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MALAWI

BIODIVERSITY FINANCING POLICY AND INSTITUTIONAL REVIEW REPORT

Prepared by
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1. Executive Summary

This report is a Policy and Institutional Review (PIR) of the biodiversity financing in Malawi. The important biodiversity sectors for Malawi are fisheries, agriculture, forestry, water and wildlife, and partly energy due to the influence it has on the forestry sector. All the sectors are experiencing rapid biodiversity declining trends. For example 50% of the Forests and woodlands have been lost over the last 40 years, 60% of land has been degraded with 29 tons of soil per hectare lost annually; 248 species of plants are threatened with extinction; 8 species of mammals are threatened, 12 species of amphibians are threatened; and 7 species of birds are threatened due to various factors, with the main drivers being population pressure, pollution and alien invasive species.

On the policy front, Malawi has a favourable biodiversity financing policy framework and strategies through the National Biodiversity Strategy and Action Plan (NBSAP) 2015 to 2025, several sectoral policies which enshrined biodiversity within them, and lastly the Malawi Growth and Development Strategy III. At the global level, the NBSAP is aligned to the UN Convention on Biological Diversity through the 20 Aichi Biodiversity Targets (ABT) and the Global Strategic Plan for Biodiversity. NBSAP has 16 targets. Target 5 which is about development of sustainable financing mechanisms for effective implementation of biodiversity programs, is more relevant to the BIOFIN study. 10 years after the launch of NBSAP, Malawi still has problem of inadequate financing for biodiversity management. The BIOFIN project will therefore directly contribute to the achievement of NBSAP target 5 and ABT 20 which addresses biodiversity financing challenges at the global level.

Biodiversity conservation is very important to Malawi because of its contribution to national income, and achievement of 12 Sustainable development goals (SDGs) which include SDG 1 – No Poverty, SDG 2- Zero hunger, SDG 3- Good Health and wellbeing, SDG 4-Quality Education, SDG 5 Gender Equality, SDG 6 - Freshwaters supply clean water, SDG 7 – affordable and clean energy, SDG 8 - Decent work and economic growth, SDG 9 - industry, innovation and infrastructure, SDG 13-Climate Action; SDG 12 –Life Below Water, and SDG 15 – Life on land. In addition the cost of not maintaining biodiversity is too high for Malawi. For example annually the cost of land degradation is as high as 444 million US\$. With all these factors, the need for increasing biodiversity financing is very critical.

The review identified 7 existing financing mechanisms, and barriers to increasing financing by mechanism as follows:

Government National Budget

The main limitation is inadequate funding for biodiversity conservation because biodiversity is not among the five key priority areas in the MGDS III. This is compounded by the problem of undervaluing of the economic contribution of natural resources to the economy. In addition, biodiversity is not one of the criteria in the Intergovernmental Fiscal Transfer Formula (IGFTF) used for allocating funds to local councils. Other factors include lack of awareness on the importance of biodiversity in economic development by decision makers in Government, and lack of capacity to prepare successful project proposals for funding.

Statutory Created Funds (operational)

These are funds (such as Environmental Management Fund, Parks and Wildlife Fund, Fisheries Research Fund, Forestry Fund) which were created by Acts of Parliament, but are not performing as expected due to lack of capacity to manage the funds effectively and efficiently; delays in releasing of funds by Treasury to the respective fund holders; lack of capacity to prepare successful project proposals. All these contribute limit funding for biodiversity. At the policy level, the Environmental Management Policy of 2004 is too old for it to be able to deal with the current challenges.

Activation of Biodiversity Related Funds Created by Acts of Parliament

The inactive funds requiring activation include: Fisheries Fund, Water Resources Trust and Fund, and the Environmental Protection Authority (MEPA). The concerned institutions need to write the Office of the President and Cabinet justifying the need for activation of the fund.

Partnership Funding - Local NGOs

The problem with partnership is mainly with funding which comes from official donors such as European Union which require NGOs and the private sector institutions to undergo due diligence checks which the majority of the local NGOs fail to pass hence fail to qualify for grants or cheap loans. They also lack capacity for preparing successful project proposals.

Carbon Markets

The limitation surrounding carbon markets is the lack of Verified Carbon Standard (VCS) regulatory framework for verifying carbon units which can be sold on carbon markets.

Carbon Tax

The challenge with carbon tax is that the tax revenues are currently not used for biodiversity conservation or climate change.

Biosafety Fee

The available legal Frameworks in the form of the Biosafety Act of 2002 and the Biosafety Policy of 2007 are too old for them to effectively respond to the current biodiversity demands including maintenance and conservation of biodiversity and introduction of biosafety fees

Bioprospecting Fee

Introduction of bioprospecting fees requires characterisation of plants in order to determine the real value of the plants. Currently the majority of plants are not characterised.

Crowd Funding

The majority of local NGOs require capacity building activities because of limited knowledge on how to make use of crowd funding for raising funds for biodiversity.

The Enterprise Challenge and Innovation Fund

The fund could easily be available to support biodiversity conservation as long as the potential stakeholders can get exposed to the requirements of the fund which an institution needs to meet to access funding.

Green Climate Fund

Malawi can access the fund by submitting a concept note or funding proposal to the Green Climate Fund demonstrating that the country is losing a lot of bio life (flora & fauna) due to impacts of climate change.

Institutional and Stakeholder Analysis main finding is that the NGO sector is a valuable partner. They are able to finance themselves and contribute significantly to biodiversity conservation. In addition, the analysis identified the engagement strategy with various stakeholders which include advocacy, close engagement, awareness and empowerment. The institutions belonging to the close engagement group are very important in driving biodiversity financing as such will form the BIOFIN Project Steering Committee. The EAD will serve as Secretariat to the BIOFIN Project Steering Committee.

Key Recommendations

The review recommends activation of all inactive Biodiversity Related Funds Created by Acts of Parliament; strengthening of existing financing mechanisms through capacity building initiatives, along with awareness campaigns among the decision makers for biodiversity financing on the value of biodiversity; and redesigning of non supportive biodiversity conservation subsidies such as Agriculture Inputs Subsidy

2. Introduction

2.1 The Biodiversity features of Malawi

Malawi, is a landlocked country in southern part of Africa. It is bordered by Zambia to the northwest, Tanzania to the northeast, and Mozambique on the east, south and west. It has a total area of 119,140 km² of which 20% is water and has an estimated population of 18,143,217. Malawi's unique biodiversity comprises a variety of ecosystems and species such as forest reserves, plants, fishes and wildlife. They are a source of goods and services important for human well-being and economic development. Biodiversity therefore has an intrinsic value which is vital for agricultural, medicinal, scientific research, tourism and other socio-economic development for the country.

2.2 Overview of BIOFIN

This document is a report for Biodiversity Finance Policy and Institutional Review (PIR) for Malawi. The PIR is part of the Biodiversity Finance Initiative which is about taking environmental issues into the heart of economic and financial decision making, particularly into the public budgeting processes and within the wider financial sector. The PIR is the first process towards designing finance Mechanisms for the country. The process is important because it presents the existing policy framework for biodiversity financing policy, existing and potential financing Mechanisms; and the required institutional framework which are the stepping stones for designing sustainable biodiversity financing Mechanisms. The PIR also provides information on the key biodiversity sectors and core expenditure areas on which the Biodiversity Expenditure Review (BER) is to focus. The process also identifies existing financing Mechanisms which require strengthening; and potential financing Mechanism which require policy reforms and completion of certain processes for them to be activated; and all these will inform the Financing Needs Assessment (FNA), and feed into the Biodiversity Financing (BFP).

The Biodiversity Finance Initiative (BIOFIN) is a UNDP global programme supported by the European Commission and the Governments of Germany, Switzerland, Norway and Flanders with a budget of USD 55 million which is managed by UNDP- Global Environment Facility (GEF)¹. Its global partners include: the Secretariat of the Convention on Biological Diversity (CBD), Biodiversity and Ecosystem Services Network (Beset), the UN Poverty and Environment Initiative (PEI), the Organization for Economic Cooperation and Development (OECD), the United Nations Statistics Division (UNSD) and the System of Environmental-Economic Accounting (SEEA), the GEF, Methods for integrating ecosystem services into policy, planning, and practice (ValuES), Wealth Accounting and the Valuation of Ecosystem Services (WAVES), and Economics of Ecosystems and Biodiversity (TEEB).

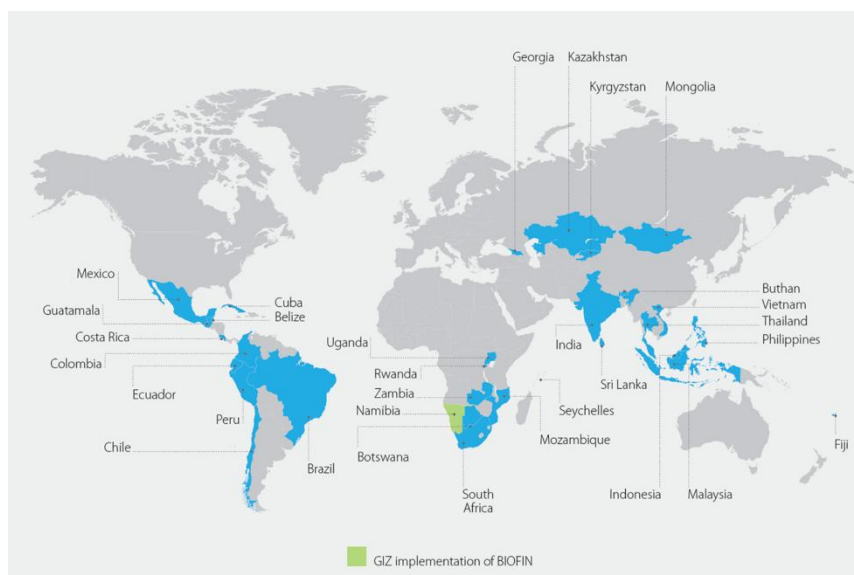
The BIOFIN program aims at measuring the existing biodiversity expenditure levels, assess future financial needs required to achieve the Aichi Targets and biodiversity related Sustainable Development Goals (SDGs), and design comprehensive plans for increasing financing, effectiveness and efficiency of biodiversity management through addressing biodiversity finance challenges in all participating countries.

BIOFIN's first phase (2012-2018) developed and piloted a methodology for analysing and reviewing the Policy and Institutional biodiversity finance landscape (PIR), estimate Biodiversity Expenditure (BER), and biodiversity Financing Needs, and identify finance Mechanisms in the initial 30 countries.

BIOFIN's second phase (2018 - 2022) enables the 30 countries of 1st phase (**Figure 1**) to complete the design and implementation of priority finance Mechanisms and allow a further 15 countries to undertake the assessments as well as create and implement their biodiversity finance plan.

¹ <https://biodiversityfinance.net/about-biofin/donors-partners>

Figure 1: First 30 BIOFIN Participating Countries



During this phase, other critical activities undertaken include expansion of knowledge management platforms at the central level through webinar sessions, and provision of additional guidance for most valuable finance Mechanisms. Malawi is participating in the BIOFIN process for the first time. It is undertaking three interrelated studies comprising of Policy and Institutional Review, Expenditure review, Financing Needs Assessments and Business development as part of BIOFIN Malawi activities since November 2019. In Malawi, the BIOFIN project is a Government of Malawi project supported by UNDP.

2.3 Objective of the Policy and Institutional Review Study

The PIR is a systematic appraisal of the strengths, weaknesses and adequacy of biodiversity financing policies and institutions within and across the sectors of the economy. It also analyses the relationship between the state of nature and country's fiscal, economic, legal, policy and institutional framework. The specific objectives are:

- Improve understanding of how management of biodiversity and ecosystem services supports national sustainable development goals and visions
- Provide a comprehension of key policy and institutional drivers of biodiversity change
- Produce a first catalogue of existing biodiversity finance mechanisms, incentives, subsidies and other instruments, including sources of biodiversity revenues.
- Identify legal, policy, institutional, and operational barriers to increasing biodiversity financing
- Identify capacity development needs and opportunities
- Develop specific policy recommendations to improve and scale biodiversity finance

2.4 Methodology

The PIR has been guided by the BIOFIN Workbook 2018 in collaboration and based on a consultative approach with the national BIOFIN team, Global BIOFIN team, BIOFIN project steering committee, BIOFIN Technical Working Group, BIOFIN Steering Committee, the government, and key stakeholders.

A total of 29 stakeholder institutions and 54 individuals were consulted through individual interviews and workshops (**Appendix 9.1**).

The following BIOFIN PIR steps were used in undertaking the review: Step 1: Preparations which involved a briefing on the assignment and training, step 2: review of the national biodiversity strategies, sustainable development strategies and economic linkages between them, step 3: identification of important trends and drivers for biodiversity change, step 4: review of the current state of biodiversity finance, step 5: analyse main institutions; and step 6: summary and recommendations.

Decisions and Assumptions: The main decision made was to focus on four biodiversity themes namely Aquatic Resources, Agriculture, Forestry and partly Energy biodiversity.

Lessons Learnt: The main lesson is for the BIOFIN to have a good communication strategy in order to ensure that as many stakeholders as possible are kept abreast and informed about the PIR outputs.

The key outputs of the study are the PIR report, and the PIR Policy Brief.

2.5 Structure of the Report

Section 1 presents the executive summary; section 2 is the introduction; section 3 presents biodiversity, ecosystems and sustainable development goals; section 4 presents biodiversity vision, and strategies for Malawi, section 5 presents biodiversity economic drivers and sectorial linkages; section 6 provides the biodiversity finance landscape; section 7 presents institutional analysis of institutions involved with biodiversity financing; section 8 presents summary of key recommendations; and sections 9 contains technical appendices.

3.0 Biodiversity, Sustainable Development Goals, and Malawi Growth and Development Strategies III

Key to the BIOFIN study are the ecosystem services and the related biodiversity sectors. The major ecosystems in Malawi are terrestrial and aquatic with the latter comprising around 20% of the total surface area). The greatest diversity of plants and animals exists in the country's 97 protected areas (90% of which are the forest reserves). The country has a total of over 6,000 flowering plant species, of which 122 are endemic, and 248 species are threatened with extinction. Animal species are comprised of both vertebrates (amphibians, mammals, reptiles, birds and fish; and invertebrates which are animals without backbone. There are about 192 mammal species in Malawi, of which 8 are listed as threatened under IUCN (2013). About 83 species of amphibians have been recorded in Malawi, of which 6 species are endemic and 12 threatened. The country has 145 species of reptiles, of which 12 are endemic and six rare. There are 630 known bird species, of which 4 are endemic and 7 threatened. The total number of fish species found in Malawi is estimated to be in excess of 1000 species. Over 800 fish species have been described in Lake Malawi, 95% being haplochromine cichlids, and 99% of which are endemic to the Lake.

3.1 Biodiversity Ecosystems and Sustainable Development Goals

Sustainable development Goals (SDG) are global in nature and aim at ending poverty, protecting the earth's environment and climate, and ensuring that people everywhere can enjoy peace and prosperity. These are the goals the UN is working on in Malawi. At the policy level, Malawi aligned Malawi Growth and Development Strategy 2017-2022 (MGDS III) to the SDGs as a document through which the country will implement, monitor and report on the progress of the SDG as such are therefore reflected in the Strategy's key priority areas²

Biodiversity and ecosystems are an important element to many of the Sustainable Development Goals (SDGs) and associated targets. They contribute directly to human well-being and development priorities for Malawi as contained in MDGS III. They are also at the centre of many economic activities especially those dealing with crop and livestock agriculture, forestry, and fisheries³ including Freshwater plants. There are 17 SDGs. In general, biodiversity contributes to achievement of or is affected by 12 SDGs. One SDG which encompasses the three important biodiversity sectors is SDG 15 which is about life on land. It encompasses Forestry, wildlife, and agriculture. All these depend on land as such SDG 15 aims at protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. The next sections describes the link between biodiversity and the 11 SDGs and MGDS III.

3.1.1 Agriculture (Crops, Livestock)

Agriculture is the mainstay of Malawi economy, which contributes close to a third of the country's GDP, employs the majority of the labour force⁴ thereby contributing to SDG 8 promotion of sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Agriculture is also a source of livelihoods to 85% of the population. Investing in agriculture biodiversity therefore provides an opportunity to Malawi for addressing hunger and malnutrition (SDG 2-Zero hunger) through crops and livestock production on land. It also contributes SDG 1 – No Poverty through employment and income 1-to 64% of the population; SDG 3- Good Health and wellbeing through sustaining livelihoods of over 80% of Malawi's population⁵ most of whom are the rural poor men and women, and as a source of medicinal plants; SDG 5 Gender Equality– through the agriculture sector mainstreaming gender and women empowerment activities but the results are not very positive due to structural and cultural factors making

² UNDP, 2018' Sustainable Development Goals Audit On The National Budget Alignment In Malawi

³ <https://www.cbd.int/cop/cop-14/media/briefs/en/cop14-press-brief-sdgs.pdf>

⁴ MGDS III

⁵ <https://www.usaid.gov/malawi/agriculture-and-food-security>

women more vulnerable to food insecurity and poverty because they tend to generate less produce, have less alternative income sources and are generally labour-constrained⁶; SDG 8 - [Decent work and economic growth](#), climate change SDG 13-Climate Action by taking urgent action to combat climate change and its impacts through climate mitigation and adaptation Mechanisms by promoting and investing in conservation agriculture, production of climate resilient crops and livestock, and promotion of sustainable production and consumption.

3.1.2 Forestry and Wildlife Parks

Forestry resources are pivotal in supporting local livelihoods and the functioning of wider ecosystems. Communities depend on forests as sources of food (SDG 2), construction materials, and medicines (SDG 3) with the country having over 131 plant species which are used for medicinal⁷ purposes; SDG 6 – Clean Water and Sanitation ensuring availability and sustainable management of water and sanitation through conservation of forests, and climate mitigation Mechanisms (SDG 13).

Through the work of African Parks at Nkhotakota Wildlife Reserve, Majete Wildlife Reserve and Liwonde National Park including Mangochi Forest Reserve; forestry biodiversity make significant contribution to achievement of SDG 1 – No poverty through investing in biodiversity conservation enterprises which generate income for the surrounding communities, SDG 9- Industry Innovation and Infrastructure through investment in access roads and SDG 13- Climate Action by taking urgent action to combat climate change and its impacts through natural forestry management.

The African Parks signed a 25 years Public Private Partnership (PPP) arrangement with Government of Malawi, Department of Wildlife and Parks to manage two Wildlife Reserves, and one National Park including Mangochi Forest for the period 2015 to 2040 under a concession. Africa Parks through education and literacy program contributes to SDG 4-Quality Education by ensuring inclusive and equitable quality education and promoting lifelong learning opportunities investing in education infrastructure ;. It also contributes to SDG 1 – No poverty by implementing pass on program for goats, biodiversity conservation enterprises such as bee keeping indigenous wild mushroom value addition in collaboration with Lilongwe University of Agriculture and Natural Resources (LUANAR) work with communities from harvesting to processing of mushrooms. Through construction of bridges as part of transport infrastructure, the park also contributes to achievement of SDG 9 (industry, innovation and infrastructure).

3.1.3 Aquatic Resources (Fisheries, Freshwater plants and Water)

Fish from aquatic resources is a key source of food and income thereby directly making an impact on poverty (SDG 1) and hunger (SDG 2). Fisheries contributes over 70 percent of the dietary animal protein intake and 40 percent of the total protein supply. It also makes significant contributions to the economy of Malawi through directly employing 63,023 people, with a further over 500,000 people directly engaged in secondary activities⁸ thereby significantly contributing to SDG 1: No poverty and SDG 2: No hunger. Freshwater plants also provide vital alternative medicinal resource and food supplies for both livestock and people important for good health and wellbeing (SDG 3). SDG 6 - Freshwaters supply clean water for daily human subsistence use, agriculture and energy generation. Over 80% of Malawi's population rely on agriculture for subsistence. Agriculture is the most significant consumer of water. The majority of Malawi's hydroelectric power, which is a key source of energy generation also comes from fresh water thereby contributing directly to SDG 7 – affordable and clean energy hydro power energy.

Though Malawi's aquatic resources especially the fresh waters contribute significantly to achievement of SDG 1 and 2 through fisheries, the formal description of SDG 14 considers conservation and sustainable use of marine resources, oceans, and seas; it excludes fresh water. There is therefore need to broaden the definition of SDG 14 life below to include both oceans and freshwaters.

⁶ <https://www.siani.se/blog/leaving-women-behind-gender-in-agriculture-in-sub-saharan-africa/>

⁷ NBSAP 2015-2025

⁸ GoM, (2019). Annual Economic Report

3.2 Linking Biodiversity Related SDGs to MGDS III

Malawi commits itself to the implementation of international development frameworks such as the SDGs through domestication of the international policy in the national policies and development plans of which one such plan is the Malawi Growth and Development Strategy (MGDS) III. Following the adoption of SDGs by Malawi Government in 2017, MDGS III (2017-22) got aligned to 15 of the 17 SDGs with the exception of SDG - 10: Reduced inequalities and SDG 12 - Responsible consumption, production. The 15 SDGs got aligned to the MDGs through its 5 priority areas of Agriculture and Climate Change Management, Education and Skills Development, Transport and ICT Infrastructure, Health and Population, Energy, Industry and Tourism Development.

Section 3.1 of the report (Biodiversity Ecosystems and Sustainable Development Goals) demonstrates the importance of biodiversity to achieving 12 of the Sustainable Development Goals. The section which follows, demonstrate how the 12 SDGs (SDG 1, 2, 3, 4, 5, 6, 7, 8, 13, 9, 14, 15) have been domesticated at the country level through the 5 key priority areas of MGDS III which include: Agriculture and Climate Change Management, Education and Skills Development, Transport and ICT Infrastructure, Health and Population, Energy, and Industry and Tourism Development

Agriculture and Climate Change Management

Agriculture and Climate Change is linked to 8 of the 17 SDGs which include SDG 1- No poverty, SDG 2 - Zero hunger, SDG 3 - Good health and well-being, SDG 5- Gender equality, SDG 6 - Clean water and sanitation, SDG 7 - Affordable and clean energy; SDG 13 - Climate action, and SDG 15 - Life on land.

Education and Skills Development

Education and Skills Development is linked to SGD 4 - Quality education by committing to ensure inclusive and equitable quality education and promoting lifelong learning opportunities for all children. The Education and Skills Development priority also contributes to the achievement of SDG 5 - Gender equality to achieve gender equality and empower women and girls, SDG 8 - Decent work and economic growth through promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, and SDG 9 - Industry, innovation, infrastructure by building resilient infrastructure, promoting inclusive and sustainable industrialization and foster innovation. In terms of biodiversity education and skills development is linked with forestry and wildlife through institutions involved with biodiversity conservation investing in education.

Transport and ICT Infrastructure

The transport and ICT infrastructure falls under SDG 9- Industry, innovation, and infrastructure which aims at building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation. Malawi's transport network comprises road, rail, air and inland water. Malawi transportation systems are relatively underdeveloped with 26.0 percent of the classified road network in 'poor' condition as of 2016. The transport and ICT infrastructure also contributes to the attainment of SDG 1- No poverty, SDG 2- Zero hunger, SDG 3 - Good health and well-being, SDG 5 - Gender equality, SDG 7 - Affordable and clean energy, and SDG 8 - Decent work and economic growth.

Health and Population

The health and population falls within SDG 3 - Good health and well-being which aims at achieving healthy lives and promotion of well-being for all regardless of age. Despite Malawi registering progress in several health indicators, for example life expectancy at birth improved from 48.3 years to 63.9 years in 2015. The health sector is however still facing numerous challenges such as high disease burden, poor sanitation, inadequate infrastructure and medical equipment, suboptimal stock levels of essential drugs and medical supplies and inadequate, poorly trained human resources. The challenges are compounded by rapid

population growth and high poverty levels which are responsible for poor health outcomes for the majority of the population thereby negatively affecting the achievement of SDG 1- No Poverty, SDG 5 - Gender equality, SDG 6 - Clean water and sanitation and SDG 8 - Decent work and economic growth.

Energy, Industry and Tourism Development

Energy, Industry and Tourism Development falls under SGD 7 - Affordable and clean energy which aims at ensuring access to affordable, reliable, sustainable and modern energy for all would contribute significantly to conservation of biodiversity especially the forestry ecosystem which has been threatened by high deforestation. As of 2018, only 10.0 percent of the country's population had access to electricity, Attainment of SDG 7 is however constrained by rising energy and electricity demand; insufficient power generation capacity; high oil import bills; low investment in new power generation units; high transmission and distribution costs; transmission losses; poor power quality and reliability; insufficient focus on alternative energy sources; and lack of access to modern electricity for a large segment of the population.

Energy, Industry and Tourism Development is also expected to contribute to the attainment of SGD 1 – No poverty, SDG 2 – No Hunger, SDG 4 - Quality education, SDG 5 - Gender equality, Decent work and economic growth, and SDG 9 - Industry, innovation, infrastructure.

4.0 Biodiversity Vision, Policies and Strategies

4.1 Summary of national visions and strategies for biodiversity

Malawi does not have a single comprehensive structural and legal policy framework specifically for the conservation of biodiversity but rather uses sectorial policies. The policies generally aim at ensuring sustainable socio-economic development while serving the interests of Malawians and at the same time integrating gender, youth and children concerns in planning decisions at all levels to ensure sustainable social and economic development. A summary of the national visions, sectorial policies and strategies which embrace biodiversity issues are presented below.

List of Malawi Policies and Strategies Embracing Biodiversity Issues	
•Malawi Constitution (1995) •Vision 2020 (1998) •Malawi Growth and Development Strategy III (2017) •National Biodiversity Strategy and Action Plan 2015-2025, (2015) •National Environmental Policy 2004 and the Environment Management Act (EMA), 2017 •National Decentralization Policy (1998) •National Forestry Policy, 1996; National Forestry Act, 1997; National Charcoal Strategy (2017-2027); National Forest Landscape Restoration Strategy (2017) - Wildlife Policy, 2000; National Parks and Wildlife Amendment Act, 2004	•Fisheries and Aquaculture Policy, 2001; and Fisheries Conservation and Management Act, 1997; •Energy Policy, 2002 •National Agriculture Policy (2016); National Agriculture Investment Plan– 2018-2023; Plant Protection Act, 1969, and National Seed Policy (2018), •National Irrigation Policy (2016) •National Land Resources Management Policy and Strategy (2000) •2019 National Tourism Policy •Local Government Act, 1998 •National Monuments and Relics Act, 1965 •National Herbarium and Botanic Gardens Act, 1987 •Biosafety Act, 2002; Biosafety (Genetically Modified Organisms) Regulations, 2008; National Biosafety and Biotechnology Policy, 2008 •Water Policy 2005 and Water Resources Act 2013 •The Public Private Policy

Source: NBSAP 2015

4.2 National Overarching Policies

Malawi Constitution of the Republic of Malawi (1995, 1999 amendment)

The constitution recognizes the sanctity of human life and the unity of all mankind. It guarantees the welfare and development of all the people of Malawi, national harmony and peaceful international relations, and has a provision for the Environment as one of its guiding principles. The principle aims at making provision for the management of the environment in a responsible manner in order to prevent the degradation of the environment; provide a healthy living and working environment for the people of Malawi; accord full recognition to the rights of future generations by means of environmental protection and the sustainable development of natural resources; and conserve and enhance the biological diversity of Malawi.

Malawi Vision 2020

Malawi Vision 2020 is a long term policy framework whose vision statement was ‘By the year 2020, Malawi as a God-fearing nation will be secure, democratically mature, environmentally sustainable, self-reliant with equal opportunities for and active participation by all, having social services, vibrant cultural and religious values and being a technologically driven middle-income economy’⁹. A replacer Vision 2063 is currently under preparation. The Vision is used as a base for the preparation of Malawi Growth and Development Strategy (MGDS).

The Malawi Growth and Development Strategy III

The MGDS is the country’s overarching medium term development tool designed to lead the country towards attainment of the Millennium Development Goals and the Vision 2020. The strategy recognises environmental management issues in its objective statement though environment does not stand out as a priority sector. Environmental management is seen as a crosscutting issue that affects achievement of targets in the selected priority sectors especially in Agriculture, Water Development and Climate Change Management; and Energy, Industry and Tourism.

4.3 National Biodiversity Strategy and Action Plan

The National Biodiversity Strategy and Action Plan (NBSAP), developed in 2006 and revised in 2015 provides more comprehensive and holistic strategies for addressing biodiversity issues in Malawi. Its vision is that by 2050, Malawi’s biodiversity is valued, conserved, restored and sustainably utilized with full participation of all stakeholders; while its mission is to effectively implement programs that minimize the loss of biodiversity in order to ensure that ecosystems are resilient and continue to provide essential services thereby securing the quality of life and contributing to human wellbeing and poverty eradication.

Its goal is to enhance the conservation and sustainable use of biodiversity for the environment and human wellbeing in order to minimise threats to biodiversity from habitat loss and fragmentation, over-exploitation of biological resources, Invasive Alien Species, Pollution, and Climate Change. The NBSAP aims to achieve its goal through a number of strategic objectives as follows: (i) improving the capacity and knowledge on biodiversity issues; (ii) mainstreaming biodiversity management into sectorial and local development plans; (iii) reducing direct pressures on biodiversity; (iv) improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity; and (v) enhancing access and benefits sharing from biodiversity and ecosystem services. Currently, the EAD is finalising the Access to Benefits Sharing (ABS) regulations. Each of these strategic objectives has its own specific targets to achieve (**Table 1**).

The NBSAP is therefore a key mechanism for biodiversity to make significant contribution to economic development and poverty alleviation in Malawi, and it also demonstrates Malawi Government’s commitment to implementation of Malawi’s obligations to the Global Strategic Plan on Biodiversity and the Convention on Biological Diversity (CBD) including the 20 Aichi Biodiversity Targets (ABT). The sixteen national biodiversity targets were aligned with the Aichi Biodiversity Targets in order to make sure that as the Government implements NBSAP, the ABTs also gets implemented. The strategy is also in line with the Strategic Plan for Biodiversity, and Aichi Targets.

⁹ <http://sdnp.org.mw/malawi/vision-2020/>, accessed 3 January 2020

Of the 20 ABTs, ABT 3 and ABT 20 are very relevant to the BIOFIN study. ABT 3 states that “by 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions. No progress has been registered so far on this target¹⁰. ABT 20 states that ‘by 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels’. The status so far is that the target has not been achieved. There is still problem of inadequate financing for biodiversity management in Malawi.

Table 1: Strategic Objectives, Targets and Actions for biodiversity management

Strategic Objective	Targets and Actions for biodiversity management
Strategic Objective One: Improve capacity and knowledge on biodiversity issues.	<i>Target 1:</i> By 2025, human and institutional capacity for science and technology related to biodiversity is improved. <i>Target 2:</i> By 2025, traditional knowledge, innovations and practices of local communities are respected and harnessed in line with national and international legislation <i>Target 3:</i> By 2025 at least 50% of the Malawi population is aware of the value of biodiversity to ensure its conservation and sustainable use
Strategic Objective Two: Mainstream biodiversity in national, sectorial and local development plans	<i>Target 4:</i> By 2025, biodiversity values are integrated into national, sectorial and local development policies and plans <i>Target 5:</i> By 2025, sustainable financing mechanisms for effective implementation of biodiversity programmes developed
Strategic Objective Three: Reduce direct pressures on biodiversity	<i>Target 6:</i> By 2025 at least 50% of the degraded terrestrial habitats are restored and protected <i>Target 7:</i> By 2025 aquatic biodiversity is managed and harvested sustainably within safe ecological limits <i>Target 8:</i> By 2025 area under forest cover is increased by 4% and managed sustainably, ensuring conservation of biodiversity <i>Target 9:</i> By 2025 Invasive alien species and their pathways are identified and prioritized for control and prevention from movement and spreading in and out of the country <i>Target 10:</i> By 2025, pollution is reduced to minimize ecosystem degradation and biodiversity loss <i>Target 11:</i> By 2025, anthropogenic pressures on vulnerable ecosystems are minimized thereby improving ecosystems resilience to climate change
Strategic Objective Four: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	<i>Target 12:</i> By 2025, the extinction of known threatened species is prevented and their conservation status is improved and sustained. <i>Target 13:</i> By 2025, the genetic diversity of domesticated plants and animals; and their wild relatives is maintained, and safeguarded <i>Target 14:</i> By 2025, the level of protection on safe handling, transfer and use of living modified organisms resulting from modern biotechnology that may have adverse impacts on biodiversity is strengthened, taking into account risks to human health.
Strategic Objective Five: Enhance the benefits to all from biodiversity and ecosystem services	<i>Target 15:</i> By 2025 the supply of important ecosystem services is safeguarded and restored, taking into account gender roles and responsibilities of the poor and the vulnerable. <i>Target 16:</i> By 2025, access to genetic resources and traditional knowledge is regulated and benefits arising from utilization of the resources and associated traditional knowledge are shared in a fair and equitable manner

Source: NBSAP 2015

¹⁰ GoM, (2019). The 6th Malawi National Report to the CBD

The main weakness of the strategy is that it is not governed by single framework legislation, instead its legal framework is scattered across several sectorial policies. NBSAP also lacks basket funding for financing biodiversity issues to allow for a holistic and more coherent approach to implementation of the strategy. The current financing mechanisms for NBSAP includes the Environment Management Fund (EMF), public resources from Government and donors such as the Royal Norwegian Embassy, the United States Agency for International Development (USAID), the Food and Agriculture Organization (FAO), Irish Aid, Japanese International Cooperation Agency (JICA) and many others but the financial support provided has always not been adequate to achieve the targets set in NBSAP I.

4.4 Main Sectoral Policies and Legal Framework

National Environmental Policy (NEP), 2004, and Environment Management Act (EMA), 2017: The policy seeks to manage, conserve and utilize biological diversity for the preservation of the nation. The Act provides the legal framework for implementation of the NEP. It also provides for the establishment of Malawi Environmental Protection Agency (MEPA) to oversee the activities of all branches of government that have some environmental responsibilities. It even provides the Environmental Affairs Department (EAD) with a mandate to “enforce the right to a clean and healthy environment; and to undertake Environmental Impact Assessments (EIA). The Act makes EIA a statutory requirement and it outlines the EIA Process to be followed (**Figure 2**).

The process begins with a determination by EAD. If the initial micro-project screening contains large negative impacts or unsustainability, it is likely that the EIA process will need to be done hence the project qualifies for the yes route (Figure 1). The process proceeds with recording of the outcome and preparation of a Project Brief for submission to the Director for EAD. If the brief shows that EIA is required, the EIA

is conducted based on the issues identified during the scoping exercise by the developer and a multi-disciplinary team of experts and the public.

Conducting of EIA study involves five major stages as follows:

- Identification: What will happen as a result of the project?
- Prediction: What will be the extent of the change brought about by the project?
- Evaluation and Interpretation: Do the changes matter?
- Mitigation: What can be done about the changes?
- Monitoring and Management: What are the monitoring and management plans?
- EIA Report

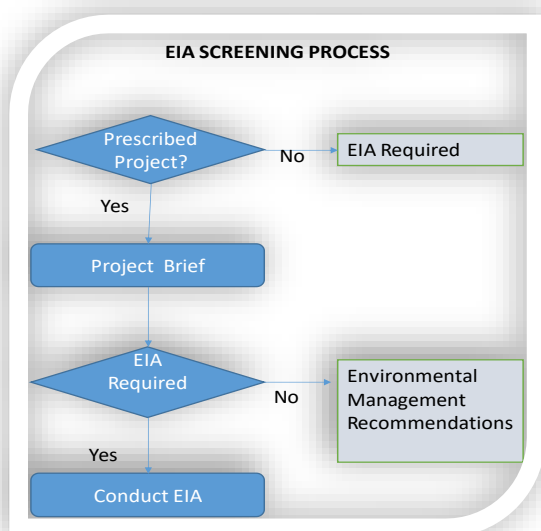


Figure 2: EIA Screening Process

The EIA general guidelines expects sectors to prepare sectorial guidelines for specific types of projects (e.g. dams, roads, industrial parks etc.) with the support of the EAD. A few sectors have so far prepared sector-specific strategies for enhancing biodiversity conservation. Examples include the agriculture’s draft Agro biodiversity Strategy¹¹; and Programme for Rural Irrigation Development Environmental

¹¹ EAD, (2014), 5th National Report to CBD

Safeguards were developed to guide how the programme was to address negative impacts through inclusion of mitigation measures¹².

The main weaknesses of the Environmental Management Policy of 2004 are two, (i) limited financial resources for implementation of the department's mandate including conservation of biodiversity; and (ii) The Policy of 2004 is too old for addressing the current biodiversity financing needs. The policy should be reviewed to take into account the current status of issues.

The Environment Management Act, (EMA) 2017 provides legal framework for the conservation and management of the environment, and the conservation and management of biological (genetic) resources. The Act covers and provides for the following key environmental issues: the Environment Protection Authority; Other Institutional Arrangements for Environmental Management; Environmental Planning; Environmental and Social Impact Assessment, Audits and Monitoring; Environmental Standards; Management of The Environment and Natural Resources; Pollution control; Biological and Genetic Resources; Environmental Protection Orders and Environmental Easements; Inspection, analysis and records; Financial Provisions; Environmental Fund; Offences; and Dispute Settlement.

The Act also provides for the establishment of the Malawi Environment Protection Authority (MEPA). It is the principal agency for the protection and management of the environment and sustainable utilization of natural resources. Its functions and powers include overseeing the following institutions and authorities- (a) lead agencies; (b) advisory committees; (c) District Environment Sub-Committees, and (d) Local Environment and Natural Resources Committee. It is responsible for preparing and publishing a National Environment Action Plan which takes into account District Environment Action Plans, perform periodic environmental audits and monitoring of any project for purposes of enforcing the provisions of the Act, prescribe environmental quality standards to apply in different areas of Malawi, issue guidelines and prescribe measures for the use and management of rivers and lakes and guidelines; prescribe measures for the recognition and protection of traditional and indigenous interests and rights of local communities, provide protection of river banks and lake shores and wetlands, natural heritage sites and mountainous areas, (hazardous) waste management and control and management of factors affecting climate change.

As for the protection of biological and genetic resources MEPA is responsible for regulating access to genetic resources by non-citizens or non-residents of Malawi, ensure that prior informed consent of communities is obtained for bioprospecting, ensure effective equitable sharing of benefits and sustainable business mechanisms for the transfer of biotechnology and protect indigenous property rights of communities; identify, prepare and maintain an inventory of biological diversity of Malawi; determine a component of biological diversity which is threatened with extinction; (c) develop national strategies, plans and programmes for biological diversity conservation; prescribe or take measures for in-situ and ex-situ conservation of threatened species and the control and management of alien and invasive species.

The major weakness of the EMA is that despite the act providing for the establishment of MEPA which has a huge responsibility in the management and conservation of the environment and biological genetic resources including biodiversity financing, MEPA is not yet operational.

National Agriculture Policy (2016)

The goal of the policy is to achieve sustainable agricultural transformation that will result in significant growth of the agricultural sector, expanding incomes for farm households, improved food and nutrition security for all Malawians, and increased agricultural exports. The policy advocates for biodiversity conservation through its Policy Priority Area 1: Sustainable Agricultural Production and Productivity through promotion and adoption of sustainable management of land resources practices not only with regard to future production on the land, but also in relation to conservation of Malawi's biodiversity; establishing effective, demand-driven agricultural innovation systems for research and technology generation, and dissemination through initiation and implementation of programs aimed at arresting agro-biodiversity

¹² IFAD, (2015), Programme for Rural Irrigation Development Design completion report

deterioration and integrating diverse species in agricultural production, particularly locally sourced germplasm; promotion of investments in climate-smart agriculture and sustainable land and water management, including integrated soil fertility management and conservation and utilisation of Malawi's rich agro biodiversity through policy improving agricultural productivity through sustainable land management by empowering communities with on farm conservation and sustainable utilisation of agro biodiversity and Domestication of international instruments which govern conservation and utilisation of agro biodiversity.

The major policy weakness comes in the implementation of the policy. Policy implementation as regards priority area 1 sustainable agricultural production and productivity is often crowded out by short term policy interventions of achieving food self-sufficiency, such as Farm Inputs Subsidy Program (FISP), now the Affordable Inputs Program. In terms of budgetary allocation, on average, The inputs programs received 69% of the agriculture sector's budget and 51% of total public spending over the period 2007–2012, crowding out spending on important sustainable investments with only 19% of total spending left to agriculture traditional mandates of increasing agricultural productivity and resilience to climate change and sustainable land management practices of which 5% goes to extension support and Sustainable Land Management (SLM) which is good for maintaining and increasing biodiversity..

National Seed Policy 2018

The overall goal of the National Seed Policy is to provide clear guidelines for the development and promotion of the seed industry in order to raise agricultural productivity through the provision of sustainable, adequate and high quality seeds. The Policy recognises the existence of both formal commercial seed, and the informal seed system with the informal seed system saving the largest number of smallholder farmers from own saved seed. The main weakness of the policy is that it focuses on the formal seed systems only in order to increase productivity and nothing on biodiversity conservation.

National Fisheries and Aquaculture Policy (2016)

The National Fisheries and Aquaculture Policy (2016) goal is to promote sustainable fisheries and aquaculture development in order to contribute to economic growth in Malawi. The Policy takes into account key agreements and protocols including the Convention on Biodiversity, and its subsidiary protocols, which commits Malawi to the preservation of Biodiversity. It does this through policy priority area 2 which is about Aquaculture, the production of aquatic animals and plants in impoundments or enclosures using native species and improved strains of the indigenous species for biodiversity conservation. It also promotes biodiversity through fisheries research which generates knowledge, information and technology for biodiversity conservation.

The Fisheries Conservation and Management Act, 1997

The Fisheries Conservation and Management Act, 1997 (Cap. 66:05) provides for establishment of fisheries management authorities and their involvement in sustainable management of the fisheries resources for the benefit of the local communities. Currently the local structures in place for management of fisheries at the community level are called beach village committees (BVC). The BVC are used as a tool for monitoring illegal fishing. However, the legal framework does not give the committee mandate to withdraw fishing licenses or seize fishing gear when someone contravenes the regulations. It only allows the Director of Finance (DoF), with the support of the chiefs, and the criminal law courts to seize illegal fishing gear when someone contravenes the law. The arrangement leads to poor enforcement of the laws.

1998 Decentralization Policy

The 1998 decentralization policy aimed at devolving power from the central to local government by bringing services closer to citizens, but the implementation to deliver results has been slow¹³ due to fragmented assignment of functions including weak link between decentralisation policy reforms and the broader public service reforms agenda¹⁴; and limited disbursement of resources to local authorities. With

¹³ World Bank, (2019), Malawi Country Environmental Analysis Report

¹⁴ USAID, 2019, Decentralisation Road Map

insufficient resources (Environment MK175 Million, Forestry MK 174 Million and Fisheries MK 174 Million)¹⁵ and weak capacity and incentives to perform including slow devolution of central functions to local authorities, the local government has been unable to play an effective role in shaping environmental management for addressing land degradation, forest cover restoration, and fisheries management. For example in fisheries sector, the licenses for fishing vessels are issued centrally which creates problems for local councils to monitor and enforce fishing regulations.

The National Water Policy (2005)

The National Water Policy aims at addressing all aspects of water including resource management, and development and water service delivery. It also includes Sanitation issues. The policy provides for biodiversity conservation through the Water management component specific objective 9 which states ‘to promote good catchment

Management to protect and sustain the eco-system biodiversity and wetlands by promoting partnerships between various stakeholders of eco-systems biodiversity’.

Water Resources Act (2013)

The Water Resource Act (2013) objectives are: (a) to promote the rational management and use of the water resources of Malawi; (b) to allow for the orderly development and use of water resources for all purposes (domestic use, livestock watering, irrigation and agriculture, industrial, commercial and mining uses, hydroelectric or geothermal power generation, navigation, fishing, preservation of flora and fauna and recreation in ways which minimize harmful effects to the environment; and (c) to control pollution and to promote the safe storage, treatment, discharge and disposal of waste and effluents which may pollute water or otherwise harm the environment and human health.

The Act provides for the establishment of the Water Resources Trust Fund with an objective of generating financial resources for financing the conservation and management of water resources in Malawi. The main limitation is that the fund is not active. In addition, though the Water Policy provides for proper management of the water resources buffer zones, some of the water resources buffer zone land have been used for development activities such as construction of houses, and development of irrigation schemes which compromises the protection of the water catchment area as such has been responsible for flooding and in some cases drying up of rivers.

Another important weakness of the policy and act is that both of them are very old for them to deal with the current challenges.

Public Private Policy 2011

The Public Private Policy (PPP) is more concerned with the delivery of infrastructure. Among the biodiversity related sectors prioritised under the policy include agriculture and food security, and climate change, natural resources and environmental management. It has a fund called Divestiture Proceeds Account into which proceeds from sale of sets and other incomes including fees get deposited. The funds are used for any investment as the Commission can determine fit which does not provide a guarantee for biodiversity conservation financing.

Government Policy Commitments to Private Sector Development

Government of Malawi (GoM) policy statements for forestry, water and energy sectors, confirm commitment for private sector development and involvement but the commitments are not backed by practical strategies on how to engage the private sector in practice. The situation has resulted in limited participation of the private sector in biodiversity. For example, there is very low participation of private sector in management of both natural and plantation forests. The private sector manages 0.025 million hectares, Forestry Department and National Parks and Wildlife Department manages 0.87 million ha and 0.98 million ha respectively while chiefs through customary land managed 3.1 million ha of natural forested

¹⁵ Ministry of Finance and Economic Planning, 2019 - 2020 Draft Financial Statement, <https://www.finance.gov.mw/index.php/blog/documents/budget>

area in Malawi. In the case of Forest Plantations, Government plantations are established on 0.09 million ha, while the private sector manages 20,000 hectares towards. Private plantations are mostly owned by tea, tobacco and sugar estates. There is also 0.02 million hectares of smallholder woodlots¹⁶.

5.0 Biodiversity Economic Drivers and Sectoral linkages

5.1 Sectoral Dependence and Impact on Biodiversity

Agriculture Sector

The expansion of agriculture land to marginal areas, forests, and wetlands due to human population pressure, is a major driver of biodiversity loss. Malawi has a total land area of 94,280 sq. km of which agricultural land occupied 61.4 % in 2016 with arable land growing at an average annual growth rate of 1.75%. In addition, 60% of the total land has been degraded due to high soil erosion and nutrient loss. The land degradation problem is exacerbated by expansion of agriculture activities into wetlands due to climate change. Wetland farming also creates problems for fisheries and water resources which contribute to declining water levels and silting of rivers and lake which also negatively affect the fish population and hydro power generation.

Apart from deforestation and expansion of agriculture into marginal lands, poor agriculture practices also have a role in the loss of biodiversity through poor agriculture practices, deforestation and loss of indigenous crop varieties. Poor agricultural practices for some crops such as maize, tobacco, or any other crops include ridging, burning, no crop rotation, inefficient input use, and excessive tillage has led to significant declines in soil fertility, increased erosion and land degradation. In response to declining yields, many smallholder farmers in the past used to clear forest cover in search of fertile land for crop thereby causing an endless cycle until all of Malawi's forests are gone and soil degraded. Deforestation for new agriculture land is not a common phenomenon now because most forests are gone. Demand for fuel wood for flue cured tobacco curing is another main source of deforestation because the country invested a lot in this production the technique which uses a significant amount of wood. The challenge with tobacco is that it is the backbone of the economy, contributing 13% of the Gross Domestic Product (GDP), 23% of all tax revenues, and 70% of all export earnings in Malawi, complicating government policy on how to curb deforestation driven by tobacco production¹⁷. At the same time though tobacco does not have any subsidy but it is faced with a challenge from the US Government which requires importers to offer proof that their tobacco and tobacco-containing products do not include tobacco from Malawi that was produced with labour prohibited under U.S. law¹⁸.

Evidence shows that agriculture productivity increases when biodiversity is maintained by restoring degraded land. It has been demonstrated that the investment return, on each dollar spent on addressing land degradation over a 30- year period is 4.3 US\$, and restoring degraded cropland increases maize production by 40%. Restoring 2.4 million ha of degraded cropland increases maize production by 1.55 million metric tons (MT) per year¹⁹. Despite these anticipated high benefits from sustainable land management (SLM), many households fail to adopt the practices because of high labour demand and high cost while at the same time there are no subsidies supporting SLM, resulting in most households de-adopting SLM technologies.

Apart from biodiversity getting affected by unsustainable agriculture practices, crop biodiversity is also negatively affected by loss of local traditional indigenous crop varieties among the farming communities because of the mushrooming of hybrid varieties. Some of the varieties which have been lost include: 'kanjerenjere' (early maturing maize variety) 'kamchiputu' (aromatic sweet potato), 'saopaalendo' (fast

¹⁶ http://www.sdn.org.mw/enviro/soe_report/chapter_4.html

¹⁷ Matt Frye, (2011)., Carbon Markets in Malawi. <http://www.kusamala.org/general/un-redd-malawi/>

¹⁸ <https://www.cbp.gov/newsroom/national-media-release/cbp-issues-withhold-release-order-tobacco-malawi>

¹⁹ World Bank, (2019). Malawi Country Environmental Analysis

cooking bean variety) and most of indigenous vegetables²⁰ and²¹. Other risks that have led to loss of local crop varieties include: habitat loss and fragmentation, human population increase, deforestation, and lack of policy on conservation and sustainable utilization of plant genetic resources. The Malawi Plant Genetic Resources Centre (National Gene bank) at Chitedze Research Station preserved most of the lost local varieties. This is an opportunity for restoring the lost crop varieties. The Gene Bank is already working with community seed banks to reintroduce the lost local varieties to the communities but more effort is required.

Though agriculture contributes to biodiversity loss, the sector also benefits from biodiversity. The benefits of biodiversity to agriculture include enhancement of soil health, habitat establishment, biological pest control, nutrient cycling, and erosion control, pollination of crops, fertilizer reduction, improved water infiltration, and prevention of runoff into waterways.

Forestry sector

Forest ecosystem services provide services such as biomass production, habitat provision, pollination, seed dispersal, resistance to wind storms, fire regulation and mitigation, pest regulation of native and invading insects, carbon sequestration, and cultural ecosystem services. Forests and trees also play an important role in conserving the environment and biodiversity which are key elements in ensuring that development is sustainable. Malawi, being a predominantly agriculture-based economy, cannot therefore underestimate the role that natural resources play in the economic and social development of its People. Given the role of forestry in the provision of ecosystem services, the widespread degradation of forests is responsible for reduced resistance to natural disturbance including climate extremes and to pests, pathogens, invasive species, and other disturbance factors. Overall effect of forest degradation is reduction in the provision of ecosystem services in general²². The main risk to forestry biodiversity is reliance on forestry for fuel and income by the growing population and rapid expansion of agricultural land into marginal areas resulting in extensive deforestation. Recently, loss of forest cover has been attributed more to overharvesting of forests for firewood and charcoal production than conversion and clearing of land. Dzalanyama Forest Reserve is one of the most threatened natural ecosystem due to tobacco curing, brick burning, firewood and charcoal production²³. Currently there are no subsidies on charcoal production but implicit subsidies are available for forest restoration in the form of provision of financing for free tree seedlings to farmers for planting individual and community woodlots. The challenge is that there is limited private sector financing for forestry management. The situation has resulted in private sector managing 0.025 million hectares, against Forestry Department, and National Parks and Wildlife Department which manages 0.87 and million ha 0.98 million ha respectively while chiefs through customary land managed 3.1 million ha of natural forested area in Malawi. In the case of Forest Plantations, Government plantations are established on 0.09 million ha, smallholder woodlots 0.02 million hectares while the private sector (tea, tobacco and sugar estates) manages 20,000 hectares.

Opportunities to reverse the declining forest cover exists through the recent passing of the forestry act in February 2020 which introduced stiffer penalties for contravening forestry regulations, is an opportunity for law enforcement. In addition, there is now growing interest in the promotion of alternative livelihoods such as bee keeping, mushroom, livestock, aquaculture²⁴ which provide alternative means to use of forests by communities to meet their livelihood needs and also income.

Tourism and Wildlife Sector

The sector is an important sector for Malawi. It contributes about 8 percent to the country's GDP after crop production (**Table 2**). The sector is a significant beneficiary of biodiversity through eco-tourism lodges and parks service. Biodiversity is essential for the continued development of the tourism industry. This is

²⁰ NBSAP 2015-2025

²¹ GoM (n.d) Malawi country report on the state of plant genetic resources for food and agriculture

²² [Eckehard G et.al.](#), 2017, Forest biodiversity, ecosystem functioning and the provision of ecosystem services

²³ NBSAP 2015

²⁴ Agricultural Infrastructure and Youth in Agribusiness Project Appraisal Report 2016, UNDP 2019

being demonstrated through the work of African Parks who took over the management of Liwonde National Park, Majete and Nkhotakota Wildlife Reserve at a point when both tourism and biodiversity of wild animals were almost gone. Through wildlife restoration activities by African Parks, the biodiversity and population of wildlife animals have increased and tourism has also grown.

Aquatic Resources

Lake Malawi has the highest level of biodiversity in the world, with fish being one of the most remarkably diverse and abundant fauna. Chambo fish, is the most affected aquatic species affected by declining biodiversity. The total Chambo catch (from Lake Malawi, Upper Shire River, and Lake Malombe combined) has declined by over 70% over the last 10 years, as a result it has been declared as an endangered species by the International Union for Conservation of Nature (IUCN) Red List. Failure to properly regulate fisheries off take is responsible for 44% decline of all aquatic species. Other threats to aquatic resources including fish include agriculture and aquaculture, climate change, energy production and mining, human innovations and disturbances, Invasive and other problematic species, genes and diseases, Natural System Modifications, Pollution, Residential and Commercial Development, Transportation and Service Corridors.

Opportunities to address the problem of declining Aquatic Biodiversity, exist through IUCN in collaboration with the Department of Fisheries delineating 18 important rivers, lakes and wetland sites as Key Biodiversity Areas (KBAs). These are Cape Maclear, Chilumba and Youngs Bay, Chizumulu Island and Taiwanese Reef, Lake Malawi Southeast Arm, Lake Malombe, Liwonde National Park, Lower Bua, Lower Songwe River (under dispute with Tanzania), Makanjira, Maleri Islands, Mbenji Island, Nkhotakota Wildlife Reserve, North Rumphu, Nyika National Park, Tukombo-Sanga Strip, Upper Shire, and Vwaza Marsh Wildlife Reserve. The key intervention activities include raising awareness of the importance of conserving the KBA and to develop plans for conservation action.

Energy Sector

The country is heavily dependent on biomass fuel from wood which is increasingly exerting pressure on the forest for trees as a source of firewood and charcoal energy making demand for fuel wood as one of the main drivers of deforestation in Malawi²⁵. The National Energy Policy estimates that 93% of total energy demand is met by biomass energy of which 99% of the household energy is supplied by biomass with 87% of the population use firewood and 8% use charcoal.

Deforestation is taking place at the rate of 2.6% per year. The challenge is exacerbated by the fact that less than 7% of the population are connected to sustainable energy source from the national grid. Even for the population which is connected to the grid, the connected demand far exceeds the electricity supply of 320 MW generated by the country. In view of the shortage of electricity supply, load shedding is a frequent occurrence making connected household go back to firewood and charcoal for energy thereby causing a vicious circle.

Sources of energy for Malawi and their relative contribution are 93% biomass, 2.3% electricity, 3.5% from liquid fuels and gas, and 1% from coal²⁶. Considering the fact that 93% of the total energy is met by biomass wood from forest and also 2.3% of the energy generated from electricity is from hydro power produced using water resource, the energy sector is dependent of forest and water, making the sector heavily dependent on biodiversity. It is also a fact that the use of wood for energy supply is not a sustainable mechanism, it is a threat to biodiversity while at the same time there is ever increasing demand for energy for domestic and industrial use. The Government through the Ministry responsible for Energy is considering a number of management and policy options for meeting the increasing demand for energy aimed at diversifying sources of energy including diversify away from Shire River by investing in solar energy, use of geothermal technology for hot springs in Chiweta and Kasitu in Nkhotakota, and use of coal.

²⁵ Matt Frye, (2011)., Carbon Markets in Malawi. <http://www.kusamala.org/general/un-redd-malawi/>

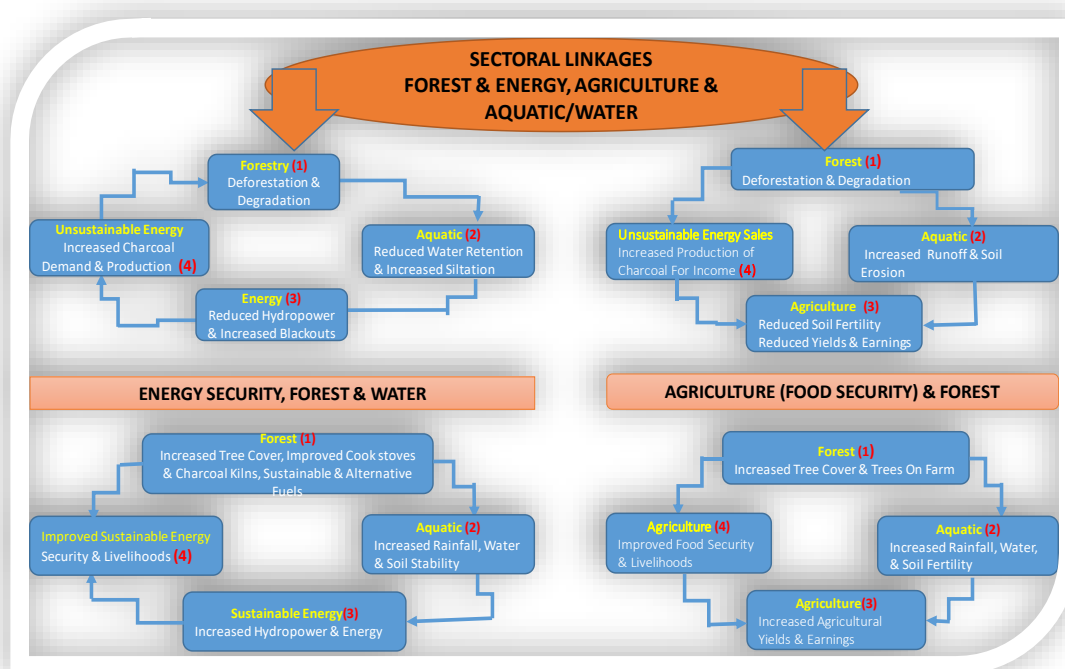
²⁶ USAID Power Africa, (n.d)., Malawi Energy Situation.

Currently the financing mechanisms for developing the alternative source of energy is not known but the good news is that the policy framework is supportive of developing the alternative sources of energy through either the private sector or Government. Some private sector companies such as Kaziwizi Coal Mine have already invested in coal production.

5.2 Sectoral Linkages

The key biodiversity sectors for Malawi are fisheries, forestry, and agriculture while energy though not a biodiversity sector, the sector needs to be natured for the conservation of biodiversity. The three biodiversity sectors all provide ecosystem services. Well-functioning ecosystems – forests, grasslands, soils, rivers, lakes, streams, wetlands, and aquifers, provide services that influence availability of benefits such as water²⁷, energy and food security. Considering that energy is an important service for both development and achievement of daily livelihoods, the forestry sector performance is therefore key on the sectorial linkages. The forestry sector is a major source of biomass energy to the majority of the population of Malawi but also for generation of hydro power energy, hence the sectorial linkages analytical framework starts with the forestry sector to demonstrate the linkages among the key biodiversity sectors for Malawi while the aquatic biodiversity (water) complements the interaction of forestry with both agriculture and energy (Figure 3).

Figure 3: Sectoral Linkages - Forest, Energy, Agriculture and Aquatic/Water



Generally, there is a vicious cycle of poverty with declining biodiversity as the four sectors of energy, forestry, aquatic and agriculture interact to provide livelihoods for the population in the face of the five drivers of ecosystem and biodiversity change (habitat loss/change, pollution, overexploitation, climate change and invasive species). Starting with the Forestry sector, if a tree is cut in the catchment area for electricity, it leads to soil erosion which ends up in the shire river causing reduced water retention (aquatic resources), increased siltation from erosion, and growth of invasive species which clogs power plants

²⁷ Secretariat of the Convention on Biological Diversity, (2015)., *Water and Biodiversity*

resulting in reduced hydropower and increased electricity black out; then household have no other option but to go back to cutting of trees for charcoal and firewood energy which are unsustainable energy sources. On the other hand, when forestry cover is increased along with improved cook stoves and charcoal kilns, the country will have sustainable and alternative fuels in the form of electricity which households and the industries will use as a source of sustainable energy. The use of electricity for energy will facilitate regeneration of forestry and lead to increased rainfall and water retention making more water available for hydropower electricity production again as a result of increased forestry biomass. This will result in improved energy security and livelihoods of the people of Malawi. Similar linkages as for energy and forestry also take place with agriculture.

Agriculture links with forestry through cutting down of trees which causes degradation of forests which causes increased runoff and soil erosion, and reduces water retention. These two are responsible for reduced soil fertility, reduced crop yields, household food insecurity and increases charcoal production for sale leading to deforestation and degradation of forests in order to generate income for buying food. On the other hand, when there is good forest cover, there will be increased rainfall, reduced water runoff, increased water retention and soil fertility leading to increased agricultural yields, improved food security and earnings, reduced deforestation, increased water retention, increased hydropower and increased electricity.

5.3. Economic Contribution of Biodiversity by Sector

The section aims at demonstrating the importance of biodiversity to the economy of Malawi. This has been demonstrated by assessing the contribution of Renewable Natural Resources to GDP, and examining cost of unsustainable use of natural resources. In addition, job creation, and foreign exchange earnings can also be used to provide evidence on the importance of biodiversity-dependent sector.

Gross domestic product (GDP) is the formal and most common indicator used to determine the performance of the economy. It is calculated at national as well as at sectorial level. The official statistics of biodiversity related sectors' contribution to (GDP) at 2010 prices show that agriculture (crop and livestock production) dominates the GDP contribution in relation to all nature related sectors; and its contribution has been increasing annually from Mk 249,510,000 in 2016 to Mk 281,393,000 in 2019 at 2010 prices. In 2018, the sector contributed 18.7 % of total national GDP with crop production alone contributing 17%. Crop and Livestock production is seconded by Forestry and logging for the biodiversity related sectors.

The contribution of Forestry and logging has also shown increasing trend from Mk 95,257,000 in 2016 to Mk 101,194,000 in 2018 at 2010 prices. The sector contributed 7.7 % of total national GDP in 2018. Electricity, gas and water from fresh water biodiversity makes the least contribution to GDP of the biodiversity related sectors of between Mk 15,978,000 in 2015 and Mk 17,292 in 2018²⁸. In 2018 the sector contributed 1.2% of total GDP (**Table 2**). The projections of the sectors contribution to GDP for 2019 were all at the same level as 2018 with the exception of Real Estate and Public administration and defence which differed by +/- 0.1%.

Other non-biodiversity related sectors have been included in Table 2 in order to have a full picture of GDP components in order to demonstrate the relative importance of biodiversity sectors. Crop and livestock production, Wholesale and retail trade, manufacturing, tourism, and forestry and logging are among the top 5 sectors contributing not less than 7% to the GDP of Malawi. This implies that of the 5 biodiversity related sectors, only two sectors Crop and livestock production, and forestry and logging are among the top 5 sectors contributing not less than 7% to GDP.

However, the methodology for calculating GDP, has some weakness in that it does not fully account for the full value of natural resources contribution to GDP. For example, estimates of GDP do not record the

²⁸ Annual Economic Report, GoM, 2019

contribution of soils, wild life, charcoal and firewood, and the cost of unsustainable use of natural resources, which result in under estimation of GDP²⁹. Also the accounting system does not capture the employment

Table 2: Economic Contribution of Sectors to GDP in 2019³⁰

Sector	GDP (%)	Foreign Exchange (%)	Employment (%)
A) Biodiversity Related Sectors			
Agriculture (Crop and Livestock Production)	18.7%	63%	65%
Forestry and logging	6.7		
Tourism	7.7%	1.8%	6.7% (200,033 direct employment) and 534,000 including indirect employment
Fishing and aquaculture	1.2%		63,023 people ³¹
Hydropower, gas and water supply	1.2%		
Accommodation and food services	2%		
B) Other Sectors (Non-Biodiversity Sectors)			
Mining and quarrying	0.8		
Manufacturing	9.1		
Construction	2.9		
Wholesale and retail trade	15.9		
Transportation and storage	2.8		
Accommodation and food services	2		
Information and communication	4.6		
Financial and insurance services	5.4		
Real estate activities	7.7		
Professional and support services	0.3		
Public administration and defence	2.1		
Education	2.8		
Health and social work activities	2.8		
Other Services	5.1		

Source: Annual Economic Report, GoM, 2019; NAIP 2019

benefits to local communities in wildlife reserves and direct consumptive use of biological resources from protected areas. For example, 4,491 people benefited from harvesting grass for thatching houses and bamboos valued at MK 2,918,050 (US \$18,238) in the Majete Wildlife Reserve during the 2010/2011 financial year but was not recorded. Other economic value of natural resources come from communities practicing sustainable harvesting techniques of fish and wildlife, eco-tourism, and biodiversity conservation enterprises such as mushroom production and bee keeping, thereby taking away pressures on natural resources³² while at the same time bringing economic benefits to the communities.

An Economic Valuation of Natural Resources done in Malawi in 2011 by Yarn et.al. Identified economic value of renewable natural resources to GDP which resulted in increased total share of GDP contribution from renewable natural resources (**Table 3**).

²⁹ Yaron et.al, 2011; Economic Valuation of Sustainable Natural Resource Use in Malawi

³⁰ The projections of the sectors contribution to GDP for 2019 were all at the same level as 2018

³¹ Fisheries Indirectly employs over 500,000 people in ancillary activities (fish processing, marketing, boat building and engine repair).

³² National Biodiversity Strategy, 2015-2025

Table 3: Contribution of Renewable Natural Resources to GDP

Natural Resource Share of GDP	Share of GDP, Official Statistics (2019)	Share of GDP, Official Statistics (2001)	Additional contribution, 2011	Total share of GDP including non- commercial uses, 2011
Forestry	6.7%	1.8%	4.3%	6.1%
Fisheries	1.2%	4.0%	-	4.0%
Wildlife		-	2.7%	2.7%
Total	7.9	5.8%	7.0	12.8%

Source: Annual Economic Report, GoM, 2019; Economic Valuation of Sustainable Natural Resources Use in Malawi, 2011;

43% of Malawi's wealth comes from renewable natural capital (such as mushrooms, honey), but its economic value is underestimated in national accounts because the methodology for calculating GDP does not embrace natural capital accounting.

Another way of assessing the economic value of biodiversity is examining the cost of unsustainable use of natural resources. Evidence suggests that Malawi has lost 60% of land due to land degradation, soil erosion and nutrient loss from unsustainable farming practices coupled with the increasing demand for agricultural land and wood fuels associated with a growing population. Annually the country loses 29 tons of soil per hectare per year at annual estimated costs of 244 million US\$ between 2001 and 2009 (**Table 4**).

Table 4: Cost of Unsustainable Use of Natural Resources

Id	Cost of Unsustainable Use of Natural Resources	Amount
	Land Degradation (% Land of Malawi)	60%
1	Soil loss (Tons per hectare per year)	29
2	Estimated cost of soil lost per year (% of gross domestic product (GDP).)	6.8%
3	Forests and woodlands loss over the last 40 years (%)	50%
4	Chemical land degradation due to soil pollution and salinization/alkalization of arable land loss ((% of arable land)	15%
5	Annual costs of land degradation between 2001 and 2009 (USD per year)	244 million US\$

Source: World Bank, (2019). Malawi Country Environmental Analysis.

6.0 The Biodiversity Finance Landscape

The biodiversity finance landscape examines the biodiversity finance mechanisms available to Malawi. The Global BIOFIN catalogue which comprises 150 financing mechanisms identified globally is the basis for the assessment of financial Mechanisms for Malawi. The process maps out existing financing mechanisms in Malawi, understand overall finance policy landscape, identify opportunities for biodiversity financing which require completion, scaling up, change or abolish mechanisms that are not yet operational, can be improved or are malfunctioning.

6.1 Mapping of the Existing Finance Mechanisms

The review identified ten existing financing Mechanisms (**Table 5**). The public sector dominates the implementation of the existing Mechanisms. The financing Mechanisms aim at achieving the following results:

- Avoid future costs: any measure that can prevent or reduce future investment needs by eliminating/amending existing counter-productive policies and expenditures
- Better Delivery: any measure or strategy that can enhance cost-effectiveness/efficiency, synergies and/or favour a more equitable distribution of resources.
- Regulatory, which is any Mechanism that involves a regulatory reform, i.e. the imposition of a certain behaviour through the law or a regulation.
- Realignment: any measure that can re-orient and realign existing financial flows towards biodiversity conservation.

Table 5: Mapping of the Existing Biodiversity Financing Mechanisms

Id	Name of Finance Mechanism	Responsible Institution	Result	Type	Public/Private	Sector
1	Government National Budget	Ministry of Finance	Avoid, Deliver, Realign, Generate	Fiscal, Regulatory	Public	Agriculture, Fisheries, Forests, Protected Areas, Tourism, Water
2	Statutory Created Funds					
2.1	Environmental Management Fund	Ministry of Forestry and Natural Resources	Avoid, Deliver, Realign, Generate	Regulatory	Public/Private	All sectors
2.2	Fisheries Fund	Ministry of Agriculture and Food Security	Avoid, Deliver	Regulator	Public	Fisheries
2.3	Water Resources Trust Fund	Ministry responsible for Water	Avoid, Deliver	Fiscal	Public, Private	Water
2.4	National Parks and Wildlife Fund	Ministry of Forestry and Natural Resources	Avoid, Deliver, Generate	Regulatory	Public	National parks and Wildlife
2.5	Forest Development and Management Fund	Ministry of Forestry and Natural Resources	Avoid, Deliver	Regulatory	Public	Forestry
2.6	Malawi Rural Electrification Fund	Ministry of Energy	Deliver	Fiscal	Public	Energy
2.7	Climate Fund	Ministry of Forestry and Natural Resources	Avoid, Deliver,	Fiscal	Public	Environment
3	Intergovernmental Fiscal Transfer	Ministry of Local Government	Avoid, Realign	Fiscal	Public	Agriculture, Energy, Finance, Fishing, Forests, Protected Areas, Tourism, Water
4	Tourism and concession revenues	Ministry responsible for Trade, Tourism and Industry	Generate	Market	Public, Private	Protected Areas, Tourism
5	Carbon markets	Total Landcare	Avoid, Generate	Market Regulatory	Public, Private	Community areas around Protected Areas
6	Partnerships	All Key Biodiversity Departments	Avoid, Deliver	Market, Regulatory	Public Private	Fisheries, Forests, Protected Areas, Tourism, Water, environment, fisheries
7	Overseas Development Assistance	Ministry of Finance	Deliver	Fiscal	Public	All sectors

Source: Literature Review and 2020 field consultations

6.2 Analysis of the existing Financing Mechanisms

6.2.1 Overview of the national and state budget

The legal framework underpinning Public Sector financing aims to make sure that public organizations manage their finances in ways that are efficient, effective and economical. The legal framework that regulates public sector financial operations in Malawi includes certain sections of Constitution of the Republic of Malawi 1994 and the selected Acts. As regards the constitution, the following relevant sections are relevant: section 171- prohibits collection of revenues from the public without authority or without being sanctioned by relevant law; section 172-The Consolidated Fund-General Revenues States that all government revenues subject to this Constitution and any Act of Parliament be paid or deposited into the Consolidated Fund; Section 173-Withdrawal of Funds from Consolidated Fund highlights circumstances when monies can be withdrawn from the fund as follows:

- To meet expenditures that is charged by the Constitution or Act of Parliament.
- Where the use of money has been authorised by an Appropriation Act, a Supplementary Appropriation Act or by an Act made in pursuance of sub section (5) of this section or sections 178,179,180,181, or 182 or by a resolution of the National Assembly made in accordance with section 177.

In terms of the relevant Acts which provide the legal framework for regulating the public sector financial operations include the Public Finance Management Act (2003); the Public Audit Act (2003); the Reserve Bank of Malawi Act (1989); the Anti-Corruption Act, [1996]; the Money Laundering Act (2006); and the Taxation Act, 2018 Amendment.

The Public Finance Management Act (PFMA) of 2003 requires that every year, Government through the Ministry of Finance prepare a National Budget to run from 1st July to 30th June each year. Three fundamental issues are taken into consideration during the preparation of the national Budget. The first is the macroeconomic context within which the Budget is formulated and this includes the internal and external equilibrium; and also past, present and future macroeconomic projections and trajectories. The second is the interface of the Budget to the medium to long term development priorities, in this case, the Malawi Growth and Development Strategy (MGDS) III and the Vision 2020. Lastly, the balance between Recurrent and Development Budget Expenditures in the National Budget is another important aspect during Budget Formulation process. All three are explicitly linked within the Medium-term Expenditure Framework (MTEF) Budget Cycle.

In order to ensure that the budget covers all the critical areas requiring funding, the following steps are followed by Treasury:

- Estimation of the resource envelope available for funding the budget. The overall resource envelope, or ceiling, is derived from the Macroeconomic Framework for the coming financial year and two outer years. From this overall ceiling, Ministerial (and Sectoral where relevant) ceilings are determined by the Ministry of Finance, guided by the MGDS II, Public Sector Investment? Program (PSIP) and Budget performance data.
- Conduct meetings with the ministries for them to indicate strategic issues which should be considered in allocating resources.
- Estimate amount of funds to be used for statutory expenditures (salaries, public debt payment, and pensions and gratuities).
- Other priority programs to fund e.g. Farm Inputs Subsidies (FISP)
- In between the Minister of Finance and Economic Planning makes budget consultations with stakeholders.
- The Department of Economic Planning and Development comes up with a PSIP which is a list of all government projects both ongoing and in the pipeline.

- Selection of the projects to be included in the budget. First priority to be included in the budget are the ongoing projects. Second priority projects are donor funded projects which require government counterpart funding; and lastly the remaining resources are allocated to ministries.

The budget formulation calendar starts end of January every year with budget briefings and ends with presentation and approval of budget by the Parliament (**Table 6**).

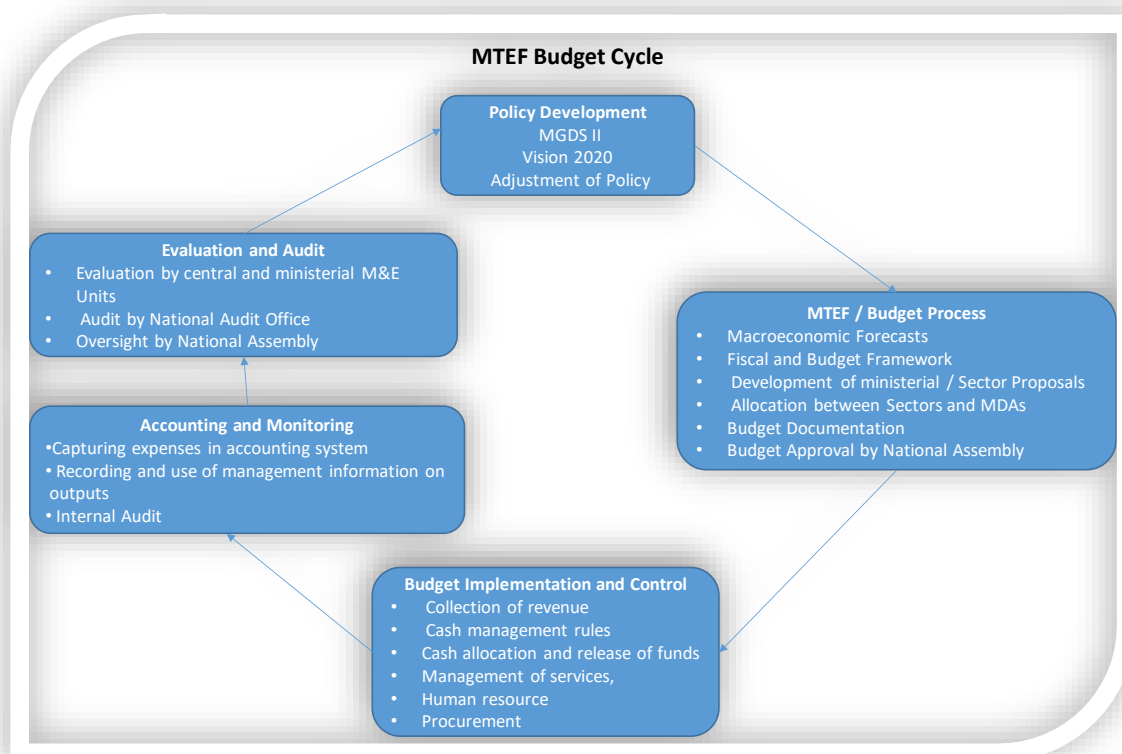
Table 6: Budget Formulation Calendar

Activity	Calendar/Month
Budget Briefing Workshops and Circulation of Budget Guidelines	End January
Circulation of Indicative MTEF ceilings	February
Budget Hearing Meetings	End February to March
Budget Submissions	End March
Circulation of Final MTEF ceilings	Early April
Final Budget Submissions from Ministries	Mid-April
Budget Consolidation	End April to June
Presentation to Parliament and approval	June

Source: Ministry of Finance – Guidelines for the 2014/15 National Budget

The budget process is an annual activity. It uses the MTEF approach, which places Government policies and priorities at the heart of Budget Planning. The framework provides a budgetary resource ceiling against which to prioritize the allocation of resources consistent with policy objectives. It also requires effective mechanisms for the monitoring of budgetary inputs, outputs and outcomes and for feedback of monitoring information into the subsequent planning cycle (Figure 4 below).

Figure 4: MTEF Budget Cycle



Source: Ministry of Finance – Guidelines for the 2014/15 National Budget

The Government budgeting system is using Program Based Budgeting (PBB), which is a process whereby budgets are formulated and appropriated by Vote program, which are aligned to Votes' strategic objectives. In other words, it links resources to results. Key to the success of PBB improving government performance is an increasing emphasis on Monitoring and Evaluation by program, and feedback to inform better government decisions on effective and efficient resource allocation.

6.2.2 Public Budget Funding Mechanisms

Government Sectoral Funding for Biodiversity Related Sectors

Government funding is done using two systems and these are Other Recurrent Transactions (ORT) and Development Budget Part II. There are two key biodiversity related ministries and these are Ministry of Agriculture and Food Security; and Ministry of Forestry and Natural Resources, who's funding partly addresses biodiversity issues. As described in section 5.2.1 above, sectoral line ministries involved with biodiversity issues annually, like any other ministry, receives Government ORT funding (**Table 7 and Table 8**). **Table 7** presents Agriculture budget for the sector in general and budgets for maize purchases, Farm Input Subsidy Program (FISP), an agriculture inputs program. The FISP budget comprises of fertilizer payments, maize seed subsidy, arrears of previous FISP, and FISP logistics. FISP takes up a large share of the budget.

Table 7: 2019/20 Agriculture ORT Funding (MK'Million)³³

	Sector/Ministry	Proposed Estimates
1	Agriculture sector	9,343
2	Agriculture - Maize purchases	10,000
3	Agriculture – Maize Input Subsidy Program	35,500
3	Fertiliser payments	27,000
3.1	Maize seed subsidy	5,400
3.2	FISP Arrears	2,500
3.3	FISP Logistics	600

Source: Ministry of Finance

Agriculture Inputs Program

The aim of the Agriculture Inputs Programs (FISP and now AIP), aim at achieving food self-sufficiency and increasing income among poor households by raising agricultural production and yields through provision of subsidized fertilizer and hybrid maize seeds. Its main weakness is the promotion of use of fertilizer and hybrid maize at the expense of sustainable agriculture practices, thereby contributing to loss of biodiversity.

The inputs programs have been a flagship program for Malawi Government for some time since 2005. The program is funded by government and development partners providing subsidized fertiliser and higher-yielding modern maize seed varieties, which are often expensive to smallholder farmers. The program was initiated as a result of the food deficit which occurred in 2004/05 season. The deficit had affected more than 4 million people which translated into 700,000 metric tons maize deficit³⁴. The program is one of the key priority areas for the Ministry of Agriculture and Food Security (MoAFS).

The program has had positive impacts with 7 successive years since 2005/2006, the country consistently producing surplus maize over and above its annual food requirements from a production of 1.2 million MT in 2004/05 (before the subsidy), to 3.6 Metric Ton (MT) in 2011/12, the seven subsidy year.

³³ MK 735.7382= USD equivalent

However on the other hand, the program has negatively affected implementation of sustainable interventions for increasing agriculture productivity. A very large proportion of the agriculture budget goes to FISP leaving limited resources for implementation of sustainable interventions. For example, FISP accounted for 69% of the agriculture sector's budget and 51% of total public spending over the period 2007–2012, crowding out spending on important sustainable measures with only 19% of total spending left to agriculture traditional mandates, of increasing agricultural productivity and resilience to climate change and sustainable land management practices of which 5% goes to extension support and Sustainable Land Management (SLM)³⁵. SLM is good for maintaining and increasing biodiversity.

Environmental Affairs Department Funding. The Environmental Affairs Department (EAD) of the Ministry of Forestry and Natural, is the coordinating institution for the BIOFIN project. It has four Divisions - Environmental Impact assessment and climate change; Environmental Planning, Monitoring and Research; Environmental legal and policy division; and Biodiversity Conservation and Protection.

The Biodiversity Conservation and Protection Division through the Biodiversity Conservation Section and Biosafety Section is responsible for the preparation and implementation of programmes and projects on biodiversity conservation and sustainable utilization of natural resources in the country including reporting to the Convention on Biological Diversity (CBD) and the preparation and implementation of the NBSAP. It also coordinates biosafety risk assessments and biosafety evaluations on biotechnology including regulation of confined field trials and release of genetically modified organisms. It also facilitates the review and approval of applications on access and export permits for biological and genetic resources. The division is supported by the National Biosafety Regulatory Committee (NBRC) and the National Biodiversity Steering Committees. The NBRC provides technical guidance on adoption and use of Genetically Modified Organisms (GMO) technologies to reduce their negative impacts on the environment, while the National Biodiversity Steering Committee provide guidance on biodiversity conservation and its sustainable use as well as on access and sharing of benefits arising from the utilization of biological resources.

The division implements the above recurrent activities using public budget which the EAD receives annually from the Government budget. The total annual Government budget for EAD has ranged between MK 107,239,313 in 2016/17 to MK203,937,300 in 2019/2020 against a total annual Government budget of MK1,141,000,000,000 and MK1,700,000,000,000 respectively. During the period 2015/2016 to 2019/2020, the EAD budget as a percentage of the total annual Government budget has been 0.01% with the exception of the budget for 2017/2018 when EAD budget was 0.02% of the total annual Government budget (**Table 8**).

Table 8: Summary of Approved ORT Budget from 2015/16 to 2019/20

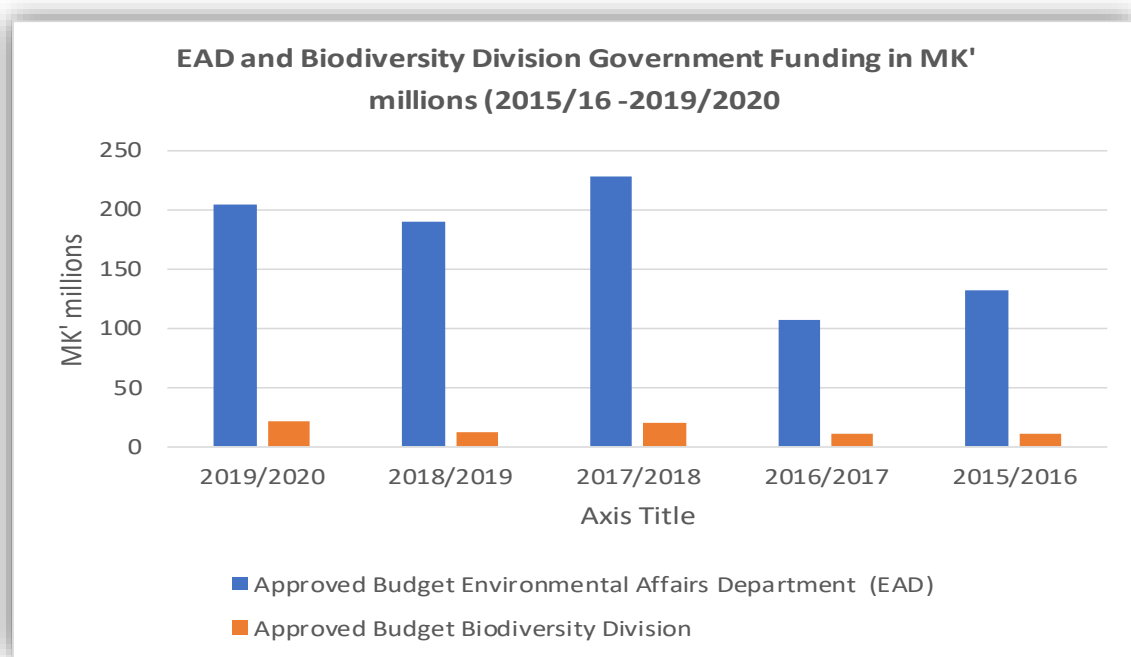
Financial Year	Approved Government Budget Of Malawi	Approved Budget For EAD	% Of Ort Budget For EAD	Approved Budget Biodiversity Division	Ort for	% of Ort For Biodiversity Division
2019/2020	1,700,000,000,000	203,937,300.00	0.01	22,000,000.00		10.79
2018/2019	1,455,000,000,000	190,202,938.00	0.01	12,000,000.00		6.31
2017/2018	1,300,000,000,000	227,324,581.00	0.02	20,190,635.00		8.88
2016/2017	1,141,000,000,000	107,239,313.00	0.01	10,654,000.00		9.93
2015/2016	930,000,000,000	131,595,600.00	0.01	10,988,000.00		8.35

Source: Environmental Affairs Department, 2020

Examining the budget for Biodiversity Conservation and Protection Division in relation to the total annual budget for EAD, the Biodiversity Conservation and Protection Division budget in percentage terms has ranged between 6.31% in 2018/2019 to 10.79% in 2019/2020 which is the highest percentage reached since

2016/17 financial year. Based on this finding, it can be concluded that the Biodiversity Conservation and Protection Division funding by Government has been generally low for the past five years ranging between 107 million Kwacha in 2016/17 and 204 million Kwacha in 2019/2020 (**Table 8 and Figure 5**). The Biodiversity Conservation and Protection Division funding has been between 11 million Malawi Kwacha and 22 million Kwacha during the period 2015/16 to 2019/20. The level of Government funding for both the Environmental Affairs Department and the Biodiversity Conservation and Protection Division creates a huge challenge for the delivery of the Department's mandate.

Figure 5: EAD and Biodiversity ORT Budget in MK' millions (2015/16 -2019/2020)



Source: Environmental Affairs Department

Department of National Parks

The Department of National Parks and Wildlife uses own generated revenues to fund its activities. It however has financing challenges. The first challenge is that the projected budget for years 2019/20, 2020/21 and 2021/22 put more resources under management and administration budget with only about 12% of the budget in 2019/20 left for wildlife management and conservation activities; and the same trend is observed among the projections for years 2020/21 and 2021/2022 (**Table 9**). One main contributing factor for high administration costs compared to funding for technical activities is the high administration cost due to limited funding which is based on revenues collected. When more revenues are collected more resources go to the department based on an agreed formula with Treasury. The Biodiversity Expenditure Review which is being done concurrently by another expert would provide more details on how the resources are used.

Table 9: DNPW ORT Funding by Programme and Sub-Programme (MK 000'000s)

No.	Program/ sub-program title	Approved 2018/19	Revised 2018/19	Estimates 2019/20	Projection 2020/21	Projection 2021/22
1	Programme: Wildlife Management and Conservation	140	89	12.2	14.3	15.3
2.1	01.Wildlife Conservation Services	90	57	6,9	8.8	8.8
2.2	02.Research, Development and Extension Services	50	32	5.3	5.5	6.5
1	Programme: Management and Administration	30	30	87.9	105.7	124.7
1.1	07. Administration, Planning and Monitoring and Evaluation	10	10	29.1	34.4	40.4
1.2.	08. Financial Management and Audit Services	5	5	52.8	64.3	75.3
1.3	09. Human Resource Management	5	5	4	4.5	6.1
1.4	10. Information and Communication Technology	10	10	2	2.4	2.8
Total	Total	170	90	100	120	140

Source: Department of National Parks and Wildlife

The second challenge emanates from downward revision of the budget during mid-year budget review. For example, in 2018/19 financial year, the budget was revised downwards by 47% because the Department did not generate enough revenues (**Table 10**) since its funding is based on 50% of the generated revenues.

Table 10: Annual DNPW Revenues Generated and Expenditures on Parks and Wildlife Activities

Year	Total Revenues Generated Annually by DNPW (MK'Million)	Expenditure on Parks and Wildlife Activities	Expenditure on Parks and Wildlife Activities as % of Total Revenues Generated
2019	226.5	112.9	50%
2018	235.8	124.4	53%
2017	224.8	133.2	59%
2016	149.3	96.9	65%
2015	197.7	108.5	55%

Source: Department of National Parks and Wildlife

6.2.3 Intergovernmental Fiscal Transfer

The Ministry responsible for Local Government through the Local Government Finance Committee (NLGFC) is since 2000, mandated to redistribute grants from the Central Government to Local Councils (Decentralization Policy of 1998 section 10), across all government sectors using the Intergovernmental fiscal transfers formula (IGFTF), according to agreed principles and priorities taking into account economic and geographical aspects of the local governments. The system ensures that resources allocation among the councils is as objective as possible. All transfers to the local governments or councils are legally backed by section 149 (2) (c) of the Republican constitution. The first set of formula was developed in 2002. The Government made commitment to transfer to Local Authorities 5% of domestic revenue for development (ORT+Capital budget), and also recommended that the formula should be reviewed every three years following findings from various studies.

The trend so far shows that the Government is failing to owner both recommendations i.e. 5% of the revenue budget to LAs and also review of the formula. An example is the allocation of resources in 2019/20. In

FY2019/20, MK256.5 billion was budgeted for local authorities (LAs) and this represented 14.8% of the national budget, with ORT taking about 1.9% of total budget. Out of this amount, MK215 billion (83%) was for personal emoluments with 3% (MK8.5 billion) for local development expenditure³⁶ which demonstrates that the LAs are receiving limited funding for development.

Of the MK 256.5 billion total transfers made to LAs, MK41.3 billion for ORT and development budget came from domestic revenues representing 2.9% of total domestic revenue (MK1.42 trillion), which was down from 4% in FY2018/19. The outcome implies that the share of domestic resources getting transferred to LAs is becoming less and less from the 2002 Intergovernmental Fiscal Transfer Formula (IGFTF) commitment by the Government to allocate 5% of domestic revenue for development (ORT+Capital budget) to LAs.

The USAID 2019/20 National Budget Brief prepared for UNICEF also shows most of the development budget which goes to LAs is for social and infrastructure development, and not local economic development sectors. Coming to biodiversity related sectors, **Table 11** provides financial data on IGFTF transfers to sectors relevant to biodiversity issues. Agriculture got the largest share with environment, forestry and fisheries receiving the least budget in 2019/20 and 2018/19 years. A total of K2,979,000,000 in 2019/20 and K2,448,000,000 in 2018/19 fiscal transfers to Local Councils were made to various biodiversity related sectors but the transfers do not show that the funds were used for biodiversity. Funds which were used for biodiversity conservation will become much clearer in the biodiversity expenditure review report which was under preparation at the time of presenting this report.

Table 11: Intergovernmental Fiscal Transfers to Local Councils 2018/19 & 2019/20 in K'000'000

	National Local Government Finance Commission	2019/20	% Share of Funding by Sector	2018/19
1	Agricultural Sector	1,612	0.63%	1,535
2	Youth	174	0.07%	116
3	Water	207	0.08%	138
4	Gender	232	0.09%	156
5	Environment	175	0.07%	117
6	Forestry	174	0.07%	116
7	Fisheries	174	0.07%	116
8	Irrigation	231	0.09%	154
	Total	2,979	1.16%	2,448

Source: Ministry of Finance, 2019 - 2020 Draft Financial Statement, <https://www.finance.gov.mw/index.php/blog/documents/budget>

The main weakness of the formula in terms of biodiversity financing is that the formula does not include biodiversity as one of the criteria for allocating funds to the councils. In addition, the majority of the sectors are using formulas which have not been approved by Parliament and for those sectors whose formulas were approved, the formulas require reviewing. There is need to review the current formulas so that they should incorporate ecological conservation issues with the aim of increasing funding for biodiversity conservation. Integrating ecological issues in the formula means including conservation indices (e.g. size/quality of protected areas) in the fiscal allocation formula-thus rewarding investments in conservation and

³⁶ The USAID 2019/20 National Budget Brief: How Does the Malawi National Budget Respond to the Needs of Children?

incentivizing the expansion of protected areas, forests or other natural capital with the aim of realigning more resources towards biodiversity.

6.2.4 Government Development Budget Funding

Government Development Budget is funded through three means as Development Budget part I, Government Budget part II and Development Assistance (ODA) Off Budget Support. Part I budget is funded by development partners (foreign resources) direct through the Government budget system; while Part II is funded by Government budget as counterpart funding to projects funded by development partners but also 100% Government budget funded projects.

Off-Budget support is project support from development partners to Government of Malawi with finances not directly managed by the Government. Development Partners provide such project support to the Government of Malawi through four different off budget implementation arrangements.

Off Budget Implementation Arrangements

- Government directly manages all project activities and implementation, as well as all financing issues.
- Government directly manages project implementation and procurements, but donors make payment.
- Government manages project implementation, while donors procure and make payments.
- Government manages neither project implementation nor project financing. Both project management and financing are done by a NGO or the donor organization itself.

Development partners such as Norwegian Government, Flanders, Germany -GIZ, DFID, and USAID have been providing off budget support to Government. There are however a number of off budget funded projects to Non-Governmental organisations which are not captured in the financial statements of Government as such they go unrecorded.

Wildlife Projects

Promoting Investment and Competitiveness in the Tourism Sector (PICTS) project funded by AfDB since 2018 with one of the project 5 components being development of touristic products with a focus on ecotourism. The project is implemented by Ministry responsible for Trade, Industry and Tourism. The total budget is 7.74 Million UA of which 7 Million is grant and 0.74 Million UA is GoM contribution. Implementation commenced in 2018 and it will close in 2022.

The Project activities include development of Tourism Investment Master Plan; pre-feasibility assessments reports; organisation of three investment expos; promotion of Public Private Partnership (PPP) projects; strengthen natural resource governance through training of staff, installation of cyber tracker monitoring system, and development of park governance and management framework; strengthening capacity in tourism statistics by developing a Tourism Statistical System, and undertaking tourism surveys; and strengthening tourism enterprise development and training 500 youths and women in business management and entrepreneurship. Project Direct Beneficiaries: The direct Project beneficiaries are the Department of Tourism, Department of National Parks and Wildlife, Directorate of Culture, Malawi Tourism Council, and communities around Project sites. The beneficiaries will benefit through improved institutional capacity in areas of tourism planning and investment, statistics, conservation and ecotourism development, and promotion of and support to SMEs in operating in the tourism sector. The Malawian citizenry is expected to benefit indirectly through increased employment and economic opportunities³⁷.

Sustainable Management of the Nyika Trans frontier Conservation Area Project. The total project was US\$ 11.09 million. It was co-financed by Norway Malawi US\$ 4.2, Parallel PPF US\$ 0.23 million, Government of Malawi US\$ 1.37, Government of Zambia US\$ 0.47 million, Global Environment Facility Trust Fund (GEF) Malawi US\$ 2.28 million; GEF Zambia US\$ 2.54 million. Implementation period was

³⁷ AfDB, (2017)., Promoting Investment and Competitiveness in Tourism Sector (PICTS) Project

from April 2011 to February 2016 with closure in June 2016. Project Development Objective and Project Global Objective was to establish more effective Tran's frontier management of biodiversity in the Nyika Trans frontier Conservation Area. The project consisted of the following components: Component 1: Institutional and Planning Framework. The objective of this component was to establish and operationalize the governance and planning functions for the Nyika Trans frontier Conservation Area (TFCA) by financing the design of TFCA-wide planning instruments. Component 2: Sustainable Financing. The objective of this component was to develop mechanisms for financial sustainability of TFCA management through the institutions responsible for the long term management and financing of the Nyika TFCA. Component 3: Protected Areas Management. The objective of this component was to improve management effectiveness of three Nyika TFCA management "blocks": the Nyika, the Vwaza and the Chama blocks³⁸. The project was implemented by the Republic of Malawi and Republic of Zambia through Ministry responsible for Tourism, Wildlife and Culture in Malawi and Ministry responsible for Tourism, Environment and Natural Resources in Zambia Responsible Agencies: Malawi Department of National Parks and Wildlife, Zambian Wildlife Authority, and Zambian Forestry Department Malawi

Shire Valley Transformation Program

The programme development objective is to increase agricultural productivity and commercialisation for the targeted households in the Shire Valley; and to improve the sustainable management and utilization of natural resources. The Natural Resources Management sub-component is being supported with funding from the GEF. The subcomponent aims to broaden the multisectoral benefits of the program and enhance environmental sustainability within the modernization program. Investments at field level are focussing on Lengwe National Park, Mwabzi and Majete Wildlife Reserves, Matandwe Forest Reserve and the Elephant Marsh Proposed Sustainable Use Wetland Reserve. These conservation areas protect watersheds in the vicinity of areas targeted for irrigation development and, in the case of the Elephant Marsh, it is important for sustaining important fisheries and dry season agriculture and livestock grazing. The marshes have recently been designated under the Ramsar Convention as Wetlands of importance.

Kulera REDD+ Programme

It is a 30-year project being implemented in three protected areas (PAs) of Nyika NATIONAL Park, Vwaza Marsh Wildlife Reserve and Nkhotakota Wildlife Reserve since 2017. The project supports both PA activities and the livelihoods of local communities surrounding these PAs. The aim of the project is to reduce carbon emission through degradation and deforestation of forest/natural resources through community livelihood activities, capacity building and others. The funds come from companies from United States of America (USA) who purchase carbon credits from these protected areas. Terra Global from the USA is the broker for the carbon sales. The activities of the project are funded quarterly with an estimate of US\$ 57,000 of which US\$ 19,000 goes to Department of National Parks and Wildlife (DNPW), and each of the protected area communities' associations - Nya in Nyika and Vwaza, and Nawira in Nkhotakota for the implementation of community programs.

The project is able to protect existing forest carbon and biodiversity while also providing "livelihood packages" to households bordering the forests reserves. The project combines the benefits of mitigating emissions and promoting community resilience and conserving biodiversity within the project areas³⁹. The project "packages" increased rural livelihoods as well as rural incomes. Project activities include training in conservation agriculture, income diversification, fuel efficient rocket stoves, sound resource management, village savings and loans, and building local capacity to produce, process, and market their agricultural products.

The carbon market is an opportunity to reinvigorate the Forestry Sector and to provide Malawi the necessary data to address policy changes and development initiatives to curb the drivers of deforestation. Malawi

³⁸ Project Appraisal Document for the Global Environment Facility Trust Fund Malawi, Zambia Sustainable Management of the Nyika Transfrontier Conservation Area Project

³⁹ <http://www.kusamala.org/general/un-redd-malawi/>

needs to develop a baseline and make policy changes that will help in addressing the issues of lack of clear land tenure rights or carbon rights in Malawi.

Promoting Competitiveness in Investment in the Tourism Sector (PICTS)

The project is financed by the African Development Bank (AfDB). It is being implemented by the Departments of Tourism, Wildlife, Museums and Monuments, Malawi Institute of Tourism, Malawi Tourism Council and the Private Public Partnership Commission. The overall goal of the project is to make Malawi a competitive tourism investment destination by improving its products such as protected areas, lodges and resorts, and cultural products among others. In the DNPW, the project is being implemented in Kasungu and Lake Malawi National Parks for a period of 4 years from 2018 to 2022.

African Elephant Fund Grant

Malawi is a member country of the African Elephant Protection Initiative which is a collection of a range of countries involved with elephants. The initiative has a fund to assist range states with resources to manage their elephant populations. In 2018 the DNPW applied for a grant and the AEF approved a grant of US\$ 100,000. The funds will be used on activities related to the management of elephant in Malawi.

The Malawi Watershed Services Improvement Project (World Bank Funded).

The project is running from 2020 to 2026. The project objective is to increase adaptation of sustainable landscape management practices and improve watershed services in targeted watersheds in Shire River Basin. It will also build the institutional and financing mechanisms for improved watershed services that are needed to sustain investments beyond the project period. The project will be implemented by the Department of Water Resources Development supported by multi-sectoral partners that will include DNPW. The project will also provide performance based grants to selected watershed management institutions that play critical role in watershed management (National Water Resources Authority, Department of Forestry, DNPW; and seven District Councils in the targeted hydrological boundaries of the targeted watersheds) to finance institutional development activities (capacity building, operating costs, goods, equipment, and logistical support, and any other assets and tools they need) to play an effective role in the management of Malawi's critical watersheds with the aim of achieving improvements in watershed services through sustainable management of water resources, land, forests and protected areas (national parks, sanctuaries and wildlife reserves). US\$ 19.3 million has been earmarked for this, with DNPW benefiting US 3.7 million. The grantees will sign performance agreements with the Ministry responsible for Water and Irrigation Development.

Nyika TFCA Malawi Project

It started in 2017 and will end in 2020. The total budget is Euro 18 million. The Nyika TFCA Malawi component of the Malawi Zambia TFCA s being supported by Germany Government through Kiwi Malawi, and Peace Parks Foundation, an International Conservation NGO, through the Sustainable Management of Nyika Trans frontier Conservation Project. The objective of the project is to establish more effective trans-frontier management of biodiversity in the Nyika Trans frontier Conservation Area by supporting fair access to natural resources. It has the following components: Institutional and Planning Framework, Sustainable Financing and Protected Areas Management being implemented by DNPW Malawi and DNPW Zambia with project offices un Mzuzu and Chipata respectively.

Concession Management

The DNPW has eco-tourism lodges in all the protected areas. The majority of these are being operated by private safari companies under the Public Private Partnership Commission (PPPC) Act. The eco-tourism concessions under operation include Sanctuary Woodlands Lodge, Lilongwe Wildlife Centre, Maleri Islands in Lake Malawi National Park, Nyala Lodge, Domwe and Mumbo Islands in Lake Malawi National Park, Lifupa Lodge in Kasungu, and Chilinda Camp in Nyika. Kazuni Lodge in Vwaza Marsh Wildlife Reserve is yet to be tendered.

PPP Arrangements in the Conservation and Management of Wildlife

Government through Department of Wildlife and National Parks, signed a PPP/concession agreement with African Parks Network (APN) for the management of Liwonde National Park and Nkhosha Wildlife Reserve for 20 years (2015-2035), and Majete whose concession runs up to 2028. Under the arrangement the African Parks remits annually 10% of the revenues it generates to Government.

Discussions are on –going to develop a Private Public Partnership (PPP) arrangements for Nyika National Park and Vwaza Marsh Wildlife Reserve between Government and Peace Parks Foundation.

The DNPW however has a challenge of high vacancy rate at 70% which affects service delivery especially in combatting encroachment into the parks, human-elephant conflict and poaching.

Forestry Partnerships and Projects

Protecting Ecosystems and Restoring Forests in Malawi Project (PERFORM)

The project was funded by USAID/Malawi for five years from 5th September 2014 to 30th September 2019⁴⁰. The project was implemented by Tetra Tech ARD in association with five subcontractors: Total Landcare, the Centre for Environmental Policy and Advocacy, Michigan State University, Winrock International, and the World Resources Institute in coordination with two Government of Malawi departments: The Department of Forestry and the Environmental Affairs Department.

The goal of the PERFORM Project was to improve Malawians' quality of life, conserve forests and promote green growth in Malawi through the following specific objectives:

- Advance Reducing Emissions from Deforestation and Degradation (REDD+) readiness;
- Increase low-emissions land use opportunities in targeted geographies;
- Improve low-emissions development capacities;
- Institute pathways for sustainability; and
- Advance Country Development Cooperation Strategy (CDCS) priorities of integration and institutional strengthening.

The projects' key outputs included the National Forest Inventory 2018, the Technical Order: Forest Definition, the Forest Reference Level determination and the development of a National REDD+ Strategy. Other related outputs were increased Malawi's institutional capacity for Reducing Emissions from Deforestation and Degradation (REDD+) data collection, analysis, and use. The project team also built the capacity and capabilities of key government and civil society partners through training and the provision of technical assistance to ensure sustainable outcomes. Through PERFORM's support, the EAD developed and operationalized its greenhouse gas inventory system (GHG-IS) for future low emissions development.

Tobacco Levy Afforestation & Forest Conservation Programme (TLAP)

The Department of Forestry is a beneficiary of the Tobacco Levy Afforestation and Forest Conservation Programme (TLAP). The programme commenced during the 2011/12 financial year. The funds for TLAP are raised from a percentage (0.02%) realized from tobacco sales by different tobacco companies within the country and submitted to Government through the Tobacco Control Commission (TCC). The levy funds are deposited into the Forest Development and Management Fund (FDMF) established under Section 55 of the Forestry Act of 1997. The levy was introduced in order to address the deforestation problem caused by flue cured tobacco farmers through use of firewood in curing tobacco which lead to the depletion of forests. The levy was introduced as a way of making sure these farmers contribute towards replacing the trees which they cut. The districts benefiting from the levy program include: Rumphi, Mzimba, Kasungu, Dowa, Mchinji, Lilongwe, Ntcheu, Balaka and Mangochi. The overall objective of this program is to replant and manage forest areas which have been impacted upon by tobacco growing and to contribute to the national goal of increasing forestry cover.

⁴⁰ Winrock, (N.D.), *OREbound: Protecting Ecosystems and Restoring Forests in Malawi*; Project Title: Malawi PERFORM.

<https://www.winrock.org/project/on-the-rebound-protecting-ecosystems-and-restoring-forests-in-malawi>

The TLAP funds the reforestation and natural regeneration project. The programme/project provides tools and implements including watering cans, wheelbarrows, shovels, polythene tubes and rakes to the communities such as those in Mchinji. The trees planted by the communities include Acacia and Msangu. Acacia trees are used for protecting local biodiversity being a home for several bird species, their root system can go down to the water table while avoiding the soil degradation, are able to hold available water, even from remote depths. Another role for the tree is the supply forage for cattle. Msangu tree is a soil fertility enhancing tree through its leaves which improve the soil structure and nitrogen in the soil.

In 2015, with the assistance of TLAP funds, one community planted 200,000 trees against a target of 100,000 trees⁴¹. The survival rate of the tree seedlings is also very impressive. The communities are very happy with the initiative. The community direct benefits include Fruits and honey are some of the things they get from the forests that they take care of. 36 hectares of land have been targeted for reforestation and natural regeneration and this represented just one-quarter of the actual acreage which needed such intervention. Challenges include delays in remitting the funds. This means monitoring and supervising the projects in the nine target districts gets affected. The second challenge is limited funding. An annual average budget of K25 million is insufficient for the ultimate success of the programme in all the nine districts.

Shire Valley Transformation Program

The Shire Valley Transformation Program (SVTP) is funded by GEF Trust Fund and is implemented by World Bank through Ministry of Forestry and Natural Resources (Environmental Affairs Department, Department of National Parks, and Wildlife, and Department of Forestry), and Ministry of Agriculture and Food Security. The implementation period is six years starting from 18th October, 2017 to 31st December, 2023. The total Project Cost US\$ 234.59 million⁴². The total project cost is US\$ 234.59 million funded by World Bank US\$160 million, African Development Bank US\$50 Million Global Environment Facility US\$ 5.5 million and Government of Malawi US\$7.2 million⁴³. The project objective is to increase productivity and commercialization for targeted households in the Shire Valley and improve the management and utilization of the natural resources in a sustainable way. The longer-term project development objective is to improve the management and utilization of natural resources in a sustainable way to increase agricultural productivity and commercialization for targeted households in the Shire Valley. The project will achieve this through provision of access to reliable gravity fed irrigation and drainage services, secure land tenure for smallholder farmers, and strengthen management of wetlands and protected areas in the Shire Valley. The project covers the Biodiversity, and Climate Change themes during the design and implementation phase with the aim of minimising the negative impacts on wildlife in Majete Wildlife Reserve, Mwabvi Wildlife Reserve, the Elephant Marsh, and Matandwe Forest Reserves through having portions of the canal passing through the Majete Wildlife Reserve, underground in the form of siphons to allow animals to pass and people to access tourist sites such as Kapichira Falls and fencing the canals where it is open. The main irrigation canal to pass through Lengwe National Park on dry area, the design allows for animals to access drinking water and to cross the canal. The design also tried, as much as possible, to avoid going through graveyards. With funding from the GEF, the SVTP will ensure that all impacts on the environment and wildlife are mitigated at all stages of the Project taking care for issues of wildlife and environmental conservation in Lengwe National Park, Majete Wildlife Reserve, Mwabvi Wildlife Reserve, the Elephant Marsh, and Matandwe Forest Reserve. The program is being implemented in Chikwawa, Nsanje, Machinga, Mangochi, Neno and Zomba Districts.

The Malawi Youth Forest Restoration Program.

The Government of Malawi realizes that nearly 96 percent of the population depends on wood or charcoal for cooking, and land is continuously being cleared to grow crops, since nearly 80 percent of Malawians rely on agriculture for their livelihoods, these two factors put pressure on forests, increasing climate-warming emissions, disrupting watersheds and reducing biodiversity. The Government decided to combat this negative

⁴¹ Sangala T., (2015), Tobacco replenishing what it destroys, Times Newspaper

⁴² World Bank, (n.d); Shire Valley Transformation Project – 1

⁴³ <https://agriculture.gov.mw/docs/SVTP%20FACTSHEET%20Final%20Final%2008022019.pdf>

trend by investing in long-term Mechanisms for natural resource management through implementation of the Malawi Youth Forest Restoration Program. The program has a budget of USD \$2 million (1.43 billion Malawian kwacha) which is 1.5% of annual Government budget, for forest restoration. The project started in 2018/19. Under the initiative, the Department of Forestry works with the Ministry responsible for Labour, Youth and Manpower Development to set up youth groups across the country. The youth are given free tree seedlings. They plant fruit trees and bamboos and learn how to manage their local forests. The youth receive a daily wage for planting trees and, later on, the program will introduce bonuses based on how many trees survive and how much forest management improves. The country has pledged to restore 4.5 million hectares (11 million acres), more than one-third of the country's land area. In support of the program, the Government in 2017, launched a first-of-its-kind National Forest Landscape Restoration Strategy, which provides clear targets and priority interventions for increasing forest cover as a means of achieving critical sustainable development goals.

Enhancing public budget execution

Enhancing public budget execution is about implementing measures which promote quality spending of committed funds and removing related obstacles to effective spending. Most government institutions in Malawi spend less than the budgeted amounts due to delays in releasing of funds from Treasury to line ministries and/or district councils due technical challenges at the Ministry of Finance and limited availability of financial resources; and downward revision of allocated annual budgets during budget midterm reviews resulting in expenditures of between 78% in 2016/15 to 55% in 2018/19 of the annual budget (**Table 12**). There has generally been a declining trend in the disbursement of Government funds annually and the worst decline was in 2018/19. The problem of underspending is not just specific to biodiversity but all sectors. The aim of enhancing public budget execution is to deliver the budget effectively and efficiently.

Table 12: Ministry of Forestry and Natural Resources Government Funding Efficiency

Program	Operational Efficiency (%)		
	2018/19, March	2017/18, May	2016/15, May
Energy	62%	68%	78%
Mining	55%	64%	73%
Environment and Climate Change	58%	56%	74%
Wildlife	67%	62%	76%
Expected Operational efficiency	75%	92%	92%

Source: Ministry of Forestry and Natural Resources

Weaknesses of Government Budgeting System and the Proposed Mechanisms

The first weakness is the limited availability of resources. Every ministry wants more resources. The problem of limited resources is compounded by the fact that the national accounting system for calculating the performance of the sectors and the economy has not integrated the Natural Capital Accounting into the Gross Domestic Product (GDP) framework which lead to underestimation of the contribution of natural resources to the economy, and in turn leads to underperformance of the concerned sectors and later on less budgetary resources allocation to such sectors. The Natural Capital Accounting system aims at improving the measurement of ecosystems and their services (both in physical and monetary terms), and mainstreaming biodiversity and ecosystems at (sub) national level policy planning and implementation. Considering that it is not clear on the timeframe of when the Government is going to adopt the national accounting system, it would be important for BIOFIN project to consider other mechanisms for raising the profile of natural resources in decision making in order attract resources for biodiversity conservation. Two mechanisms which could be used are (i) Profiling the cost associated with lack of conservation of biodiversity and the benefits of conserving biodiversity (section 4.1.1 and Table 4) should be shared with decision makers; (ii) Use of the Economics of Ecosystems and Biodiversity (TEEB) in order to mainstream the values of biodiversity and ecosystem services into decision-making at all levels. TEEB aims to achieve

this goal by following a structured approach to valuation that helps decision-makers recognize the wide range of benefits provided by ecosystems and biodiversity, demonstrate their values in economic terms and incorporate those values in decision-making⁴⁴.

Third challenge is that most donor funded projects, especially climate change projects, are funded outside the budget which makes it difficult for the Government to know the amount of resources going into the sector. A few off budget funded projects are known to Government, while most of the off budget funding which goes to non-governmental organisations is unrecorded. The proposed solution is for Government to continue engaging donors on sharing of information especially on biodiversity projects being supported outside the Government System. NGOs should also be encouraged to provide reports to the NGO board on types of projects they are implementing and the NGO board should report the same to Ministry of Finance.

Lastly, the tourism tax incentive which Malawi Government introduced in its 2019/2020 budget involving tax free importation of goods for use by the hotels, lodges and any tourist accommodation with a minimum of 50 rooms is a threat to biodiversity conservation since the incentive will attract investment in tourism which would result in clearing of some land for construction of accommodation. The suggested Mechanism is for the Tourism board to ensure that construction of tourist accommodation should aim at minimal cutting down of trees and land clearing with the aim of biodiversity conservation.

6.2.5 Incentives for Sustainable Businesses

These are direct or indirect public transfer or other incentive to business for the adoption of sustainable business practices that help to improve biodiversity management. The Government of Malawi removed taxes on gas and solar energy, customs duty and excise tax on gas cylinders; and VAT on solar panels, solar batteries, solar accumulators, solar inverters, solar chargers, solar lumps, solar bulbs and energy efficient bulbs, liquefied petroleum gas and gas cylinders, and wood cook stoves in 2019/20 budget with the aim of promoting use of clean energy sources and compliment hydropower in order to minimize deforestation. It is expected that the incentives will empower Malawians to purchase these clean energy products at affordable prices. The use of gas and solar energy will contribute to reduction of unsustainable use of forestry as a source of fuel wood and charcoal, thereby avoiding cost of re-afforestation of degraded forests.

6.2.6 Tourism and concession revenues

Major tourist attractions in the country including water bodies, national parks, wildlife reserves, mountains and cultural heritage sites provide site-seeing, photographic safaris and mountain hiking opportunities. Lake Malawi National Park is of global importance for biodiversity conservation due to its high diversity among the fish in the lake, in particular. Tourists pay a certain fee as provided for by the Tourism Act for touring the sites. The Department of Tourism retains 99% of the revenues generated through levies charged on services. The department reinvests in sustainable tourism while the taxes and one percent of the tourism levy collected go to Treasury. On average, the Department of Tourism annually collects MK 850 million through levy. In the wildlife sector, local communities' gets 25% of revenues realized from tourism in national parks⁴⁵ without necessarily basing the revenue sharing on services provided by the local community.

6.2.7 Funding Mechanisms Using Statutory Established Funds

The Government of Malawi established various funding mechanisms using various statutory laws. Among the funds established which are related to biodiversity management include:

Environmental Management Fund was established under Environment Management Act of 2017.

⁴⁴ <http://www.teebweb.org/>

⁴⁵ 6th National Report to CBD, 2019

Environmental and Social Impact Assessments (EIA) are conducted to evaluate the environmental and social risks of a development project for mining, hotels, and other large infrastructure projects. It is now mandatory for most donor funded projects to undergo EIAs as a condition for funding the project to ensure sustainable development⁴⁶. The objective of the fund is to promote the protection and management of the environment and the conservation and sustainable utilization of natural resources.

EAD charges developers a fee for EIA review process. The revenues generated go into the Environmental Management Fund. The main source of the funds are fees such as fees charged for EIA Project Brief, EIA Fees, Noncompliance fees, Audit Fees, , polluter Pay fees, and EMP fees which industries and institutions pay for activities that adversely affect the environment and other penalties under the Act. The fees vary depending on the size of the project. The minimum amount of fees charged is MK 50,000 per project. The aim of EIA is to avoid detrimental effects that development projects can have on natural resources. Both the private and public sectors are involved in the implementation of EIA.

Other sources for the Environmental Management Fund as provided for by the Environment Management Act 2017 include sums appropriated by Parliament; environmental levies on products, industries and activities that adversely affect the environment; sums or other assets received for the purposes of the Fund, voluntary contributions or donations; and fees or other penalties in respect of licenses issued under the Act.

The total income generated by the fund vary between MK 28,502,200 in 2014/15 and MK 82,681,250 in 2018/19. Ministry of Finance, Treasury Revenue Policy Division gets 5% of the revenues generated while the EAD retains 95% (**Table 13**). The main challenge with EIA is that there is a general lack of well-qualified EIA practitioners, which is posing to be a serious threat to effective EIA performance in Malawi which is an important process for ensuring implementation of sustainable investment projects for the conservation of natural resources and biodiversity.

Table 13: Environment Management Fund Income 2014/15 to 2019/2020

Year	Total Collection	EAD	Treasury
2014/15	28,502,200	27,077,090.00	MK1,425,110.00
2015/16	74,901,272	71,156,208.59	MK3,745,063.61
2016/17	61,255,923	58,193,126.85	MK3,062,796.15
2017/18	24,950,000	23,702,500.00	MK1,247,500.00
2018/19	82,681,250	78,547,187.50	MK4,134,062.50
2019/20	MK72,345,000.00	68,727,750.00	MK3,617,250.00

Source: Environmental Affairs Department

Fisheries Fund was established under Fisheries Conservation and Management Act of 1997. The fund has not been operational since its establishment. The sources of income for the fund were supposed to include funds appropriated through Parliament, advances of sums, other assets receipts, payments made into the Fund from proceeds of seized assets, and penalties for offences under sections 40(5), 45(4), 50(9) and 51(2). The fund is vested in the minister. The objective of the Fund is the conservation, development, promotion, management and administration of fisheries and fish habitats; and to start, operate and expand projects relating to management or conservation of fisheries and fish habitats.

Fisheries Research Fund (Ndunduma)

The fund is for fish research in the lake. The fund was capitalised in the early 1990s with funding from a World Bank Ice landing International Development Board (ICEIDA). The funding assisted with procurement of a vessel for fish research on fish stock biomass of Lake Malawi. The Department uses the size of the fish biomass to allocate the number of fishing boats in order to avoid overfishing.

⁴⁶ Bobby I. and M. Kosamu, (2010). Environmental impact assessment application in infrastructural projects in Malawi

The Ndunduma Fund is funded from sales of fish which are captured from the Lake as it carries out research on fish biomass in different parts of the lake. The vessel used to catch a lot of fish when it was new and its operational efficiency was good. Now the vessel is very old as such its efficiency is grossly compromised. As of 2019/20, the projected revenues generated by the fund were MK192, 846,995. For all the revenues generated, Ministry of Finance gets 5% while the rest of the revenues are used by the Department of Fisheries. In addition, annually the Government provides MK50, 000,000 (67,959 US\$) for maintenance of the vessel. Limited funding is preventing the Department from buying a new engine for the vessel which would improve its efficiency. Often the vessel breaks down which causes delays in completion of annual stock assessment study. The study now takes seven years instead of one year. The delay in completing the study has a negative impact on the revenues generated from fish sales for the Ndunduma account.

The Department also collects revenues from licenses and the money goes into Government account number one. The Department collects fees for various services as follows:

- Aquaculture permits for large scale pond and cage culture - MK 50 (0.07 US\$)/cubic metre.
- Fishery sanitary certificates – MK K5, 000 (6.7 US\$) per certificate.
- Inspection and licensing of commercial fishing equipment fees- MK10, 000 (13.6 US\$) application fee; MK 128,000-390,000 (174-530 US\$) for license; MK50, 000 (68 US\$) annual distribution and marketing license renewal.

Water Resources Trust Fund was established under Water Resources Act of 2013 (No. 2 of 2013). The fund is not operational. The sources of income for the fund are expected to come from funds appropriated by Parliament; any fees, charges such as water abstraction charges, etc.; such other moneys and assets as may vest in or accrue to the National Water Resources Authority by way of grants, subsidies, bequests, donations, gifts, subscriptions, rents, interest or royalties from any person. The fund is supposed to be managed by the trustees from time to time appointed and holding office under a trust deed, to be drawn-up by the Minister. The objective of the Fund is to assist in financing the conservation and management of water resources in Malawi.

Borehole Management Fund. The Water Department also has an active Borehole Management Fund which in 2019/20 generated MK 153,262,211.55.

Rural Electrification Fund. The rural electrification Fund is used for funding the Malawi Rural Electrification Program (MAREP) which is a subsidy program that favours biodiversity through increasing access to sustainable energy. In 2019/20, MAREP raised MK45, 803,476,183. The program is subsidizing new connections of electricity supply to rural areas. The source of funding for the Rural Electrification Fund is the electricity levy of 4.5 per cent of retail energy sales embedded in electricity tariffs charged to all electricity consumers. Every energy licensee pays to the Malawi Energy Regulatory Authority (MERA) a rural electrification levy which is part of the tariffs or prices of energy payable by energy customers. Every licensee pays the levy to MERA. MERA then pays the levy to Rural Electrification Fund. The rural electrification levy is used for the purposes prescribed under the Rural Electrification Act. Cap. 73:03 of which one of it is rural electrification. The program is biodiversity friendly subsidy because it is allowing rural community to install new electricity connections at subsidized price. The program buys all the materials, does the wiring and the households make payment towards the subsidized materials through the electricity bill they will be paying. The initiative will help in reducing the use of firewood and charcoal which are unsustainable sources of energy. Currently 96% of the population relies on forestry for firewood and charcoal as a source of energy which in turn destroys the forests as trees get cut. With electricity energy, forestry which is part of biodiversity would be conserved and future costs for maintaining biodiversity would be avoided.

National Parks and Wildlife Fund was established under the National Parks and Wildlife Act of 2010. The sources of income for the fund include funds appropriated by Parliament for the purposes of the Fund; advances made to the Fund under section 102; Voluntary contributions; payments made into the Fund under

section 119; donations by any foreign government, international agency or foreign institution or body and fees charged on services. Table 14 presents the fee structure for various services.

Table 14: DNPW Services Fees

Type of Service	Fees		
	Malawian (MK)	Malawian US\$	Non-Malawian US%
Hunting licence	300,000.00	407.75	5,000.00
Game ranching/farming permit	10,000.00	13.59	
Sale of Crocodile skin export tags per tag	500.00	0.68	
CITES permits	3,000.00	4.08	
Concessions for Lodges and Reserves	Varies		
2020 Exchange Rate (April)	735.7382	1.00	

Source: Department of National Parks and Wildlife

The objective of the fund is development, promotion, management and administration of national parks and wildlife reserves in Malawi. The fund generates annually close to over 200,000 US\$. In 2018/19 it generated MK151, 683.99 while in 2019/20, it generated MK160, 483,201. The main sources for the revenues are the park entry fees and the concessions (**(Table 15)** which each generates 39% and 47% respectively.

Table 15: National Parks and Wildlife Fund Income and Disbursement (2015 to 2019) in US\$

Year/Source of Income	2019	2018	2017	2016	2015	5 Year Average	% Share Avg. as 5 Yr. Annual Income
Trophies Sales	8,422.50	0.00	0.00	0.00	0.00	1,684.50	0.60%
Concessions	130,911.45	149,968.04	132,494.42	112,901.52	137,665.11	132,788.11	47.15%
Park Entry Fees	121,384.26	117,085.60	126,546.84	84,687.66	97,913.99	109,523.67	38.89%
Game Meat Sale	16,045.97	45,209.20	43,268.91	2,682.67	24,311.50	26,303.65	9.34%
Game Licenses	9,280.26	1,233.98	1,370.11	768.13	280.56	2,586.61	0.92%
Firewood Sale	11,831.79	7,626.19	2,178.43	2,324.47	9,050.67	6,602.31	2.34%
Hire of Guides	10,571.47	39.50	10.35	16.34	10.35	2,129.60	0.76%
Total	308,447.70	321,162.51	305,869.06	203,380.79	269,232.17	281,618.45	100.00%
Disbursed	151,683.99	167,761.43	180,806.91	131,580.52	147,478.05	155,862.18	55.35%
% Utilisation	49%	52%	59%	65%	55%	55%	
Exchange rate	734.25	729.51	725.56	710.15	498.46	679.58	

Source: Wildlife Department

The generated revenues are shared amongst three entities as follows: Department of Wildlife and National Parks 50%, Government Treasury 25% and the surrounding community at the park 25%. Table 16 below shows that for the past 5 years (2015 to 2019) the fund used 55% of the revenues generated which is slightly above the 50% target. The Department used least amount of funds generated (49%) in 2019, while in 2016, it used more resources (69%) which was 19% above the 50% it is allowed to use. The Department's view is that the amount of funds which goes to Treasury should be reviewed so that more resources should be left to the Department for investing back in core activities of the Department including maintenance of the wildlife biodiversity.

Forest Development and Management Fund established under the Forestry Act (No. 4 of 1997).

The sources of income for the fund consist of- (a) sums appropriated by Parliament for the purpose of the Fund; (b) advances made to the Fund under section 57 of the ACT; (C) such sums as may be received for the purposes of the Fund by way of voluntary contributions; (d) levies from a meter cube of wood felled or extracted by the Forestry Department; (e) tobacco levy, (f) payments made into the Fund under section 12; and such sums or other assets donated for the purposes of the Fund by any foreign government, international agency or foreign institution or body. The fund is vested in the Minister. The objective of the fund is conservation augmentation and management of forest resources and forest lands in Malawi. In 2019/20, the fund generated MK 929,247,000.

Climate Fund

Climate fund is a fund which is financed by development partners such as GEF, UNDP, Green Climate fund, United Nations Committee for Development Policy, and Adaptation Fund. Discussions are also underway between the EAD and Ministry responsible for Energy for the rural electrification fund to start contributing to the Climate Fund. It provides funding window for climate change adaptation, technology and mitigation. The fund aims at generating funds for avoiding future costs, and delivering climate change interventions. Potential for biodiversity funding exists indirectly through the climate adaptation activities which the fund is able to fund and such activities have a bearing on biodiversity.

Challenges of Funding Mechanisms Using Statutory Established Funds and Fund Activation Process

The main challenge with the various funds is lack of capitalisation. Most of them have not been capitalised since their establishment. According to Ministry of Finance, Treasury Revenue Policy Division, the funds were established with a purpose to generate revenues using various means such as fees on services and fines on illegal activities. The generated funds were supposed to capitalise the fund but the major weakness is that the concerned institutions/departments do not make initiative to revise the fines or fees and even introduce the fines. The process for revising or introducing new fees is supposed to be initiated by the concerned institution who should make proposals and submit it to Ministry of Finance Treasury Revenue Policy Division who review the proposal and submit it to Parliament for approval. Once approved by the Parliament implementation by the concerned institution follow.

Another challenge is the delay in releasing the proportion of funds due to the concerned funds such as the Forest Development and Management Fund which negatively impacts the Department of Forestry to implement and supervise afforestation program.

Summary of Statutory Established Funds Managed by Treasury

The Treasury which is a section in the Ministry of Finance is responsible for overseeing all statutory established funds. **Table 16** presents the status of 2019/20 revenue projections for collection. Most of the funds are not related to biodiversity. Total expected annual funds from statutory established funds is over MK 69 billion of which MAREP contributes over 65% seconded by the Road Traffic and Safety Services. Of the biodiversity related funds, only forestry generates more than 1% of the total funds. The information is confirming the availability of limited resources for funding biodiversity related activities. The water resources and environmental management funds are missing in the table.

Table 16: Summary of Treasury Funds – Statutory Established Funds

	Type of Treasury Fund	2019/20 Projection Revenue	% Share of Each Fund To Total Fund
1	Agriculture Extension Treasury Fund	65,800,000.00	0.1%
2	Borehole Management Fund	153,262,211.55	0.2%
3	Livestock Development Fund (DAHL)	314,144,972.00	0.4%
4	Agricultural Research and Services (DARS)	267,310,230.56	0.4%
6	Forestry Management Fund	929,247,000.00	1.3%
7	Government Print	800,000,000.00	1.1%
9	Rural Housing Treasury Fund (Housing management)	399,088,620.00	0.6%
10	MAREP	45,803,476,183.00	65.5%
11	National College of Information Technology Fund (NACIT)	354,000,500.00	0.5%
12	Ndunduma (Fisheries Research) Fund	192,846,995.00	0.3%
13	Public Land Development Fund	6,529,886,000.00	9.3%
14	Public Servant Home Ownership Scheme	364,916,600.00	0.5%
15	Plant, Vehicle, Hire and Engineering Services (PVHES)	1,412,631,000.00	2.0%
16	Road Traffic and Safety Services Fund	11,094,000,000.00	15.9%
17	Technical and Vocational Education Training (TEVET Fund)	158,930,000.00	0.2%
18	Tourism Marketing Fund	900,000,000.00	1.3%
19	Wildlife Conservation-Parks Fund	160,483,201.00	0.2%
	Total	69,900,023,513.11	100.0%

Source: Ministry of Finance

6.3 Carbon markets

Carbon markets aim at reducing GHG emissions cost-effectively by setting limits on emissions and enabling trading of emission units (instruments representing emission reductions). Trading enables entities that can reduce emissions at low cost to be paid by high-cost emitters, thus lowering the economic cost of reducing emissions. Carbon markets can include emission allocation credits as well as emission reduction credits such as carbon offset credits. In various carbon markets, forest or agricultural based offset credits may be used to offset industrial emission. Total Land Care is one of the NGOs participating in carbon markets with Communities around the Parks in the North (Nyika, Vwaza) and Central Regions (Nkhotakota) of Malawi who plant trees and conserve their environment in return for offset credit in the form of funds which they use for various developments.

The potential for scaling up the carbon market initiative is very high, though the country does not have the Verified Carbon Standard (VCS) regulatory framework because the programme is seen as an opportunity to reinvigorate the Forestry Sector and to provide policy makers in Malawi with the necessary data for addressing policy changes and development initiatives to minimise the drivers of deforestation⁴⁷.

6.4 Partnerships and Stakeholders

Partners and Stakeholders working in the biodiversity sectors assists in relieving Government resources for other equally important issues in biodiversity issues. The sector is already benefiting from the financing mechanisms through the activities of the following institutions: African Parks, Mulanje Mountain Conservation Trust, Malawi Environment Endowment Trust, Lilongwe Wildlife Trust, The Wildlife and Environmental Society of Malawi, Ripple Africa, Lilongwe Water Board, private sector such as Zam Investments and Lilongwe University of Agriculture and Natural Resources. More details on how these stakeholders and partnerships get engaged in biodiversity conservation and financing is presented in section 7 under institutional analysis of biodiversity stakeholders.

⁴⁷ <http://www.kusamala.org/general/un-redd-malawi/>

There is however a problem for local NGOs to access direct funding from development partners due to failure to pass the due diligence requirement.

6.5 Potential Sustainable Financing Mechanisms

The potential Financing Mechanisms comprise of Mechanisms which are already being used in the country, but are not used as financing Mechanisms for biodiversity conservation.

6.5.1 Carbon Tax

Malawi introduced in November 2019, a carbon tax on vehicles which was being paid at the time of processing Vehicle Certificate of Fitness which is since the 2020/21 budget, being changed as a fixed charge per litre of fuel at K5/litre as the country seeks to implement targets under the Paris Agreement on greenhouse-gas emissions. Carbon tax revenues are currently not used for biodiversity conservation because the tax is collected centrally for Government account number 1. However discussions aimed at shifting the revenues to Climate Fund have been initiated.

6.5.2 Biosafety fee

Biosafety fee is a fee charged by the National Biosafety Regulatory Committee, to an importer of biological material such as Genetically Modified Organisms (GMOs). The EAD is the secretariat to the committee. The process involves an importer sending an application dossier to the committee stating justification why they would like to import the gene into the country. The committee assesses whether the country can handle it through 3 steps:

Step 1: Containment inside laboratory. The seed is planted for observation

Step 2: Containment for observation outside the environment but not near any crop or tree, the area is fenced and restricted to only the principal investigator or technicians.

Step 3: Multiplication stage where the plant is grown in different locations under fence.

The process takes a minimum of 5 years to complete. Currently, there are no fees charged to the importer. Government resources are used for undertaking all the three steps including inspection from land preparation to harvesting. Sometimes the private sector funds the cost for supervision and certification to speed up the process when government funding is not forth coming but this leads to compromises in decision making. The EAD would like to introduce the fees.

Legal Framework: Currently there is the Biosafety Act of 2002 and the Biosafety Policy of 2007. The Biosafety Act is quite too old for it to effectively respond to the current demands including maintenance and conservation of biodiversity. Both the Act and the Policy need to be reviewed to take into account the current situation including the need for introducing biosafety fees. Once the fees are introduced, they will be used to recover the expenditures of the EAD in processing the applications for importation of biological materials.

6.5.4 Bioprospecting Fee

Bioprospecting is the systematic search for biochemical and genetic material in nature in order to develop commercially-valuable products for pharmaceutical, agricultural, cosmetic and other applications. The rationale is to extract the maximum commercial value from genetic resources and indigenous knowledge, while creating a fair compensation system that can benefit all.

Malawi has a number of genetic resources from which it could be generating bioprospecting fees and revenues but most of these resources have not been characterised to determine their commercial value and formalise their use. An example of such genetic resources is Chembe seed locally known as *Ulembe* poison. It is used for hunting by placing it in front of an arrow and when the animal is hit by the arrow with Chembe, the poison causes cardiac arrest in the animal and the animal dies fast. A community in Mangochi using local knowledge uses Chembe as a traditional medicine for treating

heart disease by resuscitating the heart. Tree Crop Organisation is the bio sector who initially bought the plant from the community and sold to a Pharmaceutical company in Europe which proved that the plant cures heart disease. The Pharmaceutical Company applied to Government of Malawi for an export permit which was granted for free and now it buys directly from the community and exports. Other plants which are being used for bioprospecting for free are Neem, Gondolosi, Thabalamba (combo) roots, Tateroloza, Mulinga, Termites, Malambe, and Fish which are 90 percent endemic to Malawi. According to National Herbarium, Tateroloza is already being exported to Germany for manufacturing of medicine using the knowledge of local Malawians.

Processes for introducing bioprospecting fees commenced. The access to benefits sharing regulations have been drafted. A necessary condition in the process involves consultations with the community, exporters and national experts, but this has yet to be done. The revenues to be generated once bioprospecting fees gets into force, will be shared between National Research Council who will get the application fees, the institution promoting the product will get the access fee; while the bio sector institution enters the community for free but that is where EAD will come in to get the fee. The aim of the fees is to generate revenues for biodiversity conservation. Both public and private sector are involved and it is a fiscal incentive. Prior to commencement of the use of bioprospecting, Malawi needs to characterise these plants.

Characterisation of plants is also important for the agriculture sector. One major limitation the agriculture sector has for the utilization of conserved materials is inadequate information describing accessions. So far only 5 crop species (finger millet, cowpeas, sorghum, and sweet potatoes) have been characterised representing 10.4 percent of the available crop species in the country⁴⁸.

6.5.5 Crowd funding

Crowd funding is the practice of securing funding from a dispersed group of people. It takes places via online platforms that connect the investor or the donor with the project owner without the intermediation of a financial organization. Different platforms coexist: reward-based where individuals support campaigns and receive some kind of reward in return; donation-based where there is no expectation to receive a tangible benefit; equity-based where individuals invest and receive equity-like shares in return; and lending-based where individuals lend money and expect the repayment of a principal with or without interest. The practice is common among international NGOs. The majority of local NGOs require capacity building activities because of limited knowledge on how to make use of it and lack of exposure.

6.5.6 Enterprise challenge and innovation funds

The fund is a funding instrument that distributes grants (or concessional finance) to profit-seeking projects on a competitive basis. It is normally used to subsidize private investment where there is an expectation of commercial viability and also delivers social and/or environmental outcomes. The Malawi Innovation Challenge Fund (MICF) is a \$22m competitive, transparent funding mechanism that provides grant finance for innovative, inclusive business projects within the manufacturing, agricultural, irrigation and financial sectors. The fund is supported by the United Nations Development Programme, UK Aid, IFAD through the PRIDE Programme, Federal Republic of Germany through Kwf, and the Royal Norwegian Embassy. Kwf in collaboration with UNDP have been running some challenge funding instruments. The Enterprise Challenge and Innovation Fund since it is supporting environmental outcomes, the fund could easily be available to support biodiversity conservation as long as the qualifying stakeholders could get exposed to requirements to be met for them to access the fund.

⁴⁸ Malawi country report on the state of plant genetic resources for food and agriculture(n.d)

6.5.7 Green Climate Fund

The Green Climate Fund (GCF) is the world's largest dedicated fund aimed at helping developing countries like Malawi to reduce their greenhouse gas emissions and enhance their ability to respond and cope with climate change. The fund was set up by the United Nations Framework Convention on Climate Change (UNFCCC) in 2010. It supports investments in adaptation and mitigation activities in developing countries.

The 25th Conference of Parties held in Madrid in 2019 took a decision that recognizes linkage between climate change and biodiversity. Malawi can access funding from GCF by making a strong case that the country is losing a lot of bio life (flora & fauna) due to impacts of climate change, through submitting a concept note or funding proposal to the Green Climate Fund.

6.5.8 Activation of Biodiversity Related Statutory Created Funds

There are several biodiversity related statutory created funds which were created as far back as 1997 which are still not active which could provide financing for biodiversity conservation once activated. Such funds include the Fisheries Fund, and Water Resources Trust Fund. In addition there is the Malawi Environmental Protection Authority (MEPA) which if instituted could be a tool for mobilising resources for biodiversity conservation.

2.5.2 Supportive and Harmful Subsidies

Malawi has both biodiversity supportive and non-supportive subsidies in the name of the Malawi Youth Forest Restoration Program as a supportive subsidy and agriculture inputs programs as non-supportive subsidy.

The Malawi Youth Forest Restoration Program.

The Government of Malawi introduced the Malawi Youth Forest Restoration Program in 2018 after it had realized that nearly 96 percent of the population depends on wood or charcoal for cooking, and land was continuously being cleared to grow crops with 80% of the population rely on agriculture for their livelihoods. These two factors contribute to declining biodiversity. The Government decided to combat this negative trend by investing in long-term mechanisms for natural resource management through implementation of the Malawi Youth Forest Restoration Program. Under the program, the subsidy comes in the form of the youths receiving free tree seedlings of fruit trees and bamboos and learn how to manage their local forests and in return the youth receive a daily wage for planting trees. The country has pledged to restore 4.5 million hectares (11 million acres), more than one-third of the country's land area. More details about the program are provided under section 6.2.4 for Government Development Budget Funding.

Agriculture Inputs Programs

Agriculture Inputs Programs aim at achieving food self-sufficiency and increasing income among poor households by raising agricultural production and yields through provision of subsidized fertilizer and hybrid maize seeds. Its main weakness is the promotion of use of fertilizer and hybrid maize at the expense of sustainable agriculture practices, thereby contributing to loss of biodiversity.

The inputs program was previously called Farm Inputs Subsidy Program (FISP) but since 2020/21 it is called Affordable Inputs Program (AIP). The inputs programs have been flagship programs for Malawi Government for some time since 2005. The programs aim at achieving food self-sufficiency and increasing income among poor households by raising agricultural production and yields. The program provides subsidized fertiliser and higher-yielding modern maize seed varieties, which are often expensive to smallholder farmers. The program affects biodiversity negatively in two ways (i) loss of species biodiversity because it increases the productivity of maize which in turn increases competition for sunlight compared to the unfertilised plants; and (ii) through the budget with a very large proportion of the agriculture budget going towards fertiliser and hybrid maize seed thereby crowding out spending on important sustainable measures with only 19% of total spending left to agriculture traditional mandates of increasing agricultural

production, resilience to climate change of which 5% goes to extension support and Sustainable Land Management (SLM) ⁴⁹which is good for maintaining and increasing biodiversity. More details on FISP are provided in section 6.2.2 for Public Budget Funding Mechanisms.

6.6 Barriers to Increasing Biodiversity Financing

Consultations with stakeholders revealed that there is generally inadequate biodiversity financing to meet the financing needs for biodiversity despite Malawi having in place over 10 existing financing Mechanisms (**Table 5**). The section which follows describes the barriers for increased biodiversity financing against each financing Mechanism.

Biodiversity is not among the key priority areas in MGDS III. MGDS III is a policy document which guides government budgeting and investment decisions when allocating budget ceilings to the sectors. Biodiversity is seen as a cross sectoral issue hence its budget is spread across the sectors. It is up to the sectors to decide how much resources to allocate to biodiversity causes. Since biodiversity is not a priority area, even within sector line ministries it is not a stand-alone program. The situation is the same even in the Ministry of Forestry and Natural Resources where biodiversity issues are coordinated, the budget for 2019/2020 had 4 programs funded as Energy and Supply with MK 170 million, Mining and Geological Services K603 million, Environment and Climate Change which has Forestry, Meteorological Services and Environment was allocated K857 million, and Wildlife K276 million. The fact that biodiversity is not a priority area and a standalone program contributes to inadequate resource allocation through the government budget.

Undervaluing of biodiversity economic contribution to the economy. Yarn et.al, 2011, demonstrated the undervaluing of biodiversity by national accounts not reporting the value of firewood, charcoal, soils, and wild life. World Bank in 2019, also reported the cost of unsustainable use of natural resources and these areas also not included in the national accounts used for calculation of GDP hence when it comes to allocation of government budget using the criteria of past performance, biodiversity will always receive inadequate funding because its contribution to the national economy will always be low. The problem of undervaluing the contribution of natural resources to the national economy could be addressed if Malawi can adopt Natural Capital Accounting System. In addition, the use of other parameters such as value ecosystem services and biodiversity, value of food, value of employment, number of people dependent on natural resources and opportunity costs of natural resources in its decision making on resource allocation might have greater impact than the Natural Capital Accounting System.

Lack of awareness on the importance of biodiversity in economic development. Majority of the decision makers lack knowledge about the role of biodiversity in economic development and achievement of sustainable development goals. The challenge will require special attention during the Business Financing Plan development by ensuring that the decision makings are brought on board through sharing with them policy briefs on the PIR.

Lack of capacity to prepare successful project proposals for funding. The problem exists for both the public and private sector institutions. Most of the public institutions and NGOs lack skills in preparation of successful project proposals for successful funding of biodiversity programs. A few exceptions exist with African Parks and Lilongwe Wildlife Trust who are able to annually attract over two million US\$ from various partners and donors. The strategy to address the problem is to have a capacity building program for both public and non-state actors

Lack of capacity by Public Institutions to manage statutory created funds by Act of Parliament. According to the Ministry of Finance, the various statutory funds which have been created by Government are supposed to be managed by the responsible line ministries and this includes revision of fees. The line ministries often are not able to initiate fee revision, they usually wait for Treasury to remind them. This has

led to most funds using old fee rates. In addition, some funds like the Fisheries Fund, it is not yet operational despite being created in 1997, hence it is not capitalized yet. Another source for capitalization of the funds is the funding to be appropriated by Parliament. The procedure for Treasury to disburse funding is through the line ministry preparing a justification for the resources including elaborating how the resources will be used. This comes back to the problem of lack of capacity in public institutions to prepare bankable project proposals. African Parks and Lilongwe Wildlife Trust are able to attract donor funding through writing successful project proposals, but they also have the capacity to successfully go through Due Diligence Requirements by most donors which not the case with most or the local non-governmental organizations (NGOs).

Lack of Capacity by most local Private Sector and Non-Governmental Organizations to Pass Due Diligence Requirements. Most competitive grants require institutions to undergo due diligence process before they can receive a grant directly. The majority of the local private sector companies and NGOs do not pass the due diligence process as such fail to qualify for grants directly. The only option under such circumstances is to partner with international NGOs but the arrangement provides them limited resources.

The Environmental Management Policy of 2004 is too old. The policy does not respond to the current biodiversity financing challenges including provision of clear guidelines and mandates of the line ministries in the management of the statutory established funds.

7. Institutional Analysis

The analysis focussed on the main important sectors that drive biodiversity change and within those the main important institutions for biodiversity financing. The analysis starts by reviewing the existing biodiversity steering committee.

The existing biodiversity steering committee is composed of the following institutions: National Local Government Finance Committee, National Botanical Gardens, and Ministry of Finance Secretary to the treasury, Department. of Fisheries, Department of Water, Department of National Parks, Department of Forestry, commercial banks (Standard Bank), National Planning Commission, Mount Mulanje Conservation Trust, Malawi Environment Endowment Trust, Lilongwe University of Agriculture, African Parks, Department of Economic Planning,

For each main organisation, the description includes its mandate and association with biodiversity. The institutions, using the power / interest interface, were also subjected to further analysis to assess their effectiveness and efficiency in relation to biodiversity financing. The result of the assessment is presented in a matrix which clearly guides the engagement process of BIOFIN stakeholders.

7.1 Biodiversity Stakeholders

Ministry of Economic Planning Development and Public Sector Reform

The Ministry responsible for Economic Planning is Government's main planning ministry. It is responsible for national economic and development planning, and monitoring and evaluation of socio-economic issues in the country. It also coordinates the implementation and review of the national policy development agenda.

Its vision is to be an efficient and effective provider of professional advice and technical support to the nation on socio-economic and development issues; while its mission is to provide professional services and technical support to government and other stakeholders on economic and social policy development and management to achieve high sustainable growth and development.

The Ministry of Finance

Its mandate is to formulate economic and fiscal policies that seek to manage government financial and material resources and provide strategic guidance on economic and development planning based on

accurate and reliable statistics for attainment of socio-economic development. The ministry is instrumental on facilitating implementation and operationalization of most of the financing Mechanisms related to fiscal and regulatory mechanisms. For example, for various funds created by the Acts of Parliament and sectoral funding for sectors involved with biodiversity, their budgets and establishment of the funds but also revision of fees charged on tourism and parks all are required to go through Ministry of Finance for the ministry to present to Parliament for approval. The ministry is therefore a key stakeholder for biodiversity financing Mechanisms policy.

The National Statistical Office

The National Statistical Office is the main government department responsible for the collection and dissemination of official statistics. It has the following sections and divisions: the administration section, Economics Division, computer section, Demography Division and the Agriculture Division. NSO links with biodiversity through the Economics Division which is responsible for production of statistics on foreign trade, national accounts, balance of payments, business activity, employment, consumer prices (including inflation), industrial production, poverty and tourism. In relation to biodiversity, there is a general concern that the national accounts using GDP underestimates the contribution of natural resources to GDP, which in turn leads to inadequate funding allocation to biodiversity.

Ministry of Forestry and Natural Resources

The Ministry of Forestry and Natural Resources is mandated to provide policy guidance and direction on all matters concerning Malawi's natural resources and environmental management. Its mission is to coordinate, facilitate and promote participation of all stakeholders in the sustainable development, utilization and management of natural resources, energy and environment for socio-economic growth and development. The ministry has three departments which are very important in the area of biodiversity and these are:

- **Environmental Affairs Department**

The Department's overall mandate is to coordinate all environmental issues including biodiversity by being responsible for integration of environmental issues into planning and management. Its main weakness is that it is very weak in intra-ministerial coordination to address multispectral biodiversity financing challenges which hampers integrated management of natural resources. There is also inadequate collaboration between the department and NGOs.

- **Department of Forestry**

It is mandated to conserve the national forestry resources to up-lift the quality of life for the benefit of the nation through empowerment of communities in community based forest management programmes that focus on the augmentation, management and protection of forests on customary land. It is also the manager for Forestry Management Fund.

- **Forestry Research Institute of Malawi**

It is a unit under the Forestry Department. Its mandate is to conduct operational forestry research to generate usable technologies and provide information for sustainable management, conservation and utilization of forests/trees and allied natural resources in order to contribute to improving the welfare of the people of Malawi. It has been instrumental in doing research on the Mulanje Cedar.

- **Department of Fisheries**

The vision of Fisheries Department is to be a dynamic, high performance, consultative and client focused Department that promotes, builds and ensures sustainable development, utilisation and management of the fisheries resources in Malawi. Its mission is to provide framework conditions and excellent services for the maximization of socio-economic benefits through sustainable utilization and management of capture fisheries and increased aquaculture production. Its goal is to provide professional services to ensure sustainable fisheries resource utilization and enhanced aquaculture through principles of good governance.

The department links with biodiversity through its vision of ensuring sustainable development, utilisation and management of the fisheries resources in Malawi, its goal of ensuring sustainable fisheries resource utilization and also its work in identifying key biodiversity areas and champions along Lake Malawi.

Ministry Responsible for Tourism, Culture and Wildlife

- **Department of National Parks and Wildlife**

It is mandated to protect and conserve wildlife in such protected areas as National Parks and Wildlife Reserves in collaboration with other stakeholders especially boarder zone communities and the private sector through private public partnerships (PPP). It is already working with African Parks under a PPP concession. It also works with Lilongwe Wildlife Society and WESM. Its main weakness is that it has not activated the account for National Parks and Wildlife. It also lacks capacity to develop fundable proposals as all the projects it is involved with, it is there as a partner or stakeholder and not the initiator/owner of the project. It therefore relies heavily on Government budget.

Ministry of Agriculture and Food Security

The Ministry's mission is to promote and facilitate agricultural productivity so as to ensure food security, increased incomes and creation of employment opportunities through sustainable management and utilization of natural resources, adaptive research and effective extension delivery system, promotion of value-addition and agribusiness. The ministry links with biodiversity through loss of indigenous crop varieties, deforestation and poor agriculture practices and sustainable agriculture activities (for details refer section 4.1).

- **Malawi Plant Genetic Resources Centre**

The Malawi Plant Genetic Resources Centre (MPGRC) is based at Chitedze Agricultural Research Station, making it the country's depository centre of plant germplasm. Through the twelve years of its establishment, it has accumulated 2510 samples from 50 plant species. It is associated with biodiversity through its role in conserving indigenous traditional varieties and bring back to the farming communities the lost species.

- **Department of Land Resources and Conservation**

The mandate of the Department is to provide policy guidance, land resource information and training in order to achieve sustainable land resources management and prevention of land degradation that will increase and sustain its productivity for agricultural growth and development. Its vision is '*a nation with reduced land degradation*', while its mission statement is to "*to provide efficient and diversified services on environmental conservation to the land users for sustainable use of land-based resources and for socio-economic development.*" The department links with biodiversity through its effort to reduce the problem of land degradation through Soil and Water Conservation and Soil Fertility Improvement activities soil and water conservation by encouraging farmers adopt good agriculture cultural practices such as rain water harvesting, climate-smart agriculture, agroforestry and soil fertility enhancement. It also does land resources surveys and evaluation; and environmental education. It is also the department which the MoAFS has mandated to coordinate on behalf of the ministry issues of climate change and environment, and natural resource management at all levels including the climate change negotiations.

Ministry Responsible for Energy

Its mandate is to ensure sustainable development and utilisation of energy resources for socio-economic growth and development of Malawi. Its mission is to satisfy public need for quality modern energy services by effectively governing and facilitating the development of a robust, sustainable and efficient private sector-driven energy industry. The ministry links with biodiversity through the Malawi Rural Electrification Programme (MAREP) which aims at increasing access to electricity for people in peri-urban and rural areas. Through MAREP, the ministry will contribute to reducing deforestation through the migration of households using firewood and charcoal from trees to electricity as a source of sustainable energy, thereby reducing the problem of deforestation.

Ministry Responsible for Irrigation and Water

The mandate of the Ministry is to ascertain a sustainable provision of water supply and sanitation services and implementation of irrigation development programmes in order to contribute to socio-economic growth of Malawi. Its vision is "Water and Sanitation for All, always" endeavours to ensure that every Malawian has equitable access to safe water and sanitation services for sustainable economic development and enhancement of the natural ecosystems. Its mission is to manage and develop water resources for sustainable, effective and efficient provision of potable water, sanitation and irrigation systems in support of Malawi's economic growth and development agenda. The ministry is associated with biodiversity through the water services through the Department of Water.

- **Water Resources Department**

The Department mandate is to develop and manage water resources in the country for use by all sectors. The Department is responsible for monitoring, assessment, conservation, management and development of surface water resources; exploitation and management of ground water resources; monitoring, assessment and management of water quality and pollution control; administration of Water Resources Act; and implementing regional and international agreements and obligations on trans boundary water courses. The Department is associated with biodiversity through sustainable management of water resources.

- **Irrigation Department**

The purpose of this department is to promote socio-economic development through irrigated agriculture that is sustainable over time, economically justified, financially viable, socially acceptable and technically sound without causing unacceptable impacts on the environment. The Department develops effective, efficient and appropriate irrigation technologies; promotes and engages smallholder farmers in small scale irrigation; and develops appropriate training programmes to enhance capacity building in irrigation.

Ministry Responsible for Local Government and Rural Development

The Vision of the Ministry responsible for Local Government and Rural Development is to promote 'high quality, efficient and effective local government system' and participatory democracy thereby attaining socio-economic development and social stability of the Councils. The ministry links with biodiversity through the Local Government Finance Committee which is responsible for disbursement of funds to local councils using the intergovernmental Fiscal Transfer formula.

Centre for Environmental Policy and Advocacy (CEPA)

It is a non-governmental organization in Malawi whose objective is to contribute to the development of environment and natural resources management best practices in Malawi and the Southern Africa Region. CEPAs main weakness is limited human and financial constraints. It relies on grants. Some development partners such as Norway from 2002 to-date through National Policy Advocacy projects; USAID through Fisheries Integration into Habitant Societies Project from 2015 to 2019, and USAID funded Protecting Ecosystems and Restoring Forest in Malawi from 2015 to 2019 have been providing grants supporting CEPA policy work, the Benefit Sharing Fund (BSF) project implemented in Malawi, Zimbabwe and Zambia with funding from the International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA) through the United Nation's Food and Agriculture Organisation (FAO) has also funded CEPA. The Plant Genetic Resources is an agency which conserves the plant species in a gene bank in Malawi. Gene banks are important for biodiversity conservation because they maintain genetic resources which are important for research but also provide stocks which are released into the community when the seeds are no longer available in the communities. CEPA implements the project in Rumphi, Mzimba and Chikwawa Districts in collaboration with the Biodiversity Conservation Initiative (BCI) and Malawi Plant Genetic Resources Centre (MPGRC). The project was implemented from 2016 to 2019. The aim of the project is to contribute to improved food and nutrition security in selected low rainfall areas of Malawi, Zambia and Zimbabwe, the areas most seriously affected by conditions of climate change. The Malawi-Mozambique Climate Smart Agriculture programme is funded by the Development Fund of Norway and is implemented

by CEPA, Leadership for Environment and Development Southern & Eastern Africa, Trustees of Agricultural Promotion Programme, Network for Youth Development, BCI, Find Your Feet and Malawi Union of Savings and Credit Cooperatives in Rumphi, Mzimba, Kasungu, Ntchisi, Dowa and Machinga Districts. The goal of the project is to reduce household poverty. CEPA contributes towards outcome 6 of the programme which is: National agriculture related policies that provide for CSA and agro biodiversity conservation are promoted. The project implementation period is from 2017 to 2020. It contributes to biodiversity through its advocacy work for environment and natural resources. It has been lobbying for increased funding to EAD.

Total Landcare

Total Landcare (TLC) is a non-government organization operating in Malawi, Mozambique, Zambia and Tanzania. TLC's mandate is to improve the livelihoods of smallholder farmers in the region with a focus on community based approaches to increase agricultural production, food security and incomes with sound management of their natural resources. The NGO is connected with biodiversity through the normal sustainable agriculture interventions it is implementing and a project under the UN-REDD+ program. The NGO lacks capacity to successfully go through the Due Diligence Requirements of donors hence is not able to attract adequate resources for undertaking biodiversity conservation.

National Herbarium and Botanic Gardens of Malawi

The National Herbarium and Botanic Gardens of Malawi (NHBG) is a government botanical parastatal institution which started in 1987. It is the principal authority on botanical and related matters in Malawi. It is keeping over 90,000 plant species collected from all over Malawi for purposes of research, conservation, education and policy development. It also serves as the national databank for plant identification, taxonomic research, and reference and loan exchange, donations of herbarium specimens at both national and international levels. NHBG also includes three associated botanic gardens in Lilongwe, Mzuzu and Zomba, which are involved in *in situ* and *ex situ* conservation of rare and endangered plant species. It is associated with biodiversity through its mission which states "To develop and manage herbaria and botanic gardens through conservation, research and environmental education of plant diversity and other related issues for national heritage and socioeconomic development. All its programmes are biodiversity related and as such its annual budget can be described investments in biodiversity. Main source of funding comes from Government with supplementary budgets from projects as and when available. It carries out plant surveys, ethno botanical research, and taxonomic research. Its main weakness is that it has inadequate basic infrastructure as a botanic research institution but also as a tourist place loses tourist revenues.

African Parks Network

The African Parks Network (APN), an international non-profit conservation organisation that takes on the complete responsibility for the rehabilitation and long-term management of national parks in partnership with governments and local communities, in Malawi through the Department of Parks and Wildlife has, a 20-year concession arrangement, in which the Government outsourced the management of 4 wildlife/Parks since 2015. African Parks uses a business model to fund its activities through internally generated revenues and grants. The APN model capitalises the private-sector efficiencies in capturing visitor-related revenues which are reinvested back in the protected areas it is managing while delivering the role of the public sector in biodiversity financing for conservation of biodiversity in the parks and wildlife reserves. Internally generated revenues are composed of park charges per person as follows: Malawians US\$ 1, Residents US\$ 7, International visitors US\$ 10, vehicle entry charges US\$ 3, and hire of guide US\$ 10. It also generates revenues through restaurant and lodging services. The total revenues generated internally annually amount to 250,000 US\$ against a budget of US\$ 2,500,000. A very large proportion of its budget comes from family donors and development partners such as the Dutch Ministry responsible for Agriculture, Nature and Food Quality, WWF – Belgium and The Wyss Foundation. The organisation is responsible for biodiversity conservation, law enforcement for protection of the wildlife from poaching. It also does community development activities for the surrounding communities, park

management and infrastructure development and tourism⁵⁰. Attracting donor funding is the main strength for the institution. It has the capacity to successfully go through the Due Diligence Requirements of most donors which our local NGOs lack. The activities of African Parks aim at conserving wildlife through restoration activities.

Mulanje Mountain Conservation Trust (MMCT)

It is an agency dedicated to sustainable management and conservation of Mulanje Mountain Forest Reserve, a biosphere reserve which harbours the Mulanje Cedar; MMCT was established in 2000 as an NGO in Malawi by local conservationists, with assistance from DfID, the World Bank and the GEF. It became a Conservation Trust Fund in 2005. It is based in Mulanje and works closely with the Mulanje Mountain Forest Reserve (MMFR) management authority, the Malawi Department of Forestry, other agencies from Malawi government and two district councils. Its vision is to contribute to Mount Mulanje Global Biosphere Reserve that is responsibly managed and equitably benefiting all. Its activities focus on Biodiversity Conservation, Research & Monitoring; Forest Co-Management and Sustainable Livelihoods; Environmental Education & Communication. Its broad objective is ecological conservation and sustainable development of the Mulanje Mountain. It seeks to find win-win Mechanisms to realize both conservation improvements and livelihoods benefits, and the involvement of local village communities is key to long-term success. However, the lack of forestry management boards affects conservation of forestry.

Malawi Environment Endowment Trust

The Malawi Environmental Endowment Trust is a Malawian non-profit organization which main supports community initiatives in biodiversity conservation. Its vision is “to enable all people to address the environmental challenges in Malawi through afforestation, soil and water Conservation, environmental health and waste management, renewable energy, natural resource based enterprise, climate change, environmental education, and support to postgraduate education programs⁵¹

Lilongwe Wildlife Trust

The Trust’s mission is to save wildlife, campaign for conservation justice and inspire people to value and protect nature in Malawi. Its vision is a future in which Malawi’s wildlife & wild places can thrive. It is involved with Wildlife rescue and welfare, and conservation justice to protect animals and habitats; environmental education and advocacy, biodiversity research, and research and reports. It works with communities, politicians, students, volunteers and researchers. It is also involved with behavioural change and lobbying for policies that protect Malawi’s wildlife and wild places. LWT also has a role in improving and strengthening regulation and enforcement in the forestry sector, specifically for sustainable wood fuel production and use. It is also a Secretariat for the Malawi Parliamentary Conservation Caucus where it played a role in facilitating registration of the new Forestry law in February 2020.

The organisation works through various ways including partnering with other NGOs to rescue wild animals from traps and snares, supporting government departments to create stronger environmental policies or working with communities to teach children the value and power of nature. The main sources of funding for its operations include: donors such as Bornfree Foundation and Pan African Sanctuary; gate collections to see animals and well-wisher. In 2017/18 financial year, it raised and spent US\$ 2,092,897 for Malawi based conservation initiatives which was spread as follows: Rescue and welfare 18%, administration/core costs 11%, research 2%, education 7%, Justice and Advocacy 62%.

The Wildlife and Environmental Society of Malawi

The organization has been dedicated to protecting Malawi’s remarkable biodiversity and ecosystems for over 70 years. It has nine Branches, throughout Malawi, and a national Secretariat. It does Environmental

⁵⁰African Parks, (2018). Unlocking the Value of Protected Areas, Annual Report.

⁵¹ <http://www.greenafricadirectory.org/listing/malawi-environmental-endowment-trust-meet/>

education, and Wildlife conservation activities. It also works with other partners such as Microloan Foundation which provides loans to women, who cannot access loans from commercial banks, for income generating activities such as pig farming, maize mill, chicken layering, mushroom production and honey, instead of just relying on natural resources. It lends both individual and group loan to a maximum of K20, 000 for individual loans and K1, 000,000 for group loans on a progressive basis depending on performance.

Ripple Africa

It is a charity running large scale Environment projects and small scale Education and Healthcare initiatives in Malawi by providing a hand up, not a hand out⁵². It is based in Nkhatabay.

Lilongwe Water Board

The mandate of Lilongwe Water board is to supply portable water to the city of Lilongwe. Its operations are guided by Water Policy 2013, Catchment Control Order 1992, Environmental Management Act (EMA) and Water Works Act 1995. The source of water is Lilongwe River. The water board treats the water to meet national and international quality standards based on World Health Organisation (WHO) up to the point of consumption. The water board has the responsibility to conserve the environment along the river source up to the abstraction point and extended the conservation to surrounding communities through the community based organisation (CBO) called Malingunde Environment Community Development Organisation in order to prevent the community from vandalising the protected catchment area. The water board supports the CBO with seeds and tools (hoes, wheelbarrow, and tubes) for raising seedlings and plant them in family and village woodlots. The communities receive technical expertise from Forestry Department and Lilongwe University of Agriculture and Natural Resources – Bunda Campus. The communities also receive training on fruit grafting as an income generating activity. The Water board also does joint tree planting exercise with Office of the President and Cabinet, COSOMA, Department of Forestry and other stakeholders; supported Department of Forestry with MK 7.5 million annually for two years to allow Malawi Defence Force to camp at Dzalanyama Forest but found that it was not sustainable. It is also working with Wildlife Environmental Society of Malawi (WESM) through Dzalanyama Conservation and Management Project funded by Japanese International Cooperation (JICA) and Lilongwe Water board to conserve the catchment area and prevent silting. The Water board provided MK 4 million on a quarterly basis but disbursed monthly. JICA monitors the project and submits a report to the Water board. The Water board also provides resource to other organisations such as Bishop Mankenzie for catchment management.

The Lilongwe Water Board also works with Zam Investments in restocking Dzalanyama Forest Reserve because the reserve is the main source of clean and safe drinking water for the majority of Lilongwe residents. Zam Investments plants and manages 10 hectares of the 98 hectares of Dzalanyama Forest Reserve through Zam Investments contribution of K50 of every bottle sold to Lilongwe Water Board as part of their cooperate social responsibility principle.

Lilongwe University of Agriculture and Natural Resources (LUANAR)

LUANAR is mandated to train undergraduate and graduate students focusing on agriculture to make a contribution to food security and sustainable management. The Environmental Science and Natural Resource Management where biodiversity issues are handled, is mandated to train undergraduates and graduate students in environmental science and natural resources, environmental program covering (i) Land and Water, (2) Wildlife Management and Ecotourism.

National Bank of Malawi

It is the largest commercial bank in Malawi in terms of asset base, as well as being the most efficient and profitable. It is associated with biodiversity through funding tree planting by procuring tree seedlings and giving them to communities to plant. It however can engage in formal biodiversity initiatives through

⁵² <https://www.rippleafrica.org/>

different options such as proving commercial loans through guarantee facility or through the bank's own lending portfolio as long as the initiative has a sound business plan which is demonstrating profitability.

7.2 Stakeholders Engagement Plan and BIOFIN Steering Committee

Each of the above key institutions were assessed and scored for their interest and influence in biodiversity finance. These are also the institutions which are associated with the main drivers of biodiversity change and are also the main decision makers. The widely published power/interest matrix has been used to determine methods for engaging biodiversity financing related stakeholders.

The stakeholders' analysis identified key stakeholders with four groups based on varying roles (advocacy, engagement, awareness and empowerment). The groupings have been used to classify and prioritise the stakeholders in relation to the power that they hold and the extent to which they are likely to show interest in biodiversity financing. It shows who has high or low power to affect the BIOFIN project, and who has high or low interest. The Matrix also helps in determining what type of relationship the BIOFIN project should have with each of the groups of stakeholders as it engages with them. Stakeholders with high power need to be kept satisfied while stakeholders with high interest need to be kept informed. When a stakeholder has both power and interest the BIOFIN project should make sure it manages their expectations very closely.

The 4 groups of power and interest include:

Close Engagement (1) – *high power and high interest* – these institutions will be the most important stakeholders. Keeping them satisfied with the progress of the project should be a top priority.

Advocacy (2) – *high power and low interest* – This group of institutions should be kept satisfied because of their power within the company. However, if they haven't shown a high interest, over-communicating with them could put them off the project.

Empowerment (3) – *low power and high interest* – with this group of stakeholders, they need to be regularly kept up to date and be sure they are not hitting any issues with the project.

Awareness Raising (4) – *low power and low interest* – with this group, they need to be given periodic updates on the project but not too much information overload.

The Power/Interest Matrix (**Figure 6**) results provides a guidance on how the BIOFIN project would engage with the stakeholders. Based on this analysis, it is being proposed that the BIOFIN Steering Committee should be composed of stakeholders which fall within the close engagement category (I). Other stakeholders could be co-opted in based on their relevance to the issue.

The Department of Environmental Affairs, Biodiversity Division would serve as the Secretariat for the BIOFIN Steering Committee.

Figure 6: Power/interest Matric for Determining Methods of Stakeholder Engagement



8. Summary of key recommendations

8.1 Key findings

8.1.1 Important Biodiversity Related Policies

Generally, a favourable biodiversity financing policy framework exists in Malawi despite the fact that the country does not have a single biodiversity policy. Among the important biodiversity financing policies include the National Environmental Policy 2004 and the Environment Management Act (EMA), 2017; National Decentralization Policy (1998) and Decentralization Act, National Forestry Policy 1996 and National Forestry Act 1997; Fisheries and Aquaculture Policy 2001 and Fisheries Conservation and Management Act 1997; Wildlife Policy 2000 and National Parks and Wildlife Amendment Act 2004; and the Energy Policy 2002 and the Energy Act.

The National Biodiversity Strategy and Action Plan is the overarching framework governing biodiversity issues in the country. At the national level, the NBSAP issues are covered in the Malawi Growth and Development Strategy (MGDS III), which is the overarching national policy framework for Malawi though biodiversity is not among the five priority areas of the MGDS III. At the global level, the NBSAP is aligned to the UN Convention on Biological Diversity (CBD) 20 Aichi Biodiversity Targets and the Strategic Plan for Biodiversity.

Of the 20 ABTs, ABT 3 and ABT 20 are very relevant to the BIOFIN study. ABT 3 is about elimination of harmful policy incentives and introduction of positive incentives while ABT 20 is about mobilisation of

adequate financial resources for biodiversity conservation. The status to date is not positive, the country is still advancing policies with short term benefits at the expense of achieving long term and sustainable benefits; while biodiversity financing continues to be inadequate and the country is facing rapid biodiversity declining trend.

8.1.2 Drives of Declining Biodiversity

Increased biodiversity financing is necessary for addressing the problem of declining biodiversity emanating from increased population pressure which affects fisheries, agriculture, hydro power energy and wildlife. The fisheries sector is affected through the problem of overharvesting of fish as a result of increased fish demand for meeting the ever growing population. Chambo fish is the most affected type of fish as a result has been classified as an endangered species by IUCN. The forestry sector is negatively affected by cutting down of trees due to increasing demand for biomass energy in the form of firewood and charcoal for domestic use as a result of growing population which is also responsible for increased human-wild life conflict especially along the buffer zone areas. The forestry sector is also affected by expansion of agriculture into marginal land due to increased pressure for land for farming as a result of increased population. In the same forest reserves and national parks, loss of biodiversity is also being experienced especially for large animals such as elephants which has resulted in the decline of the population of the animals due to poaching. Agriculture is another sector which has not been spared from biodiversity loss especially the loss of local indigenous seeds due to a number of reasons among them the promotion of hybrid seeds at the expense of local seeds, and the lack of policy guidance on local seeds, since the 2018 National Seed Policy does not recognise local indigenous seed. Lucky enough the Gene Bank at Chitedze has been collecting various species of local seeds and is undertaking replacement of the lost local seed species back into the community through running community seed banks. Agriculture is also affected negatively by loss of forest cover which cause soil erosion resulting in reduced soil fertility and loss of insects such as bees which are responsible for pollinating crops thereby causing low crop yields. The energy sector especially hydro power electricity is also negatively affected by increased use of firewood and charcoal as a source of energy which is an unsustainable source of energy and is responsible for causing silting of the rivers and lakes as a result of erosion and soil degradation due to reduced forest cover. Pollution and Alien invasive species are another cause of declining biodiversity especially among the fish because they are responsible for reducing the quality of water which in turn affect the population of fish in the lake.

8.1.3 Biodiversity Financing Mechanisms and Barriers to Increasing Financing

The review identified several barriers for increasing biodiversity financing by financing mechanism as follows:

Government National Budget (Government Funding, and Development Partners i.e. Foreign Resources).

The main limitation with Government budget is that there is limited funding for biodiversity conservation activities due to a number of reasons. The first one is that at the national level, biodiversity is not among the five key priority areas in the MGDS III which creates a problem for biodiversity to receive adequate financing from Government Budget. This is compounded by the problem of undervaluing of the economic contribution of natural resources to the economy hence when it comes to funding allocation, economic sectors which contribute more to the Gross Domestic Product they end of getting a larger share. Lack of use of Natural Capital Accounting Systems when calculating the national accounts framework (GDP) lead to underestimation of the contribution of natural resources to the economy, and in turn leads to underperformance of the concerned sectors hence less budgetary resources allocation to such sectors, making a vicious circle. In addition, biodiversity is not one of the criteria in the IGFTF for disbursement of funds to local councils. The situation is negatively affecting funding for biodiversity conservation. Other factors which contribute to limited Government funding for biodiversity conservation include: lack of awareness on the importance of biodiversity in economic development by decision

makers in Government, and lack of capacity to prepare successful project proposals for funding by the responsible sectors.

Statutory Created Funds (operational)

These are funds (such as Environmental Management Fund, Parks and Wildlife Fund, Fisheries Research Fund, Forestry Fund) which were created by Acts of Parliament, for specific purposes but are not performing as expected due to various reasons among them are lack of capacity to manage the funds effectively and efficiently making them to be not well capitalized since their creation. There are also challenges of delays in releasing of funds deposited in Government Account No. 1 to the respective fund holders by Treasury, lack of capacity by fund managers to prepare successful project proposals for attracting funding due to lack of skills for proposal writing by fund managers which all contribute to limit funding for biodiversity. At the policy level, the Environmental Management Policy of 2004 is too old for it to be able to deal with the current challenges.

Activation of Biodiversity Related Funds Created by Acts of Parliament

Consultations with Fund Managers for Fisheries Research Fund, Water Resources Fund and Ministry of Finance revealed that most of the funds which are not activate since they were created because of lack of knowledge on the process for activation of the funds.

Partnership Funding - Local NGOs

The problem with partnership funding which comes from official donors such as European Union require NGOs and the private sector to go through due diligence checks which the majority of the local NGOs fail to pass hence fail to qualify for grants or cheap loans. The local NGOs and SMSEs also lack capacity for preparing successful project proposals for funding.

Carbon Markets

Carbon markets income is income earned from selling carbon units earned from forestry or through sustainable agriculture. The limitation surrounding carbon markets is the lack of Verified Carbon Standard (VCS) regulatory framework. The framework is a quality standard for *verifying* that the emission reductions generated by projects are actually occurring so that the projects can be offered verified carbon units which can be sold on carbon markets.

Carbon Tax

Government of Malawi introduced carbon tax in 2020 in response to commitments it made under the United Nations Framework Convention on Climate Change for reducing greenhouse emissions. The challenge with carbon tax for Malawi is that the carbon tax revenues are currently not used for biodiversity conservation or climate change. Discussions aimed at transferring the revenues to Climate Change Fund have been initiated. Once approved, the funds will benefit biodiversity conservation

Biosafety Fee

Biosafety which is aimed at reducing and eliminating potential risks arising from the use of modern biotechnology or Living Modified Organism (LMO) and its products in order to safeguard human, plant and animal health, the environment and biological diversity for to import such products requires a certificate which currently is offered for free. Malawi is in the process of introducing a biosafety fee. The fee is seen as a biodiversity financing mechanism. The Government however, has a legal related limitation to introduce a fee. The available legal Frameworks in the form of the Biosafety Act of 2002 and the Biosafety Policy of 2007 are too old making it difficult to effectively respond to the current demands including maintenance and conservation of biodiversity and for introducing biosafety fees

Bioprospecting Fee

Bioprospecting which is also known as biodiversity prospecting is a systematic and organized search for useful products derived from bio resources including plants, microorganisms, animals, etc. which could be

developed into commercial products for agricultural, aquaculture, cosmetics, or pharmaceutical industries. Currently, bioprospecting is being done for free because of lack of characterization of most plants as such it renders introduction of bioprospecting fee ineffective because the country does not know the real value of the plants and animals without characterizing them.

Crowd Funding

Crowd funding which is the practice of raising funding for a project or venture by raising money from a large number of people who each contribute a relatively small amount usually through the internet is common among international NGOs. The majority of local NGOs require capacity building activities because of limited knowledge on how to make use of it and lack of exposure.

The Enterprise Challenge and Innovation Fund

The Enterprise Challenge and Innovation Fund is a fund which provides grants or concessional loans to commercially oriented projects which support a number of causes including environmental outcomes. The fund could easily be available to support biodiversity conservation as long as the qualifying stakeholders can get exposed to the requirements one needs to meet to access the fund.

Green Climate Fund

Green Climate Fund which is a fund which helps developing countries to reduce their greenhouse emissions and assist them to cope with climate change, Malawi can access the fund by submitting a concept note or funding proposal to the Green Climate Fund demonstrating that the country is losing a lot of bio life (flora & fauna) due to impacts of climate change.

Activation of Biodiversity Related Statutory Created Funds

Biodiversity related statutory created funds are among important financing mechanism as they generate revenues for biodiversity conservation but the challenge is that some of these funds are inactive. The inactive funds include: the Fisheries Fund, Water Resources Trust Fund and the Environmental Protection Authority (MEPA). The concerned institutions need to write the Office of the President and Cabinet justifying the need for activation of the fund but also demonstrating to the OPC their capability to generate own revenues.

8.1.4 Institutional Arrangements

Institutional analysis of biodiversity stakeholders' major finding is that the NGO sector is a valuable partner to Government on biodiversity financing. Both Government and NGOs including the private sector are able to finance biodiversity conservation activities and make significant contribution to the achievement of Sustainable Development Goals. The analysis identified the collaboration strategies for the BIOFIN project with the various stakeholders. The strategies were identified using the Power/Interest Matrix and they include advocacy, engagement, awareness and empowerment. The institutions belonging to the engagement group will be very important in driving the BIOFIN project and these include Ministry of Finance, Environmental Affairs Department, Department of Forestry, Department of Fisheries, Department of Wildlife and National Parks, Water Resources Department, African Parks, National Herbarium and Botanic Gardens of Malawi, National Local Government Finance Committee, National Bank of Malawi, and Lilongwe Water Board. Other stakeholders will be engaged through advocacy, awareness and empowerment strategies. The EAD will be the secretariat to the BIOFIN Steering Committee.

8.2 Key Recommendations for improving the biodiversity finance landscape in Malawi

Review of the DNPW revenue sharing formula

The National Parks and Wildlife Act of January 2018, and the National Wildlife Policy of August 2018, allows the National Parks and Wildlife Department to use the National Parks and Wildlife Fund for purposes for which the fund was established and if there are any surpluses, the DNPW responsible Minister is expected to consult the Minister of Finance on how the surplus funds could be used.

Through the National Parks and Wildlife Fund Order the DNPW gets 50% of the revenues generated while the Ministry of Finance gets 25% and the surrounding community 25%. With the Increasing challenges of poaching, and human and wild life conflicts in the national parks, there is need to review the revenue sharing formula to increase the share of revenue towards the core activities of conserving and protecting wild life and national parks. The Biodiversity Financing Needs will cost what it would take to review the revenue sharing agreement.

Adoption of Natural Capital Accounting in order to reduce the problem of National Accounts under estimating the contribution of natural resources including biodiversity to GDP. According to the National Statistics Act of 2013, the National Statistical Office (NSO) is mandated to prepare and review the national accounts using Gross Domestic Product (GDP). The calculations of GDP is based on current prices⁵³. Most of the natural resources (domestic charcoal and firewood) are not priced hence are left out in the GDP calculations thereby contribute to undervalued GDP because the system used for calculating GDP does not use natural capital accounting. The recommendation is for NSO to consider adopting natural capital accounting methodology for calculating the national accounts.

It is also recommended to mainstream economic valuation of biodiversity and ecosystem services into the budget planning process at all levels using the Economics of Ecosystems and Biodiversity framework in order to take into account the value of biodiversity in resource allocation.

Intensification of Awareness and Advocacy Campaigns on the Economic Importance of Biodiversity Most decision makers in Government are not aware of the economic importance of biodiversity. Biodiversity contributes to the achievement of 12 of the 17 Sustainable Development Goals. Unsustainable use of natural resources causes Malawi to loose annually 29 tons of soil per hectare, and the annual cost of land degradation to the country is 244 million US\$. With these costs and the contribution biodiversity makes towards the achievement of SDGs, it is imperative that more resources should be put towards biodiversity conservation but this can only be possible if decision makers are made aware of the economic costs associated with unsustainable use of natural resources. The review therefore recommends intensification of awareness Campaigns on the economic importance of biodiversity to decision makers. The awareness campaigns will need to go together with advocacy activities to decision makers. The Parliamentary Committee on Natural Resources could also play a role in advocacy and awareness activities especially to fellow members of Parliament. The institutions to be involved in the activity will require some training or on the job capacity building to ensure that they understand the subject.

Commissioning of a Study for Valuation of Contribution of Natural Resources to GDP

Considering that the study done by Yarn et.al (2011), which demonstrated that the national accounts were undervaluing the contribution of natural resources to GDP, is an old study, the review is recommending that a similar study should be done again.

Review of 2002 Biosafety Act and 2007 Biosafety Policy. The current policy framework (Biosafety Act of 2002 and the Biosafety Policy of 2007), were done in a hurry because the country wanted to receive GMO maize in response to the 2001/2002 hunger. Both the Act and the Policy need to be reviewed to take into account the current situation including the need for introducing biosafety fees.

Review of the Environmental Management Policy of 2004. The current policy is too old for addressing the current biodiversity financing needs.

Review of the Water Resources Policy 2005 and Water Resources Act 2013. Both documents are too old for addressing the current challenges facing the water resources sector, as such they need to be reviewed.

Operationalization of the MEPA. It is strongly being recommended to speed up the operationalization of MEPA through EAD demonstrating its revenue generation capacity and lobbying with Office of the President and Cabinet for political will.

⁵³ The Malawi National Accounting Handbook, Sources and Methods,

Characterisation of Important Plants for Introduction of Bioprospecting Fee

Bioprospecting is the systematic search for biochemical and genetic material in nature in order to develop commercially-valuable products for pharmaceutical, agricultural, cosmetic and other applications. Malawi has a number of genetic resources from which it could be generating bioprospecting fees revenues but most of these resources have not been characterised to determine their commercial value and formalise their use. An example of such genetic resources is Chembe seed. Chembe seed is used for hunting causing cardiac arrest in an animal and it is also used as a traditional medicine for treating heart disease by resuscitating the heart in Mangochi. The seed is already being exported for manufacturing of medicine using the knowledge of local Malawians but the importers are not charged any fee. Processes for introducing bioprospecting fees commenced. Prior to commencement of the fees, the country needs to characterise the plants.

Capacity building of line ministries in the Operation and Management of Statutory Funds

Most of the statutory established funds lack capitalisation mainly due to limited operationalization of the funds, but also some of the funds are using very old fee rate structure and are collected by central government at the expense of local councils. To address the challenge, it is recommended that the Environmental Affairs Department Biodiversity Division should coordinate a robust capacity building program for the various Government Departments whose statutory established funds are both operational and not operational in order to improve management capacity and disbursement modalities for the funds; and develop investment strategy and resources mobilisation strategy.

- ***Operationalization of Fisheries Research Fund.*** The fund was created through the Fisheries Act of 1997. The department of fisheries is however running a Dunduma account whose revenue is from sales of fish it captures as it conducts research on fish volumes. The Ndunduma account, according to Ministry of Finance is the Fisheries Research Fund, though from the Fisheries Department, the Fisheries Research Fund is not operational. The recommendation is for the Fisheries Department to initiate change of name from Ndunduma Account to Fisheries Research Fund. Secondly, according to Ministry of Finance, for a statutory fund to activate, it requires to have a Fund Order which stipulates the mandate of the fund and the manager of the fund. Therefore if the Department of Fisheries does not have the Fund Order then the Fisheries Fund (Ndunduma Account) is operating illegally as such it needs to write Ministry of Finance Treasury Revenue Policy Division.
- ***Water Resources Trust Fund*** which was established under Water Resources Act of 2013, is not operational. The Department of Water is collecting other types of funds such as water abstraction fees, and license fees among others. It is therefore much easier for the Water Department to operationalize the fund with very limited support. The Department of Water through the Ministry of Forestry and Natural Resources should write the Ministry of Finance, Treasury Revenue Policy Division requesting for a Fund Order in order to legalise its operations. The Ministry of Finance approves the Fund Order which is a legal document and it stipulates the mandate of the fund and the manager of the fund.

Strengthening enforcement of fisheries regulations by empowering the Local structures

The current policy framework is weak on enforcement of laws when one contravenes the fishing regulations despite the policy recognising the use of local beach fishing village and local councils as a monitoring tool for illegal fishing. The policy does not provide related powers to the local structures when it comes to enforcement of the law. The study recommends the Department of Fisheries to take lead in decentralising its functions including licensing of fishing vessels in order to operationalize the policy on enforcement of the fishing laws. .

Support Government Commitment to strength Private Sector engagement in biodiversity conservation financing in Agriculture, Forestry, Water and Energy Sectors by developing adapted incentives framework

There is generally low participation of the private sector in biodiversity financing activities at local level and when they are involved, their involvement is in a piece meal. For example, the private sector such as National Bank of Malawi finance biodiversity conservation and restoration through provision of seedlings to a community to establish a community woodlot without related financing action for long term technical assistance and monitoring the performance of the woodlot. The recommendation is for Department of Forestry to provide technical support to forestry plantations supported by the private sector through encouraging private sector to provide financing for continued engagement in the management of the community forest plantations.

In a similar manner, EAD should encourage the private sector in fisheries, energy and forestry sectors to actively participate in financing biodiversity conservation through the use of payment for ecosystem services or could adopt a community of practice used by Zam Investments in Forestry which involves for every water bottle sold K50 is donated to Lilongwe Water Board for maintaining Dzalanyama Forestry Reserve.

Full Implementation of the 1998 Decentralisation Policy

The 1998 decentralization policy which aimed at devolving power from the central to local government, has been very slow to deliver results due to slow and fragmented assignment of functions and insufficient resources coupled with weak capacity and incentives. The challenge also affected the delivery of environmental management for addressing land degradation, forest cover restoration, and fisheries management. For example in Fisheries sector, the licenses for fishing vessels are issued centrally which creates problems for local councils to monitor and enforce fishing regulations. The recommendation is implementation of the full liberalisation policy including resources and functions with more resources allocated for biodiversity to address land degradation, forest cover restoration, and fisheries management; and more power devolved to local authorities including issuing of licenses for fishing vessels should be devolved to corresponding local authorities in order to empower local councils to monitor and enforce fishing regulations.

Incorporation of Biodiversity Criteria into the Intergovernmental Fiscal Transfers Formula

The current IGFTF does not include biodiversity as one of the criteria for allocating financial resources to local council. The formula focuses on population and poverty criteria. The recommendation is to review the formula to incorporate biodiversity as one of the criteria in the IGFTF in order to increase funding for biodiversity. At the time of writing this report, only the formula for the health sector is under review.

Support Intensification of Use of Sustainable Agriculture Practices

Poor agricultural practices (ridging, burning of crop residues, limited crop rotation, inefficient input use, excessive tillage) are responsible for significant declines in soil fertility, increased erosion and land degradation. The Department of Land Resources should facilitate adoption of sustainable cultural practices in order to save resources for safeguards. The Government should also consider reforming agriculture inputs subsidies towards supporting sustainable land management.

Redesigning of Non-Supportive Biodiversity Conservation Subsidies

Redesigning of the agriculture inputs subsidy program to incorporate subsidies on Sustainable Land Management is even more compelling now, considering the overwhelming evidence that shows that the investment return, on each dollar spent on addressing land degradation over a 30- year period is 4.3 US\$, while restoring degraded cropland would increase maize production by 40% and restoring 2.4 million ha of degraded cropland would increase maize production by 1.55 million metric tons per year.

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9. TECHNICAL APPENDICES

These contain further details on a number of issues which have been presented in the reports

9.1 Detailed list of all stakeholders identified and Individuals consulted

30 Institutions and 48 individuals were consulted as presented below.

		Name of Institution	Name of Person
1	1	Environmental Affairs Department – Principal Environmental Officer	Mphatso Kalembe
	2	Environmental Affairs Department	Stephen Sakhama
	3	Environmental Affairs Department	Davies Ezra Chogawana
	4	Environmental Affairs Department	Annie Mapulanga
	5	Environmental Affairs Department Principal Environmental Officer	Dr. Lilian Chimphepo
	6	Environmental Affairs Department- Deputy Director Planning	Mr. Sam Mulungu
	7	Environmental Affairs Department – Deputy Director	Yassin Ben
	8	Environmental Affairs Department – Principal Human Resource Officer	Mr. Makwasa
	9	Environmental Affairs Department	Ms. R.Monosire Mlomba
	10	Environmental Affairs Department	Mwayi Mkanthama
2	11	Ministry of Finance	Louis Loti
	12	Ministry of Finance – Deputy Director	Peter Ponderani
	13	Ministry of Finance	Winston Nyasulu
	14	Ministry of Finance –Chief Economist	Chimwemwe Kaunda
3	15	Ministry Responsible for Economic Planning	Thokozani Bandawe
	16	Ministry Responsible for Economic Planning	Chipiliro Mtukuso
4	17	Lilongwe Water board	Kachingwe
5	18	Lilongwe University of Agriculture and Natural Resources	Kazembe
6	19	Local Government Finance Committee	Donken Macheso
7	20	Ministry Responsible for Local Government	Ms. Monica Msiska
	21	Ministry Ministry Responsible for Local Government	Mr. M. ZUze
8	22	National Parks & Wildlife Department	Mr. Davis Kalima
	23	National Parks & Wildlife Department – Senior Parks and Wildlife Officer	Alex Chunga
	24	National Parks & Wildlife Department – Principal Parks Wildlife Officer	Mary Chilimampunga
	25	National Parks & Wildlife Department – Assistant Director	William Magoola
	26	National Parks & Wildlife Department – Assistant Accountant	Mr. A. Sunguma
	27	National Parks & Wildlife Department – Assistant Accountant	Mr. Andrew Kataya
9	28	Tourism Department – Deputy Director	Nowa Nasongera
11	29	Lilongwe Wildlife Center	Nebart Mtika
12	30	Total Landcare	Zwide Jere
13	31	Fisheries Department -Deputy Director 01788103	J. Kazembe
	32	Fisheries Department -Director	Friday Njaya
14	33	Water Department- Regional Water Centre	Rex Kanjedza
15	34	National Planning Commission	Sipho Billiat
16	35	Forestry Department	Mrs. Masupayi
17	36	Wildlife & Environmental Society of Malawi (WESM)	Chifundo Dalireni
18	37	Museum Department	Dr. Potiphar M. Kalimba
19	38	National Bank of Malawi	Mr. Kunje
20	39	MoAFS Department of Land Resources and Conservation	Mr. Getrude Kambauwa
21	40	MoAFS - Malawi Plant Genetic Resources Center	Mrs. Modester Kachapila
22	41	National Herbarium and Botanic Gardens	Zacharia Magombo
23	42	Chancellor College	Dr Marlene Chikuni

		Name of Institution	Name of Person
24	43	Forestry Research Institute of Malawi	Dr. Tembo Chanyenga
25	44	CEPA	William Chadza
26	45	Africa Parks	Sam Kamoto
27	46	Forestry Research Institute Zomba (Near NSO)	Dr. Chanyenga
28	47	Ministry responsible for Energy – Energy Department Deputy Director	Joseph Kalowekamo
29	48	UNDP BIOFIN Local Team Lead	Hilton Msamali
	49	UNDP BIOFIN Local Team	Jonathan Banda
	50	UNDP BIOFIN Local Team	Dumisani Chirambo
	51	UNDP Malawi Systems Analyst	Etta Mangisa
	52	UNDP Malawi	Elikam Mathemba
	53	UNDP BIOFIN International	Herve Barois
	54	UNDP BIOFIN International	Gamze Akarsu