



Government of Malawi

National Fisheries Policy

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Foreword

The sustainable management of fisheries resources and development of aquaculture requires proper policy guidance both at national and local levels. Consideration of policy issues for sustainable management of natural resources and environment at international, regional and national levels also provide an informed choice for a sound fisheries management policy framework. It is against this background that a revised Policy for the fisheries sector for the next 5 years is necessary in line with the overarching development objectives on food security and economic growth as outlined in the Malawi Growth and Development Strategy (MGDS) II and other regional or international policy considerations.

The 2001 National Fisheries and Aquaculture Policy document has so far guided management of the fisheries resources in Malawi. However, there have been policy shifts from natural resources conservation and management to promoting sustainable production of fish for food security as well as income generation. Furthermore, the need for strengthening monitoring and evaluation as well as utilizing Public-Private Partnerships (PPP) has necessitated this review. Hence, it is timely that the Policy be revised at a period of so much change, both within and outside the sector. The Policy will also provide strategies of addressing the challenges and grasp the opportunities that now prevail.

While noting various challenges facing the fisheries sector, the revised Policy focuses on increasing sustainable fish production from capture fisheries and aquaculture, enhancing fish quality and value addition for domestic and export trade to create wealth, promoting technology development and its transfer to the users, enhancing capacity for the sector's development and promoting social development, decent employment and fisheries governance through participatory resource management regimes. These are key priority areas for consideration within the next five years.

The key to success is hard work and commitment. Let us all come together and make implementation of this Policy a success for the benefit of the present and future generations. It is my sincere hope that the Policy will be a source of renewed motivation and dedication for a more unified framework and a basis for diversifying interventions addressing fisheries development issues.

Hon. Prof Peter Mwanza, MP
Minister of Agriculture and Food Security

Preface

The revised National Fisheries Policy aims to address critical issues affecting the fisheries and aquaculture development in Malawi. Several opportunities exist in the implementation of this Policy. The on-going governance reforms ensure sustainability of the fisheries resources for future generations of Malawians. The growing interest in aquaculture investment provides an impetus to sustained fish production for local and export markets.

There are several challenges that exist in the sector and need to be addressed for the benefit of fishers and fish farmers. The National Fisheries Policy provides solutions to the challenges. It will be implemented in pursuit of the Malawi Growth and Development Strategy II (MGDS), which is an overarching policy document. Among the priority themes in the MGDS II are sustainable economic growth and social development as a key to poverty reduction and improvements in the livelihoods. The MGDS II recognizes labour and employment a sub-theme, which seeks to achieve, among others, increased labour productivity, enhanced gainful and decent employment for all, and elimination of worst forms of child labour. The main goal of Agriculture and Food Security priority area is to increase agricultural productivity and diversification which focuses on increased sustainable fish production within the Medium-Term outcome.

Besides other key national policies, this Policy takes cognizance of the Agriculture Sector Wide Approach (ASWAp), which provides a priority investment programme including fisheries. At international level, Malawi is signatory to several agreements and protocols. The Policy takes into account key agreements and protocols including the SADC Protocol on Fisheries and the 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 and the Ecosystem Approach to Fisheries Management.

The revision process was consultative. A series of consultative meetings were held in various parts of the country. These meetings were held to consult fish farmers, fishers, public institutions, academia, the private sector and cooperating partners as the major stakeholders involved in fish industry.

I would like to express my thanks to all people who have contributed to the preparation of this Policy throughout the extensive consultation process. In particular, I express my gratitude to the European Union funded ACP II Fish Project and the United Nations Development Programme through the Poverty and Environment Initiative Project for providing technical support to the process, making this a worthwhile and useful document. To the stakeholders including fishers and fish farmers, the private sector, academia and the cooperating partners, I urge you to implement the recommendations contained herein for sustainable management of the fisheries resources and development of aquaculture in Malawi.

Jeffrey H. Luhanga, PhD
Secretary for Agriculture and Food Security

List of Abbreviations

ACP	African Caribbean Pacific
AfDB	African Development Bank
BVC	Beach Village Committee
CCRF	Code of Conduct for Responsible Fisheries
COMESA	Common Market for Eastern and Southern Africa
DFO	District Fisheries Officer
DoF	Department of Fisheries
EIA	Environmental Impact Assessment
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FC	Food Conversion
FPIMES	Fisheries Policy Implementation Monitoring and Evaluation Strategy
FPO	Fisheries Protection Officer
FRU	Fisheries Research Unit
GIFT	Genetically Improved Farmed Tilapia
GoM	Government of Malawi
GMP	Good Management Practice
GoM	Government of Malawi
HACCP	Hazard Analysis and Critical Control Point
HIV	Human Immunodeficiency Virus
AIDS	Acquired Immune Deficiency Syndrome
Hqs	Headquarters
IAA	Integrated Agriculture Aquaculture
IIA	Integrated Irrigation Aquaculture

ILO	International Labour Organisation
IUU	Illegal, unreported and unregulated [fishing]
MBS	Malawi Bureau of Standards
MCF	Malawi College of Fisheries
MCS	Monitoring Control and Surveillance
MGDS	Malawi Growth Development Strategy
MK	Malawi Kwacha
MPSR	Malawi Poverty Reduction Strategy
MSY	Maximum Sustainable Yield
NAC	National Aquaculture Centre
NFP	National Fisheries Policy
NGO	Non Governmental Organisation
ORT	Other Recurrent Transactions
PIAD	Presidential Initiative on Aquaculture Development
PLHIV	People Living with HIV and AIDS
PPP	Public Private Partnership
PSC	Public Service Commission
SADC	Southern African Development Community
SOFTDP	Small -scale Offshore Fishery Technology Development Project
SWOT	Strengths Weaknesses Opportunities Threats
TA	Technical Assistant
TO	Technical Officer
UNIMA	University of Malawi
VNRMCs	Village Natural Resources Management Committees
WTO	World Trade Organisation

Definitions of Technical Terms

Beach seine: A beach seine consists of a long panel of netting, which is weighted to the lake bottom. It is cast from the beach or open waters in a semi-circle using a plank boat. After deployment, both sides are pulled onto the beach or boats simultaneously by two sets of people, thereby entrapping the fish surrounded by the net.

Demersal fish: fish residing primarily on or close to the lake bed

Mbuna: *Mbuna* fish is a group of closely related endemic genera (*Pseudotropheus*, *Labeotropheus*, *Melanochromis*, *Labidochromis*, *Melanochromis*, *Cynotilapia*, *Petrotilapia*, *Genyochromis*, *Cythochromis*, *Gephyrochromis*, *Iodotropheus*) among others. These fishes located in Lake Malawi and are unique in that they are generally strongly pigmented and are usually associated with rocky inshore habitats where they are confined to very narrow ranges among rock crevices and surfaces. Most of the Mbuna contributes substantially to the export trade

Open water seines: These seines are of two basic types. These are namely *Chirimila* and *Nkacha* nets. The operation of these two gears differs considerably and therefore a description of both is given. *Chilimira* net is an open-water seine net, which has a conical appearance. The mesh size at the bunt ranges from mosquito netting to 25 mm and the headline length ranges from 20 meters to 70 meters. The net is operated from two dugout canoes and one plank boat with a total crew of nine. When a shoal of fish is located, the net is laid by the dugout canoes. The net is then towed in the opposite direction to the movement of the fish and finally the net is hauled into the plank boat. *Chilimira* fishing usually occurs at night when light is used to attract fish. In certain parts of Lake Malawi especially in Nkhota kota, Nkhata Bay, Rumphu, Likoma and Karonga night fishing with *Chilimira* is suspended during periods of full moon.

Pair trawlers: two vessels that tow a single trawl net behind them

Pelagic fish: fish residing primarily within the open water column

Stern trawlers: a fishing vessel that tows a single trawl net behind it (in Europe there are large trawlers that can pull two trawl nets)

1. INTRODUCTION

This document presents the second edition of the National Fisheries Policy (NFP). It is a revision of the National Fisheries and Aquaculture Policy of 2001. The NFP has a separate and complementary document, Fisheries Policy Implementation Monitoring and Evaluation Strategy (FPIMES), which outlines key issues relating to implementation, monitoring and evaluation.

1.1 Background

With 20 per cent of Malawi's surface area (118,484 sq. km) composed of water, fishing is an important sector that contributes to livelihoods of the rural population and economic growth of the country. The fisheries sector is broadly divided into three categories, namely: capture fisheries, aquaculture and aquarium.

1.1.1 Need for Fisheries Policy 2012

The Government of Malawi (GoM) has revised the National Fisheries and Aquaculture Policy of 2001 in order to effectively contribute to the sustainable economic growth in Malawi, as outlined in the Malawi Growth and Development Strategy (MGDS). 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 revision was done based on the overall goal of the sector of contributing towards the sustainable economic growth through sustainable fisheries management regimes in capture fisheries and increased fish production from aquaculture. Thus the Policy focuses on sustainable increase of fish production from capture fisheries and aquaculture, enhancing fish quality and value addition, promoting technology development and its transfer to the users, enhancing capacity for the sector's development and promoting social development, decent employment and fisheries governance through participatory resource management regimes.

1.1.2 The Fisheries Sector

With 20 per cent of Malawi's surface area (118,484 sq. km) composed of water, fishing is an important sector that contributes to livelihoods of the rural population and economic growth of the country. Fish contributes substantially to the food security and livelihood of millions of people in Malawi. The sector contributes about 4% to the Gross Domestic Product. In the 1970s, fish provided 70% of the animal protein intake of the Malawian population and 40% of total protein supply for the country. These figures have declined as a result of the decline in catches and rapid population growth over the last thirty years. The per capita consumption of fish in Malawi has subsequently fallen by more than 60%, from 14kg per person per year in the 1970s, to about 5.6 kg in 2011. The decline in per capita supply and protein intake brings serious nutritional implications for the nation, especially to some vulnerable groups such as HIV/AIDS affected and infected people, orphans and the poor.

The fisheries sector is composed of capture fisheries, aquaculture and aquarium trade sub-sectors. The sector is a source of employment, food, rural income and export earnings for wealth generation. In addition, the sector deals with conservation of bio-diversity.

1.1.2.1 Capture Fisheries

The capture fisheries sub-sector directly employs nearly 60,000 fishers, and over 500,000 people are indirectly involved in fish processing, fish marketing, boat building and engine repair. The sub-sector is largely artisanal in nature, except that in Lake Malawi there are also semi-commercial and commercial fisheries, made up of pair trawlers and larger stern trawlers respectively. The small-scale sector produces 90% of the annual fish production while the rest is landed by the industrial sector.

The fishing areas include Lake Malawi, which is the biggest lake in the country. It has a surface area of 29,000 sq km. Lake Chilwa is the second and is around 2,000 sq. km depending on seasons. Other smaller water bodies include Lakes Malombe (390sq. km) and Chiuta (about 200sq. km) and the Lower Shire River system.

Fish production varies annually with estimates from the years 2000 to 2010 averaging 70,000 tonnes per annum. The estimated fish production has increased for the past decade mainly due to the promotion of offshore deep water fishing in Lake Malawi and the intensification of recording Usipa (low value fish) unlike in the past. Catches of the most valuable fish, Chambo, remain low averaging 5,000 tonnes per annum between 2001 and 2010. This is in contrast to the period between 1981 and 1990 when around 10,000 tonnes could be landed. There is also a large underexploited offshore resource in Lake Malawi estimated at 33,000 tonnes of Ndunduma (*Diplotaxodon spp.*) that fishers can sustainably exploit. However appropriate technology is limited.

Several fishing gear types are employed in the exploitation of various fish species. The small-scale fishers normally use gill nets, seine nets (beach or open water types), traps and hand lines while the commercial operators usually use purse seines and trawl nets. Depending on the gear type and fishing areas, the fish species landed mainly include Tilapiine cichlids, the Chambo (*Oreochromis spp.*), Haplochromine cichlids, particularly the Kambuzi, Utaka and Mbaba, Mcheni (*Ramphochromis spp.*), Usipa (*Engraulicypris sardella*), Mlamba (*Clarias* species) and Matemba (*Barbus* species).

The semi-commercial fishery involves use of pair trawlers (vessels of 7.6 m average length and twin engines (90 Hp altogether) in the shallow waters of between 18 m to 50 m deep. The fishery has been largely confined to southern part of Lake Malawi, though as of recent (around the mid-2000s), some operations have been spread to the central Lake Malawi (Salima and Nkhotakota). The commercial fishery is composed of stern trawlers and is largely confined to southern Lake Malawi and is characterized by large boats (ranging from 125 to 400 Hp). Commercial fishing is done in the waters between 50 m to 130 m deep and mainly target *Diplotaxodon* species (Ndunduma), *Copadichromis* spp (Utaka) and *Lethrinops* spp (Chisawasawa).

There is localized overfishing of fish stocks mainly from the shallower margins of Southern Lake Malawi, and intensely fished water bodies such as Lake Malombe due to excessive

fishing effort. The decline of the most valuable species, such as Chambo (*Oreochromis* spp) has been significant, and fishers' earnings have subsequently been reduced. This has created hardships for those fishers who are restricted to fishing in these shallow areas due to financial and geographic constraints, as most have little or no other livelihood alternatives.

1.1.2.2 Aquaculture development

The aquaculture sub-sector has potential for substantially increasing fish production. Enhanced aquaculture production especially at commercial level would improve supply of fish protein in rural areas far away from the major fish production sources and also creation of wealth and employment in such areas. The aquaculture sub-sector can also be one of the major sources of fish product exports, thereby contributing to wealth generation for Malawi.

There are 9,000 fish farmers in the aquaculture sub-sector. Fish production in the sub-sector has been increasing since 2006 when it was estimated at 800 tonnes but by 2010 it was 2,500 tonnes. However, one of the major problems identified with commercial aquaculture is that the species cultured are slow growing and have a poor feed conversion, making the products of aquaculture expensive to produce.

Fish farming in Malawi began as early as 1906 with the introduction of rainbow trout (*Onchorhynchus mykiss*) for angling. The use of indigenous species in fish farming began in 1956/57 with the culture of *Oreochromis shiranus* and *Tilapia rendalli*. Pond culturing of these species increased with the establishment in 1957 of the Domasi Experimental Fish Farm for breeding and distribution of *Tilapia rendalli* and *Oreochromis shiranus* to farmers. In the 1970s and 1980s the sub-sector received support from several donors and the non-governmental organisations (NGOs), which promoted wide adoption of fish farming in Malawi. Commercial aquaculture was established in 2005 with only two operators. In order to protect native biodiversity, Malawi began to prohibit introduction of alien fish species for aquaculture.

The annual fish harvest from aquaculture is estimated 2,600 tons produced by over 6,000 small scale fish farmers countrywide. Aquaculture being one of the agricultural activities has potential to contribute to food security and poverty reduction goal by supplementing capture fisheries that are being exploited at over their maximum sustainable yields for most of the commercial fish species including Chambo.

1.1.2.3 Aquarium Trade

The aquarium trade is a small sector that mainly involves exploitation of Mbuna fish for export trade. Mbuna fish are part of the rich biodiversity of Lake Malawi that also attract tourism. The aquarium trade is dominated by a few operators that have ranged from 2-3 per annum since the 1980s. Of particular concern regarding Mbuna fish trade are certification issues and development of a value chain for the fish. Management of Mbuna is done mainly by the Department of National Parks and Wildlife as they restrict fishing within a 100m zone around islands on Lake Malawi where the fish is located.

1.2.1.4 Fish processing

Several methods are employed for fish processing. Sun-drying, smoking, para-boiling and pan-roasting are common. Some fish is iced and sold fresh in towns, particularly from the industrial fishery. In rare cases, fish is frozen and delivered to supermarkets. There is very little value adding in the fisheries industry. Fish smoking and other processing techniques contribute problems of deforestation in areas surrounding those villages where such activities are carried out.

Although the quality of fish appears to have been generally acceptable for the local market, there are indications that more consumers are becoming quality-conscious. This is also critical with fish exports that demand proper handling and processing of the fish including stringent control of upstream practices. Certainly, the current quality of fish is not suitable for export to the highly regulated markets. Generally, there is an urgent need to address public services and infrastructure issues along the whole fish value chain.

1.3 Justification for Policy Revision

This Policy is designed to meet the challenges and emerging issues of the fisheries sector, and to provide linkages with the emerging cross-cutting policies, plans and activities of national and regional bodies where they affect or interact with fisheries. It gives clear pointers to the priority actions that Government and its partners must implement so as to make the best use of the resources that it has available in the context of limited human resource, finance and logistics. The Policy areas outlined herein are key ones based on the consultations that were conducted with stakeholders. In specific terms, issues about resource mobilisation, timeframe and capacity were taken into consideration when identifying the Policy areas.

The current emphasis on the fisheries sector has changed to prioritize its role in contributing towards sustainable economic growth through increase sustainable fish supply in Malawi. The key issues that triggered review of the Policy included low fish supply from either capture fisheries or aquaculture. This has been due to increase in human population, weak governance or inappropriate management regimes, and limited technologies.

High population growth estimated at 13.1 million in 2008 is putting more pressure on demand for fish. Since the 1990s fish production in the country has not been for the growing population. Subsequently, the current per capita fish consumption level is 5.6 kg dropping by more than 60% since the 1970s when it registered about 14kg per person per year. The declining per capita fish consumption undoubtedly affects the nutritional status of the Malawian population, the majority of who are dependent on fish as a cheap source of animal protein and valuable source of micronutrients. It is necessary therefore, to formulate management strategies aimed at increasing and sustaining fish supply in the country

In terms of trade, over 95% of annual fish landings have been targeting domestic market due to high demand for fish. Between 2000 and 2010 Malawi has been a net importer of fish products. From 1997 to 2011, annual fish exports averaged 86 tonnes against an average of 1,400 tonnes constituting imports. These figures show that both locally exploited and imported fish will not meet Malawi's fish needs estimated to grow to over 110,000 tonnes by 2010 assuming the per capita fish consumption of 8kg and population growth of 2.8%.

Therefore there is urgent need to formulate strategies that will reverse the fish trade balance situation by increasing fish supplies for domestic and regional trade.

In an open access regime, regulating entry becomes difficult. While Malawi's Department of Fisheries (DoF) attempts to regulate fishing through licensing of fishing gear, competition for resource exploitation is a threat to sustainability of the fish stocks. The overfishing phenomenon is mainly prevalent in shallow waters of southern Lake Malawi. The governance reforms that have been adopted since the 1990s with adoption of Participatory Fisheries Management (PFM) or co-management arrangements have not been successfully concluded. Critical issues include establishing community property regimes whereby empowered fishing communities and other stakeholders are responsible for formulating of fisheries by-laws, management plans and signing management agreements with district councils in a decentralised framework take leading roles. Without formulation of an appropriate strategy, fish supply in the country will continue to decline against the increasing human population.

Exploitation of capture fisheries resources will not exceed 110,000 tonnes which will be achieved by 2017 through adoption rehabilitation of degraded Chambo fishery areas in southern Lake Malawi, new technologies for exploitation of offshore deep water stocks and aquaculture development. Furthermore fish marketing is still done mostly at local level applying traditional techniques which does not fit to rapid change of marked demand and regulations.

Aquaculture production has remained very low till the mid 2000s when the Presidential Initiative on Aquaculture Development (PIAD) was launched. The main constraints of aquaculture development include policy limitations, technological advancement and weak institutional support. The policy issues mainly deal with hatchery development that includes certification and inspection. It is also difficult to deal with tenure issues in cage culture especially in places where cages are installed as they are also fishing areas for the small-scale fishers hence conflicts always arise. In addition, investors take security issues as a priority, which increases investment levels. In terms of technologies, there are problems with catfish fry survival, and feed production especially as much of locally formulated feed just sinks and not float. There is wastage most cases which just push up operational costs of the aquaculture businesses. Institutional issues include weak collaboration among key stakeholders such as fish farmers, government, non-governmental organisations and academic institutions.

This Policy therefore aims to increase fish supply in the country. It is expected that per capita fish consumption should increase from 5.6 kg in 2012 to 8 kg by 2017. Subsequently, this calls for an increased annual fish supply from capture fisheries from 98,000 tonnes in 2011 to 110,000 tonnes by 2017 and from aquaculture from 3,000 tonnes in 2012 to 10,000 tonnes by 2017. This assumes a population growth rate of 2.8%. Based on the same trends by 2030 fish supply from aquaculture investments will increase by 50,000 tonnes. This will provide an annual surplus of over 20,000 tonnes.

With increased fish production from both capture fisheries and aquaculture coupled with added value initiatives, it is expected that fish exports will also increase by focusing on targeted markets that will include both high and low value fish products mainly destined for the regional market. By 2017, annual fish exports will increase to 3,000 tonnes from the current levels of 500 tonnes.

There are some issues, both national and international, that have since arisen or emerged that have necessitated the need for Policy review. These emerging issues include food safety, climate change, HIV and AIDS, child labour and gender.

The Policy will be implemented in pursuit of the Malawi Growth and Development Strategy II (MGDS), which is an overarching policy document. One of the priority themes in the MGDS is on the sustainable economic growth as a key to poverty reduction and improvements in the livelihoods. The main goal of Ministry of Agriculture and Food Security under which Department of Fisheries falls, prioritizes the need to increase agricultural productivity and diversification of which increased fish production within the Medium-Term outcome is also highlighted. This Policy also takes cognizance of the Agriculture Sector Wide Approach (ASWAp), which provides a priority investment programme including fisheries.

To achieve the set targets there is need to link this Policy with others. Of particular importance are the following Policies and Strategies: Nutrition Policy on demand for fish to supply animal protein, Agricultural Policy on diversification and food security issues, Environmental Policy on sustainable environmental management, Decentralisation Policy on governance issues especially decentralisation framework, Gender Policy on the roles of various players including women in fish processing and marketing along the value chain, Child Labour National Action Plan for Malawi and HIV/AIDS Policy on prevalence and message on reducing risk of spreading HIV among fishing and fish farming communities.

At international level, Malawi is signatory to several agreements and protocols. The Policy takes into account key agreements and protocols including the SADC Protocol on Fisheries and the 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 and the Ecosystem Approach to Fisheries Management. The Policy furthermore supports Malawi's obligation related to the ILO Minimum Age for Employment Convention No. 138 and the ILO Worst Forms of Child Labour Convention No.182. Finally, the RASMAR Convention is also considered for the wise use of natural resource including fisheries with participation of the fishing communities.

2. BROAD POLICY DIRECTIONS

2.1 Policy Goal

The goal of the Policy is to promote sustainable fisheries and aquaculture development in order to contribute to economic growth in Malawi. It will be achieved through several policy outcomes, which are outlined below.

2.2 Policy Outcomes

When the policy is fully implemented, it is expected that the following outcomes would be achieved:

- (i) Enhanced capacity to sustainably manage and develop fisheries and aquaculture in Malawi;
- (ii) Improved protein and micronutrients intake for Malawians;
- (iii) Increased decent employment opportunities, including outside the fisheries sector; and
- (iv) Increased earnings for people and government from fish exports and domestic trade;

2.3 Policy Objectives

This policy aims at achieving the following objectives:

- (i) To increase fish production from capture fisheries from 98,000 tonnes in 2011 to 110,000 tonnes by 2017 and aquaculture from 3,000 tonnes in 2012 to 10,000 tonnes by 2017
- (ii) To increase participatory fisheries management plans from 3 in 2011 to 10 by 2017
- (iii) To reduce fish post harvest losses from 40% in 2012 to 20% by 2017;
- (iv) To increase annual fish exports from 50 tonnes in 2012 to 3000 tonnes by 2017
- (v) To increase fish per capita consumption from 5.6kg to 8kg.
- (vi) To increase decent employment in fishing communities for youth, women and men and to reduce the number of child labourers, engaged in hazardous work.
- (vii) To increase business and entrepreneurial capacities and skills of 2,500 small-scale producers by 2017.

3. POLICY PRIORITY AREAS

This Policy has seven priority areas including Capture Fisheries, Aquaculture Development, Fish Quality Control and Value Addition, Governance, Social Development and Decent Employment, Research and Information and Capacity Development. While numerous issues could be considered to address the problem of limited supply of fish in Malawi, implementation of this Policy by the Government and its partners will concentrate on the six priority areas within the next five years. Increased fish production from both capture fisheries and aquaculture will, in turn, increase fish consumption per capita with consideration on food safety issues, and also identification of regional markets for fish to create wealth for the country. Governance reforms are necessary to ensure establishment of common property regimes with support from district councils based on appropriate information generated and disseminated by research and extension respectively. Social development and decent work are essential to ensure sustainable livelihoods in the fisheries sector. Human resource development is important so that skilled manpower is available to implementation of the Policy.

3.1 Policy Priority Area 1: Capture Fisheries

Capture fisheries refers to the utilization of fisheries resources from the natural water bodies such as lakes and river systems by using various fishing gear types and vessels. Fish production in Malawi from Lakes Malawi, Malombe, Chilwa, Chiuta and Shire River system varies annually with estimates from the years 2000 to 2010 averaging 70,000 tonnes per annum. The fish production levels have increased for the past decade mainly due to the promotion of offshore deep water fishing in Lake Malawi, intensification of recording Usipa (low value fish) in the catch recording data systems, and the recovery of Lake Chilwa fishery

after the 1995 recession. However, catches of the most valuable fish, Chambo, remain low averaging 5,000 tonnes per annum between 2001 and 2010. This is in contrast to the period between 1981 and 1990 when around 10,000 tonnes could be landed. There is also a large underexploited offshore resource in Lake Malawi estimated at 33,000 tonnes of Ndunduma (*Diplotaxodon spp.*) that fishers can sustainably exploit. The problem is however, on the limited technology that is needed to exploit such resources.

About 90% of the fish landed comes from nearly 60,000 small-scale artisanal fishers while additional 500,000 people are engaged in other ancillary activities such as boat building, net mending, fish processing and trading. There is increasing fishing pressure on the fish stocks in the inshore waters causing a threat to fish productivity. This is attributed to a number of factors including increasing human population, environmental degradation, siltation and overfishing. There is also lack of appropriate fishing technology for offshore deep water areas of Lake Malawi.

Subsequently, the current level of production does not meet the national demand. The current per capita fish consumption is 5.6 kg, which is far below the recommended 15kg by World Health Organisation. To meet such a recommended level of production, there is a need to gradually and sustainably increase fish supply with a long-term vision such that by 2030 we need to reach over 180,000 tonnes annually at the present population growth of 2.8 %, while within the medium term, we need to target around 110,000 tonnes annually by 2017.

While there are limitations in having increased catches from the capture fisheries, some strategies that will focus on promoting aquaculture production, strengthening the Participatory Fisheries Management (PFM) arrangement, promoting adoption of appropriate fishing technologies for offshore deep water fishing in Lake Malawi and rehabilitation of overfished areas, will lead to increased fish landings from the capture fisheries sub-sector.

3.1.1 Policy Statements

The Policy will ensure that:

- (i) Government and its various stakeholders put in place proper monitoring and control of exploitation of the fisheries resources;
- (ii) sustainable control measures for the recovery of the over-exploited stocks and areas are developed, adopted and implemented
- (iii) Government and private sector invest in fishing related activities through Public Private Partnership (PPP).

3.2 Policy Priority Area 2: Aquaculture

Aquaculture is the production of aquatic animals and plants in impoundments or enclosures. In Malawi, aquaculture has mainly focused on farming fish in ponds, cages and tanks. An average of 3,000 tonnes of fish is produced on an annual basis. Small-scale aquaculture is vital at household level for food security, improving nutrition and income. About 10,000 smallholder fish ponds now exist in the country owned by a total of 6,000 farmers. However, there has been an emerging interest for investment in commercial aquaculture with some operators involved in the subsector for the past decade.

Aquaculture development in Malawi is constrained by three key challenges namely: limited availability of quality fingerlings, poor feed and low participation of large scale investors. While there are a few hatcheries producing fingerlings, the quality produced is of low standard and uncertified. The use of non-native species and improved strains of native species may provide better fish to farm, but policies will need to ensure protection of native biodiversity. In terms of fish feed, there are no commercial producers. Generally there is low participation of private investors in the sub-sector.

There is great potential for aquaculture growth which can have a significant contribution to the economy of the country. By targeting large scale operations and promoting aquaculture as business at various operation levels (small, medium or large), fish supply will increase which will substitute fish imports thereby saving foreign exchange for other uses. To achieve this, the Policy target production of 10,000 tonnes by 2017 in the medium term and have a production of 50,000 tonnes as a long term measure.

3.2.1 Policy Statements

To achieve sustainable development of aquaculture in Malawi, the Policy will ensure that:

- (i) Government puts in place appropriate regulatory measures for sustainable aquaculture development;
- (ii) the Policy will promote small-scale aquaculture production as business;
- (iii) Government and the private sector will invest in aquaculture development.

3.3 Policy Priority Area 3: Fish Quality and Value Addition

Fish quality and value addition are of major concern in Malawi as it is estimated that 40 percent of the annual catch is lost through post harvest spoilage and insect infestation. This implies an economic loss of around MK8.4 billion annually, besides the lost income opportunities from rewarding markets given the limited value-adding within these operations. There is a global recognition of the importance of food safety issues including fish products. Hence, fish quality and value addition means ensuring that fish and fish products are safe for human consumption. At present the available fish standards do not cover all fish products and fish is landed in areas where there are no proper fish landing and handling facilities. In addition, there is no competent authority to monitor controls on fish quality aspects and guarantee safety to consumption.

3.3.1 Policy Statements

To ensure improved fish quality supply and value addition to the fish and fish products, Government will:

- (i) put in place enabling legislative framework for quality fish for the local and export markets;
- (ii) establish a competent authority to handle fish quality issues
- (iii) promote adoption of best practices that will enhance quality, hygiene and sanitation and value addition for fish and fish products; and
- (iv) develop and enforce fish quality standards.

3.4 Policy Priority Area 4: Governance

Governance in fisheries entails a joint effort by the state and non-state actors in the management of resources for the benefit and to the satisfaction of all relevant stakeholders in what is termed participatory fisheries management (PFM) or *co-management*. The principles of governance include democratic participation, inclusiveness, accountability and equity. The key challenges in the on-going PFM include unclear benefits and roles of the communities, limited capacity of key stakeholders participating in the fisheries and aquaculture development, financial constraints and weak cooperation among the stakeholders.

Open access and overcapacity are the major problems hampering achievement of sustainable fisheries. The small-scale fisheries are conducted under the open access regime and it is very difficult to regulate fisheries and easily put in place an appropriate fisheries management system. Clear tenure rights to fishing is, therefore, a fundamental step towards improved fisheries governance, however care has to be taken that access limitations do not result in worsening food insecurity or in undermining customary and traditional rights of current resource users. Controlling the size and capacity is important considering that there are too many fishers competing with each other and chasing after the dwindling fisheries resources. Conversely, there is thus recognition that establishing appropriate governance and adapted sound strategies for fisheries management, which might include rights-based approaches, co-management approaches, and capacity reduction strategies by supporting initiatives on diversified livelihood are central to achieve sustainable fisheries management. The development of rights-based and co-management systems should to be governed by the internationally agreed upon Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests. International support can be availed by the Government to address the major policy challenges in the establishment of effective governance systems that are socially and culturally adequate, based on human rights principles and ensure sustainable supplies of fish.

Therefore, sound governance is vital to achieving the objectives in the fisheries sector. Co-management in various participatory forms is necessary for sustainable fisheries management and aquaculture development. There is need to recognize roles of some key stakeholders that include district councils and traditional leaders. Strengthening of the on-going PFM initiatives would include development of participatory fisheries management plans, formulating district by-laws and signing management agreements. It is also imperative that mechanisms be put in place to ensure a sustained mobilisation of financial resources. Management user fees should be introduced in various districts to support beach based activities as championed by local fisheries management authorities.

3.4.1 Policy Statements

For improved fisheries management and governance for both small- and large-scale sectors, the Policy will ensure:

- (i) promotion of active participation of local fishing communities and fish farmers in the sustainable development of the fisheries sector;
- (ii) provision and enabling environment for fishing communities to organize themselves at local and national level through member owned and member controlled organizations;
- (iii) legal instruments and procedures for the participation of relevant stakeholders in the fisheries sector are instituted;
- (iv) establishment of a sustainable financing mechanism for promotion of fisheries and aquaculture; and
- (v) Government to seek international assistance for the effective implementation of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests.

3.5 Policy Priority Area 5: Social Development and Decent Employment

Enhancement of social development and decent employment in small-scale fisheries, as well as promotion of gender equality in the small-scale fishing communities, are key for both the improvement of livelihoods and the socio-economic sustainability of the small-scale fisheries sector.

Small-scale fishing communities often suffer from unhealthy and unsafe working conditions and are often prone to high levels of vulnerability that are not only due to their dependence on exploiting a limited natural resource and the inherent unpredictability of the fishing profession, but that is also influenced by their often remote locations, low levels of education, ill-health, lack of access to social services, and weak economic and political powers. Lack of livelihoods' diversification, youth unemployment and child labour are also pertinent issues affecting small-scale fishing communities. There is also a need to recognize that women and men play important and complementary roles in the governance and development of the small-scale fisheries sector, and that they should enjoy equal respect and rights, in all aspects of life and in decision-making. Women are often more disadvantaged than men, therefore, the Policy aims at supporting and empowering women whilst working with both men and women fishers.

Therefore, increased attention to social and economic development (health, education, organisational development, social protection mechanisms, decent employment and diversification of income, gender equality) is needed to ensure that small-scale fishing communities and their members are socially and economically empowered.

3.5.1 Policy Statements

To address issues on social development and decent employment, Government will ensure:

- (i) fostering a strategic enabling environment for small-scale fishing communities in a gender-equitable manner through enhanced decent employment and increased social development and protection with focus on disadvantaged, resource-poor, remote small-scale fisheries communities and population groups, such as youth and women;

- (ii) determining the extent of child labour in the fisheries sector and mainstreaming of the issue;
- (iii) promoting decent employment in small-scale fisheries and aquaculture, including through improvements of working conditions, fair remuneration, occupational health and safety, and prevention and elimination of child labour, particularly its most hazardous forms; and
- (iv) increasing access of small-scale fishing communities to services essential to social and economic development, including education, health and social protection.

3.6 Policy Priority Area 6: Research and Information

Fisheries research involves the generation of knowledge, information and technologies necessary for sustainable exploitation, management, conservation of biodiversity, utilization processes and marketing and investment in the fisheries sector. As with any other natural resource, the availability of accurate and relevant information about the fisheries resources is an essential pre-requisite for fisheries management. The current Policy shifts towards decentralisation of management responsibilities and importance of small-scale fisheries in terms of rural income, employment and food security that requires consideration of the type of data and information necessary for fisheries management, and the way the data is collected, used and disseminated. Presently, research and monitoring done to provide information on fisheries such as standing biomass, composition, biology and ecology, distribution and stock population structure, lake productivity processes, and fisheries socio-economic studies are occasionally undertaken due to financial constraints and limited skills.

Development and dissemination of appropriate messages through extension services are not effective. There is a weak linkage between research and extension services at both national and international levels. Research information developed by the research unit is not readily available to be packaged for access by fishers and fish farmers. It is apparent that the extension methodologies and approaches employed in Malawi need to be revisited considering the prevailing economic situation.

3.6.1 Policy Statements

For effective generation of information through research in both capture fisheries and aquaculture and development and dissemination of messages, this Policy will ensure:

- (i) promotion and implementation of demand-driven, service oriented research focusing on problems identified with the stakeholders in the fishing industry is;
- (ii) establishment of an information system necessary for sustainable exploitation, management, conservation of biodiversity, utilization and marketing and investment in the fisheries sector through a participatory multi-stakeholder process;
- (iii) assessment of vulnerability and risks of fishing and fish farming communities to climate change impacts;
- (iv) assessment and analysis of socio-economic risks and vulnerabilities of fish farmers in an age- and gender-sensitive manner;
- (v) identification and implementation of mitigation and adaptation measures of the impact of climate change to resource and livelihood of the resource users; and

- (vi) analysis of the labour market in the fisheries sector with regards to work standards and conditions, potential for employment creation and entrepreneurship promotion and self organization and take appropriate actions.

3.7 Policy Priority Area 7: Capacity Development

The institutional strengthening and capacity building of the Department of Fisheries and other stakeholders in the sector, in particular fishing communities, includes development of adequate human resources and skills and mobilisation of appropriate and adequate physical facilities (e.g. various types of equipment) for delivery of various services to the fishing and fish farming communities and other stakeholders. The key functions of the Department include administration services, planning, extension, licensing and inspectorate, research and training. Some of them demand specialised skills; hence recruiting adequate staff to fill up the vacancies is inevitable. At present the Department has a vacancy rate of 29%, as out of 719 established posts (technical and support), 537 are filled up. There is also a need to increase the establishment considering the decentralised functions of the Department especially in aquaculture development that have been on-going since 2003.

Therefore, delivery of necessary skills to the various stakeholders in the sector should be in line with the gaps and opportunities that have been identified which include: the need for skills in participatory fisheries management by local management bodies; severe shortage of skills in the industry including both the state institutions and the private sector; and shortage of staff in all sections of the Department of Fisheries.

3.6.1 Policy Statements

To ensure effective delivery of services to various stakeholders within the fishing industry, Government will:

- (i) build capacity of both technical staff and fishing community, including women and youth, in delivering various services;
- (ii) rehabilitate and upgrade fisheries educational and research facilities;
- (iii) develop and deploy appropriate fishing technologies for the various fisheries with special focus on the off shore resources;
- (iv) mainstream HIV/AIDS and gender in the fisheries sector strategies;
- (v) provide capacity development on decent employment standards, including elimination/prevention of child labour in the fisheries sector to all frontline staff and stakeholders involved.

4. IMPLEMENTATION ARRANGEMENTS

4.1 Institutional Arrangements

The national fisheries machinery, Ministry of Agriculture and Food Security, shall work in close collaboration with the other stakeholders in conserving and managing fisheries resources. Where necessary, the Ministry may enter into agreement with other public organisations, communities, the private sector, and NGOs on specific conservation and management issues. The Policy also promotes co-ordination and collaboration with other sectors in dealing with multi-sectoral issues, which have an impact on the environment and fishery resources. Additionally, international cooperation is required to carry out many of the activities proposed. Many international treaties and protocols cover the various policy themes, and transboundary concerns affect Lake Malawi particularly. This will ensure that efforts to resolve interrelated, causative issues involved in the multiple uses of aquatic and water resources and in the management of fisheries resources are not fragmented, overlapping and ineffective.

4.2 Implementation Plan

To achieve the objectives set out in the Policy, an implementation plan has been developed as a tool for implementing the Policy. The set targets and outcomes will relate to the seven policy areas that include Capture Fisheries, Aquaculture, Fish Quality Control and Post Harvest, Governance, Social Development and Decent Employment, Research and Information and Capacity Development. This plan is in a separate but complementary document called Implementation Monitoring and Evaluation Strategy.

4.3 Monitoring and Evaluation

The implementation of the National Fisheries Policy requires an effective monitoring and evaluation system with appropriate and efficient feedback mechanism. This entails carrying out monitoring and evaluation functions at all levels and gathering data and information at national, sectoral and local levels. To establish internal self-monitoring and evaluation mechanisms, an institutionalised framework as outlined in the Policy Implementation, Monitoring and Evaluation Strategy (PIMES) will be developed and adopted at all stages of planning and programming. The framework has appropriate monitoring and evaluation instruments such as performance indicators. The Policy will be reviewed based on a five-year cycle as established in the policy formulation process. However, this Policy or parts of it may be reviewed if there are significant changes in the operating environment in the course of its implementation.