within prime surface runoff					
1.14	Will the sub-project use international water sources?					

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

Areas of Impact				Impacts Evaluation		Mitigation Measures/ Remarks Potential
		Y	N	Extent or coverage (on site, within 3-5km or beyond 5km)	Significance (Low, Medium, High)	
2.1	Deforestation					
2.2	Soil erosion and siltation					
2.3	Siltation of watercourses,					
2.4	Environmental degradation arising from Mining of construction materials					
2.5	Impacts to birds species					
2.6	Increased exposure to chemical pollutants					
2.7	Hazardous wastes,,					

2.8	Nuisance - smell or noise				
2.9	Reduced water quality				
2.10	Increase in costs of water treatment				
2.11	Soil contamination				
2.12	Loss of soil fertility				
2.13	Salinization or alkalinisation of soils				
2.14	Reduced flow and availability of water				
2.15	Long-term depletion of water resource				
2.16	Incidence of flooding				
2.17	Changes in migration patterns of animals				
2.18	Introduce alien Animals plants and				
2.20	Increased incidence of plant and animal diseases				

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

Areas of Impact		Impacts Evaluation				Mitigation Measures/ Remarks Potential
		Y	N	Extent or coverage (on site, within 3-5km or beyond 5km)	Significance (Low, Medium, High)	
3.1	Loss of land/land acquisition for human settlement, farming, grazing					
3.2	Loss of assets, property, houses, agricultural produce					
3.3	Loss of livelihood					
3.4	Require an ARAP					
3.5	Loss of cultural sites, graveyards, monuments					
3.6	Disruption of social fabric					
3.7	Interference in marriages for local people by workers					
3.8	Potential spread of STIs and HIV and AIDS, due to migrant workers					
3.9	Increased incidence of communicable diseases					
3.10	Health hazards to workers and communities					
3.11	Conflicts over use of natural resources e.g. water, land, etc.					
3.12	Conflicts on land ownership					
3.13	Disruption of important pathways, roads					
3.14	Increased population influx					
3.15	Loss of income generating Capacity					

9.2 Annex 2: Goods and activities harmful to the environment exclusion list

The Revised Policy on Expenditures Eligible for Bank Group Financing (May 2008) includes a ‘Negative List’ that bans public and private investment in goods that are “harmful to the environment” without explicitly defining what this means. On the basis of international best practice (Particularly with reference to the IFC exclusion list), and with particular reference to criteria provided in the various OSs, the Bank defines the following as harmful to the physical and social environment, and excludes them—in addition to the items explicitly mentioned in the Negative List—from its operations for both the public and private sectors:

- Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements;
- Production of or trade in radioactive materials, with the exception of medical materials and quality-control equipment for which the radioactive source is trivial and adequately shielded;
- Production of or trade in or use of unbonded asbestos fibers or other products with bonded asbestos as dominant material;
- Production of or trade in pharmaceuticals, chemical compounds and other harmful substances subject to international phase-outs or bans, including pesticides classified as Class Ia (extremely hazardous), Ib (highly hazardous) or II (moderately hazardous);
- Production of or trade in ozone-depleting substances subject to international phase-out;
- Trade in wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora;
- Purchase of logging equipment for use in unmanaged primary tropical rainforests; and
- Production and activities involving harmful or exploitative forms of forced labor and/ or child labor as defined by national regulations.

Note: The ‘Negative List’ includes the following items: alcoholic beverages, tobacco, radioactive materials, platinum, pearls, precious stones, gold and related products, nuclear reactors and related products, weapons, ammunition and other goods used for military and/or paramilitary purposes, luxury consumer goods, and goods harmful to the environment.

As the program will exclude category 1 projects, all projects which have been identified as category 1 projects in Annex 2 (Environmental and Social Screening) of the AfDB ESAP document will be included in the exclusion list of the project that will not be financed through the program. Box A below presents the projects as indicated in the particular Annex.

9.3 Annex 3: List of Participants during Field Consultations

No	NAME OF PARTICIPANT	ORGANISATION	POSITION
1	Mr. Nyasa	Salima District Fisheries Office	District Fisheries Office
2.	Dr. Dick Kachilonda	FISH project	Governance Expert
3.	Ali Mussa	Chigumukire Landing site	BVC
4.	Dorica James	Chigumukire Landing site	BVC
5	Mr Tambala	Chigumukire Landing site	BVC
6	Ali Chello	Chigumukire Landing site	BVC
7	Tionge Msiska	Chigumukire Landing site	Fish Trader/ Processor
8	Zione Mwale	Chigumukire Landing site	Fish Trader/ Processor
9	Black Makwacha	Chigumukire Landing site	Fish Trader/ Processor
10	Daud Billy	Chigumukire Landing site	Fish Trader/ Processor
11	Mr Msosa	Mangochi Fisheries	DFO
12	Faith	GEF/FAO	Gender expert
13	Sophie	GEF/FAO	NRM expert
14	Dr Harold Sungani	GEF/FAO	
15	Mrs Alibi and 3 women	Mbaluku Market	Fish traders
16	Mr Banda	Comm. Fisheries Association	Secretary
17	Dr Ngochera	FRU	
18	James Banda	FRU	
19	Salim M'balaka	FRU	
20	Mexford Muluphwa	FRU	
21	Innocent Gumulira	FRU	
22	Barnet Kaphuka	FRU	
23	Greet Munthali	Zomba Fisheries	DFO
24	Mr Chiponde	Zomba Fish Farmer	
25	Mr Zakeyo Patrick	National Aquaculture Center	
26	Dominic Mwandila	Mangochi DC	
27	Aggrey Mwamfune	Mangochi DC	
28	Tawedzera Bvunzawabaya	Maldeco Fisheries	Aquaculture manager
29	Jamilton Kamtombera	Assistant D. Fisheries Officer	Karonga
30	Esther Nyalekeka	Fish Processor	Karonga
31	Masonzi Mhango	Restaurant Owner	Karonga
32	Phillip Chisu	Fisher	Karonga
33	Kumbukani Munyenembe	District Fisheries Officer	Chitipa
34	Kenneth Mtambo	Secretary Polepole fish farmers	Chitipa
35	Mr. Nsomba	District Forestry Officer	Nkhatabay
36	Ali Juma	Sec. Chia fish market Org.	Nkhotakota

9.4 List of Participants of The Stakeholder Feedback Meeting after Field Visits Held on 17th July 2019

	NAME	POSITION/DE SIGNATION	ORGANISATION	EMAIL
1	Chimwemwe German	Researcher	LUANAR	chimwemwesalima@yahoo.co.uk
2	Boniface Nankweya	Researcher	LUANAR	bonnank@gmail.com
3	Maurice Nyemba	Planning Officer	MITC	mnyemba@mitc.mw
4	Charles Makuya	Fisheries Officer	DoF	charlesmakuya@msn.com
5	Sabstone Unyolo	PFO	DoF	sab.unyolo@gmail.com
6	Friday Njaya	Director	DoF	fnjaya@gmail.com
7	Rexford Kachepa	Assistant Deputy Director	MoLSI	rex.kachepa@gmail.com
8	Alexander Mtsendero	PEDO	MoITT	mstendero@gmail.com
9	Henry Chimpesa	Coop. Officer	MoITT	henrychimpesa@gmail.com
10	J. Kanyangalazi	CLRCO	LRCD	Jokanyangalazi@gmail.com
11	G.Z. Kanyerere	SDDoF (R)	DoF	geoffreykanyerere@gmail.com
12	E. Kaunda	Director	LUANAR	ekaunda@bunda.luanar.mw
13	Edith Gondwe	Researcher	LUANAR	edithgondwe@ymail.com
14	Gift Chimulu	Extension	DoF	giftchimulu@gmail.com
15	Lonny Chirambo	FEO	Forestry	jamalilonnie@yahoo.co.uk
16	Carolyn Munthali	PFO	DoF	carolynmunthali@gmail.com
17	Maurice Makuwila	SDDoF (P&D)	DoF	mau_maku@yahoo.com
18	Alban Pulaizi	CFoE (A)	DoF	albanpulaizi@gmail.com