Malawi Financial Needs Assessment (FNA) Report

June 2021

BIOFIN
The Biodiversity Finance Initiative

UNDP

UNITY AND FREEDOM

Executive Summary

Malawi like most countries in sub-Saharan Africa is experiencing population growth and economic development which are adversely affecting biodiversity and ecosystem services. Some of the drivers of biodiversity loss include deforestation, climate change, habitat loss and fragmentation, invasive alien species, over-exploitation and pollution. To address these issues, the Government of Malawi developed the National Biodiversity Strategy and Action Plan (NBSAP) II (2015-2025) as a policy document to provide guidance on how Malawi can sustainably manage its biodiversity. Similarly, the international community is aware of the challenges that developing countries have in conserving biodiversity, financing biodiversity management, and enforcing biodiversity management policies and legislation. To this effect, the United Nations Development Programme (UNDP) initiated the Biodiversity Financing Initiative (BioFin) as a global partnership to help with raising and managing capital and using financial and economic incentives to support sustainable biodiversity management. Malawi joined the BioFin Programme during the second implementation phase (2018-2022) and as part of the BioFin methodology has produced a Financial Needs Assessment (FNA).

A FNA aims to make a comprehensive estimate of the financial resources needed to achieve national and sub-national biodiversity targets. According to the FNA, Malawi's biodiversity sector requires investments of approximately US$92,697,353.00 for the period 2020-2025 to achieve national and sub-national biodiversity targets. As the FNA has been based on the targets and priorities contained in the NBSAP II (2015-2025), in absolute terms Strategic Objective Three (Reduce Direct Pressure on Biodiversity) has the most significant financial requirement at US$33,770,330.00 and Strategic Objective Two (Mainstream Biodiversity into National, Sectoral and Local Development Plans) has the least financial requirement at US$6,580,736.67. It has not been possible to quantify Malawi's biodiversity financial gap due to information gaps on the status of implementation of the NBSAP II (2015-2025), and incomparability of data on NBSAP II (2015-2025) expenditures by state and non-state actors and the BER.

The conclusions and recommendations point out that some of the aspects that could have improved the FNA process and outcomes include:

1. The FNA was developed in 2020 which was the mid-term implementation mark for the NBSAP II (2015-2025). Unfortunately, a mid-term implementation evaluation of the NBSAP II was not undertaken.

Arguably, if a mid-term implementation evaluation of the NBSAP II was undertaken, there would have been more data available to feed into the FNA particularly in identifying which areas in the NBSAP II implementation were facing the greatest challenges. It is therefore recommended that there should be more efforts to increase the frequency to which long-term biodiversity frameworks are systematically evaluated. By adopting this recommendation, it can also be envisaged that various implementation challenges can be highlighted in a timely manner and appropriate responses enacted swiftly.

2. The FNA has been developed based on the Targets and Actions of the NBSAP II (2015-2025). This led to the engagement and consultation of stakeholders to be principally based on central government departments and sectoral state and non-state actors involved in the implementation of biodiversity programmes. The FNA has therefore been developed with limited direct involvement of stakeholders from local government (i.e. City and District Councils) even though they undertake various roles in implementing biodiversity programmes.
3. The FNA has been developed by external consultants (the BioFin Consultants Team) rather than internal EAD (Biodiversity Division) staff. It will be important to strengthen the capacity of the EAD and critical stakeholders on the FNA methodology and approach in order to institutionalise the BioFin process and improve the efficiency of the NBSAP budget implementation. Moreover, efforts to improve the dialogue and awareness on the FNA methodology and approach to a diverse set of stakeholders can ensure that future biodiversity programmes and strategies developed bring out common and shared budget tools.
4. Malawi lacks a systematic framework to record the investments and contributions that non-state actors such as Non-Governmental Organisations and the private sector are undertaking in the biodiversity protection and conservation arena. The lack of such a framework possess challenges in biodiversity policy formulation since (i) it makes it challenging to determine the areas that are underinvested by non-state actors, (ii) it makes it challenging to estimate annual expenditures on biodiversity by non-state actors, and (iii) it makes it challenging to quantify the country's biodiversity financing gaps. The lack of such a framework also led to the FNA to have challenges in estimating the country's unmet finance needs (section 4). Malawi's biodiversity finance and budgeting landscape could therefore be improved by developing and implementing a system to accurately capture non-state actor biodiversity contributions.

Acknowledgements
This report has been compiled through consultations between the BioFin Consultants Team and various state and non-state actors. A special thanks therefore goes to the numerous experts from various government departments, private sector organisations and civil society organisations that provided their valuable input at various stages of the FNA development process and attended the workshops for data collection and validation of findings.

The Environmental Affairs Department, UNDP (Malawi) and UNDP-Global BioFin Team have been instrumental in providing guidance, coordination and various resources to enable the FNA to be undertaken. A special vote of thanks therefore also goes to these organisations.

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Acronyms

BER	Biodiversity Expenditure Review
BFP	Biodiversity Finance Plan
BioFin	The Biodiversity Finance Initiative
CBD	Convention on Biological Diversity
EAD	Environmental Affairs Department
FDI	Foreign Direct Investment
FNA	Financial Needs Assessment
GDP	Gross Domestic Product
MGDS III	Malawi Growth and Development Strategy (MGDS) III (2017-2022)
MK	Malawi Kwacha
NBSAP II	National Biodiversity Strategy and Action Plan (NBSAP) II (2015-2025)
PIR	Policy and Institutional Review
PPP	Public Private Partnership
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme
US$	United States Dollar

1 Introduction

1.1 Overview

Biodiversity and ecosystem services are important for the sustainability of human life hence the protection and conservation of biodiversity can facilitate the attainment of the Sustainable Development Goals (SDGs). In an analysis by Blicharska et al. (2019), it was demonstrated that biodiversity components (i.e. ecosystems, species and genes) directly deliver benefits that may contribute to the achievement of each individual SDG. Similarly, in the context of Malawi, biodiversity can facilitate the attainment of the SDGs by improving the health and well-being of communities and providing buffers to reduce communities against socio-economic shocks, and climatic shocks and disasters. In this regard, it has been estimated that 40% of Malawi's Gross Domestic Product (GDP) is derived from agro-biodiversity and agro-biodiversity generates more than 90% of employment and merchandise export earnings for Malawi (GoM, 2015). Despite the importance of biodiversity at local and national level, the unfortunate reality is that Malawi is losing a significant amount of its biodiversity resources, including its endemic species such as the Mulanje Cedar. Some of the drivers of biodiversity loss in Malawi include unsustainable land management practices (driven in part by poorly designed and targeted agricultural subsidies), population growth, deforestation, climate change, habitat loss and fragmentation, invasive alien species, over-exploitation and pollution.

The Malawi Growth and Development Strategy (MGDS) III (2017-2022) considers environmental sustainability as a Development Area since the successes of many important sectors of the economy rely on the environment and natural resources to enhance their productivity (GoM, 2017). Accordingly, the Government of Malawi considers it imperative to improve the sustainability and management of the environment and natural resources through such means as strengthening environmental management policies and enhancing environmental degradation preventive measures. Despite such positive actions and commitment from the Government of Malawi, there is always the threat that the implementation of biodiversity and environmental management programmes and policies might not be prioritised due to competing demands from other sectors and limitations in financial and technical resources amongst various state and non-state actors. In this regard, reference can also be made to the National Biodiversity Strategy and Action Plan (NBSAP) II (2015-2025) (GoM, 2015) which lists inadequate funding for biodiversity management, weak enforcement of existing legal mechanisms and inadequate co-ordination

between and within institutions dealing with biodiversity as the major threats and challenges affecting the implementation of biodiversity programmes. To put this in perspective, land degradation and deforestation are causing biodiversity loss to the extent that (i) up to 60% of Malawi's land is currently affected by soil erosion and nutrient loss, (ii) Malawi's national average soil loss is about 15 tonnes/hectare, with peak values of about 41 tonnes/hectare annually, (iii) Malawi's soil loses can translate to an estimated annual cost equivalent to around 6.8% of GDP, and (iv) over the last 40 years, more than half of Malawi's forests and woodlands have vanished (World Bank, 2019; Asfaw et al., 2018).

Furthermore, the Sixth National Report to the Convention on Biological Diversity (GoM, 2019) reiterated that Malawi's terrestrial and aquatic ecosystems are being modified and degraded, and species composition is being altered due to the unsustainable utilisation and management of natural resources. It is with these aspects in mind that the Government of Malawi through various Ministries, Departments and Agencies constantly engages various local and international biodiversity stakeholders to forge various partnerships that can lead to improvements in the management of biodiversity in the country. Similarly, improving the mobilisation of financial and technical resources for the implementation of biodiversity policies and programmes is an important consideration amongst various Government of Malawi Ministries, Departments and Agencies.

Malawi joined the United Nations Development Programme's (UNDP) Biodiversity Finance Initiative (BioFin) (UNDP, 2018) at the start of the second phase in 2018. Work on producing the Financial Needs Assessment (FNA) commenced in May 2020. This report presents Malawi's biodiversity FNA as part of the BioFin reporting and documentation for Malawi. This FNA report is the third report produced by the BioFin Malawi team following the publication of the Biodiversity Finance Policy and Institutional Review (PIR) and Biodiversity Expenditure Review (BER). The FNA specifically focuses on providing the estimates of the investments required to implement current national biodiversity plans and achieve national biodiversity targets and results from 2020 to 2025.

According to the FNA, Malawi will require financing amounting to US$92,697,353.00 in order to achieve its biodiversity related targets from 2020-2025. As the FNA has been based on the targets and priorities contained in the National Biodiversity Strategy and Action Plan (NBSAP) (2015-2025) (GoM, 2015), in absolute terms, Strategic Objective Three (Reduce Direct

Pressure on Biodiversity) has the most significant financial requirement at US$33,770,330.00 and Strategic Objective Two (Mainstream Biodiversity into National, Sectoral and Local Development Plans) has the least financial requirement at US$6,580,736.67.

1.2 Policy Context

Biodiversity management in Malawi is not governed by a single framework legislation but rather by various umbrella policies and legislation that address the various problems and challenges of sustainable biodiversity management. Some of Malawi's legal instruments related to environmental sustainability and biodiversity management include:
the Constitution of the Republic of Malawi (1995); the National Environmental Policy (NEP) (2004); the Environment Management Act (EMA) (2017); the National Forestry Policy (2016); the National Forestry Act (1997); the Fisheries and Aquaculture Policy (2016); the Fisheries Conservation and Management Act (1997); the Wildlife Policy (2000); the National Parks and Wildlife Act (2017); the National Land Resources Management Policy and Strategy (2000); the National Herbarium and Botanic Gardens Act (1987); the Water Resources Act (2013); the National Irrigation Policy (2016); the Energy Policy (2018); the Biosafety Act (2002); the Biosafety (Genetically Modified Organisms) Regulations (2007); the National Biosafety and Biotechnology Policy (2008); Patents Act (1986); the National Monuments and Relics Act (1965); the Plant Protection Act (1969) and the Local Government Act (1998).

However, despite the enactment of all these pieces of legislation, the overall legislative framework has various gaps and areas of conflict which undermine efforts to effectively regulate and conserve biodiversity in Malawi.

The NBSAP II (2015-2025) presents Malawi's strategic goals for enhancing the management of biodiversity for economic growth and wellbeing of the present and future generations. Furthermore, as Malawi is a member of the Convention on Biological Diversity (CBD), the NBSAP II (2015-2025) also serves as a guiding document to enable local and international stakeholders to understand how Aichi Biodiversity Targets are contextualised in Malawi's biodiversity targets. Table 1 presents Malawi's five main Strategic Objectives and how Malawi's sixteen biodiversity National Targets correlate to the Aichi Biodiversity Targets.

Table 1: NBSAP II (2015-2025) Strategic Objectives
Source: GoM, 2015

NBSAP II (2015-2025) Strategic Objectives	
National Targets	**Relevant Aichi Biodiversity Target**
STRATEGIC OBJECTIVE 1: Improve Capacity and Knowledge on Biodiversity Issues	
Target 1: By 2025, human and institutional capacity for science and technology related to biodiversity is improved.	Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends and the consequences of its loss are improved, widely shared and transferred and applied.
Target 2: By 2025, traditional knowledge, innovations and practices of local communities are respected and harnessed in line with national and international legislation.	Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity and their customary use of biological resources are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention, with the full and effective participation of indigenous and local communities, at all relevant levels.
Target 3: By 2025, At least 50% of the Malawi population is aware of the values of biodiversity to ensure its conservation and sustainable use.	Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
STRATEGIC OBJECTIVE 2: Mainstream Biodiversity into National, Sectoral and Local Development Plans	
Target 4: By 2025, biodiversity values are integrated into national, sectoral and local development policies and plans.	Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems
Target 5: By 2025, sustainable financing mechanisms for effective implementation of biodiversity programs developed.	Target 20: By 2020, at the latest, the mobilisation 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 Mobilisation should increase substantially from the current levels.
STRATEGIC OBJECTIVE 3: Reduce Direct Pressures on Biodiversity	
Target 6: By2025 at least 50% of the degraded terrestrial habitats are restored and protected.	Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero and degradation and fragmentation is significantly reduced.
Target 7: By 2025, aquatic biodiversity is managed and harvested sustainably within safe ecological limits.	Target 6: By 2020. all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and

	measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
Target 8: By 2025, area under forest cover is increased by 4% and managed sustainably, ensuring conservation of biodiversity.	Target 7: By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
Target 9: By 2025, invasive alien species and their pathways are identified and prioritised for control and prevention from movement and spreading in and out of the country.	Target 9: By 2020, invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
Target 10: By 2025, pollution is reduced to minimize ecosystem degradation and biodiversity loss.	Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.
Target 11: By 2025, anthropogenic pressures on vulnerable ecosystems are minimised, thereby improving ecosystems resilience to climate change.	Target 10: By 2015, the multiple anthropogenic pressures on coral reefs and other vulnerable ecosystems impacted by climate change or ocean acidification are minimised, so as to maintain their integrity and functioning.
STRATEGIC OBJECTIVE 4: Improve the Status of Biodiversity	
Target 12: By 2025, the extinction of known threatened species is prevented and their conservation status is improved and sustained.	Target 12: By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
Target 13: By 2025, the genetic diversity of wild domesticated plants, and animals is maintained and safeguarded.	Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.
Target 14: 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 onto account risks to human health.	Target 3: 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.

STRATEGIC OBJECTIVE 5: Enhance the Benefits to All from Biodiversity and Ecosystem Services	
Target 15: By 2025, the supply of important ecosystems services is safeguarded and restored, taking into account gender roles and responsibilities of the poor and the vulnerable.	Target 14: By 2020, ecosystems that provide essential services, including services related to water and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities and the poor and vulnerable.
Target 16: By 2025, access to genetic resources and associated traditional knowledge is regulated and benefits arising from utilization of the resources and associated traditional knowledge are shared in a fair and equitable manner.	Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation is in force and operational, consistent with national legislation.

1.3 Malawi's Biodiversity Finance Landscape

Malawi's Sixth National Report to the Convention on Biological Diversity (GoM, 2019) shows that there are various strategies that the Government of Malawi is pursuing to improve access and usability of biodiversity finance across various stakeholders. Accordingly, the Sixth National Report to the Convention on Biological Diversity (GoM, 2019) provides insights into the three main strategies that are currently being prioritised to improve the mobilisation of biodiversity finance. The three main strategies are:

a. Developing and implementing a Biodiversity Resource Mobilisation Strategy;
b. Promoting and implementing innovative finance mechanisms such as Access and Benefit Sharing (ABS) and Public Private Partnership (PPP) programmes; and
c. Developing and implementing market-based approaches for biodiversity conservation including Payment of Ecosystem Services (PES).

One might argue that for these strategies to achieve their goals there is a need to determine some of the factors that hinder Malawian organisations from tapping into various international funds for biodiversity protection. Table 2 below therefore provides a synopsis of some of the issues that hinder various stakeholders from accessing international biodiversity financing and the approach taken in the FNA to address these challenges.

Table 2: Access to biodiversity finance issues

Stakeholder category	Access to finance challenge	Remedial action in FNA
Government Ministries, Departments, and Agencies	• Inadequate technical capacity to develop bankable projects • Lack of projects to demonstrate proof of concept/capacity to	• Provide workshops and training to develop the capacity of stakeholders on biodiversity finance • Provide local biodiversity funds for

	implement innovative concepts	piloting and scaling up projects • Provide co-funding options to attract other stakeholders for the joint implementation of projects
Local Councils	• Lack of autonomy to apply to some specialised funds • Inadequate technical capacity to develop bankable projects	• Provide workshops and training to develop the capacity of stakeholders on biodiversity finance • Provide local biodiversity funds for piloting and scaling up projects • Provide co-funding options to attract other stakeholders for the joint implementation of projects
Private Sector	• Lack of familiarity with market-based approaches for biodiversity financing • Large overhead costs related to project planning and development	• Provide workshops and training to develop the capacity of stakeholders on biodiversity finance. • Provide local biodiversity funds for piloting and scaling up projects • Provide co-funding options to attract other stakeholders for the joint implementation of projects
Non-Governmental Organisations and Community Based Organisations	• Lack of scale to attract large financing • Inadequate technical capacity to develop bankable projects • Lack of familiarity with market-based approaches for biodiversity financing • Lack of appropriate documentation to satisfy due diligence requirements	• Provide workshops and training to develop the capacity of stakeholders on biodiversity finance • Provide local biodiversity funds for piloting and scaling up projects • Provide co-funding options to attract other stakeholders for the joint implementation of projects

2 Scope and Methodology

2.1 Scope of the FNA

Various studies and initiatives have been undertaken to determine how biodiversity conservation can be enhanced and how the financing for biodiversity programmes can be improved. According to the NBSAP II (2015-2025), PIR and BER, some of the issues that constrain the funding of biodiversity programmes and implementation/enforcement of biodiversity legislation in Malawi include:

1) government budgetary allocations for environmental management and biodiversity conservation are too small to address all the programmed actions;
2) lack of long-term commitments and investments in biodiversity conservation; and
3) limited appreciation of the services biodiversity can provide in relation to poverty reduction, economic development, health, sanitation, infrastructure development, disaster management, etc.

The BioFin approach envisages improving the impact of biodiversity finance in different countries by helping countries to develop biodiversity finance solutions based on four strategies namely:
(i) avoid future expenditures through strategic biodiversity investments and policy changes,
(ii) deliver better on conservation through improved effectiveness, efficiency and synergies,
(iii) generate revenues targeted towards biodiversity, and
(iv) re-align expenditures to reduce negative impacts and improve positive impacts (UNDP, 2018).

Accordingly, the FNA, using the BioFin approach provides a cost plan of actions that seek to directly and indirectly address the various challenges and constraints that state and non-state actors in Malawi face when mobilising financial and technical resources for the implementation and enforcement of biodiversity programmes and legislation.

The FNA has been developed as a policy tool to help with the financing and implementation of Malawi's biodiversity targets and priorities. The FNA has been principally based on the NBSAP II (2015-2025) Strategic Objectives, Targets, Actions, Output Indicators and Timeframes. However, the Activities, proposed implementation modalities and cost tables for the FNA are separate from the NBSAP implementation modalities since the FNA has been developed

to augment the delivery of NBSAP II (2015-2025) targets through the BioFin approach.

2.2 FNA Processes

The FNA has been developed in line with the BioFin FNA processes as shown in figure 1. The development of the FNA prioritised the need for thorough consultations with a diverse set of stakeholders especially since different state and non-state actors have various critical roles and responsibilities in ensuring the successful delivery of the FNA activities and outputs. Even though the development of the FNA principally took place in 2020 when the Covid-19 pandemic was affecting the normal working procedures of many institutions and various restrictions for travelling, conducting workshops and having meetings were instigated, it was still possible to engage a broad spectrum of state and non-state actors involved in biodiversity financing and biodiversity conservation. A list of the state and non-state actors that were contacted and/or consulted to provide input during the development of the FNA are provided in table 3 below.

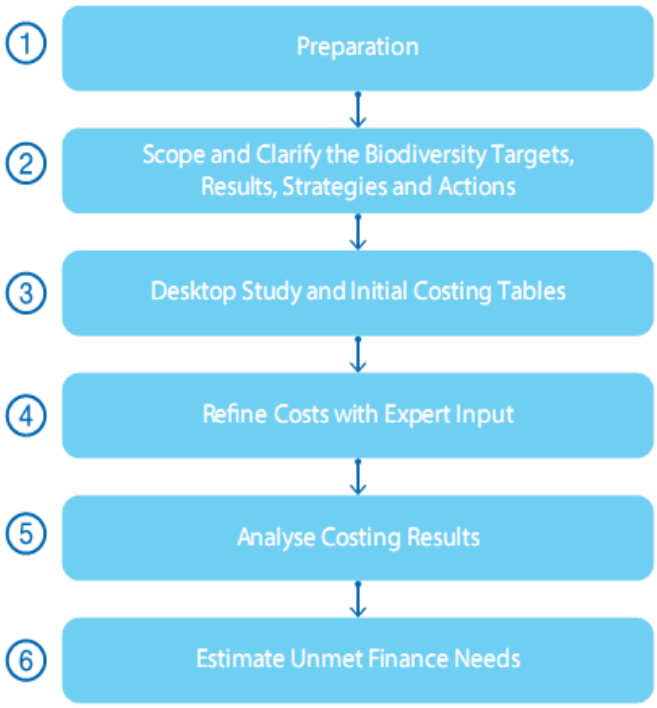

Figure 1: The Financial Needs Assessment Process
Source: UNDP, 2018

Table 3: FNA Consultation and Contact List

No.	NBSAP II Target	Organisation	Department/Designation
1	By 2025, human and institutional capacity for science and technology related to biodiversity is improved	National Commission of Science and Technology	Lyson Kampira Chief Research Services Officer
		Malawi University of Science and Technology (MUST)	Dr. Tiwonge Gawa Lecturer in Ecology
		Lilongwe University of Agriculture and Natural Resources (LUANAR)	Dr. John Kazembe Senior Lecturer
		Chancellor College (CHANCO)	Dr. Marlne Chikuni Senior Lecturer-Biological Sciences
2	By 2025, traditional knowledge, innovations and practices of local communities are respected and harnessed in line with national and international legislation	Department of Culture	Lovemore Mazibuko Acting Deputy Director of Culture Responsible for Museums
		Malawi University of Science and Technology (MUST)	Dr. Tiwonge Gawa Lecturer in Ecology
3	By 2025, at least 50% of the Malawi population is aware of the value of biodiversity to ensure its conservation and sustainable use	Environmental Affairs Department (EAD)	Clement Tikiwa Chief Environmental Officer- Outreach
		Wildlife and Environmental Society of Malawi (WESM)	Blessings Chingagwe Environmental Education Officer
		Centre for Environmental Policy and Advocacy (CEPA)	Elizabeth Mnenula Project Officer
4	By 2025, biodiversity values are integrated into national, sectoral and local development policies and plans	Ministry of Finance and Economic Planning	Ester Lwara Deputy Director (Development)
		Ministry of Energy and Natural Resource	Anne Mapulanga Economist
		United Nations Development Programme (UNDP)	Etta Mangisa Programme Analyst
5	By 2025, sustainable financing mechanisms for effective implementation of biodiversity programmes developed	Ministry of Finance, Economic Planning and Development	Chimwemwe Kaunda Economic Affairs
		Department of National Parks and Wildlife	William Mgoola Assistant Director
		Ministry of Energy and Natural Resource	Anne Mapulanga Economist
6	By 2025, at least 50% of the degraded terrestrial habitats are restored and protected	Department of Forestry	Tangu Tumeo Principal Forestry Officer
		Department of National Parks and Wildlife	William Mgoola Assistant Director
7	By 2025, aquatic biodiversity is managed and harvested sustainably within safe ecological limits	Department of Fisheries	Jac Kazembe Deputy Chief Fisheries Officer
		Department of Water Resources	Rex Kanjedza Principal Water Resources Officer

		Lilongwe University of Agriculture and Natural Resources (LUANAR)	Dr. Wilson Jere AquaFish
		Department of National Parks and Wildlife	William Mgoola Assistant Director
8	By 2025, area under forest cover is increased by 4% and managed sustainably, ensuring conservation of biodiversity	Department of Forestry	Patricia Masupayi Chief Forestry Officer
		Department of National Parks and Wildlife	William Mgoola Assistant Director
		National Herbarium and Botanic Gardens	Jamestone Kamwendo Senior Scientist and Senior Environmental Consultant
9	By 2025, invasive alien species and their pathways are identified and prioritised for control and prevention from movement and spreading in and out of the country	National Herbarium and Botanic Gardens	Jamestone Kamwendo Senior Scientist and Senior Environmental Consultant
		Department of National Parks and Wildlife	Davis Kalima Principal Parks and Wildlife Officer
		Department of Fisheries	Geoffrey Kanyerere Chief Fisheries Research Officer
		Department of Forestry	Patricia Masupayi Chief Forestry Officer
10	By 2025, pollution is reduced to minimise ecosystem degradation and biodiversity loss	Environmental Affairs Department (EAD)	Patrick Nyirenda Environmental Officer-Pollution Control
		Lilongwe City Council	Thokozani Mkaka Assistant Director of Health- Cleansing Services
11	By 2025, anthropogenic pressures on vulnerable ecosystems are minimised, thereby improving ecosystems resilience to climate change	Environmental Affairs Department (EAD)	Evans Njewa Chief Environmental Officer- Head of Climate Change Section
		Department of Forestry	Titus Zulu Assistant Director of Forestry
12	By 2025, the extinction of known threatened species is prevented and their conservation status is improved and sustained	Department of National Parks and Wildlife	Jester Nyirenda Assistant Director (Research and Planning)
		Malawi University of Science and Technology (MUST)	Dr. Tiwonge Gawa Lecturer in Ecology
		Department of Fisheries	Jac Kazembe Deputy Chief Fisheries Officer
13	By 2025, the genetic diversity of wild and domesticated plants and animals is maintained and safeguarded	Malawi Plant and Genetic Resource Centre	Modetsa Milinyu Genebank Officer
		Centre for Environmental Policy and Advocacy (CEPA)	Elizabeth Mnenula Project Officer
14	By 2025, the level of protection on safe handling, transfer and use of living	Ministry of Agriculture	Tenyson Mzengeza Dept. of Agricultural Research Services

	modified organisms resulting from modern biotechnology that may have adverse impacts on biodiversity is strengthened, taking into account risks to human health	National Commission of Science and Technology	Lyson Kampira Agriculture and Natural Resources
15	By 2025, the supply of important ecosystem services is safeguarded and restored, taking into account gender roles and responsibilities of the youth, the poor and the vulnerable	Department of Forestry	Tangu Tumeo Principal Forestry Officer
		Environmental Affairs Department (EAD)	Ms. Shamiso Banda-Najira Deputy Director
		Department of National Parks and Wildlife	Mary Chilimampunga Principal National Parks and Wildlife Officer
16	By 2025, access to genetic resources and traditional knowledge is regulated and benefits arising from utilisation of the resources and associated traditional knowledge are shared in a fair and equitable manner	Environmental Affairs Department (EAD)	Chifundo Chinyama Senior Environmental Officer (Legal)
		Department of Fisheries	Moffat Manase Chief Fisheries Officer-Research
		Malawi Plant and Genetic Resource Centre	Modetsa Milinyu Genebank Officer

The FNA was developed by the BioFin Malawi team consisting of three external consultants under the leadership of the UNDP (Malawi) BioFin Project Team.

The steps taken were as follows:

1) Preparation: Developing a work plan of the state and non-state actors to consult and compiling data collection requirements. At this stage, the focus was on ensuring that there was a comprehensive list of stakeholders to consult covering all the priority areas of the NBSAP II and also ensuring their availability within the FNA data collection and analysis period. The PIR and Annex 1 of the NBSAP II (list of stakeholders consulted) provided some background information on some of the crucial stakeholders to consider.

2) NBSAP II (2015-2025) and PIR Review: Reviewing and assessing biodiversity financing challenges according to the NBSAP II (2015-2025) and PIR. At this stage, the focus was on trying to evaluate aspects that constrain resource mobilisation for biodiversity programmes and identifying challenges for implementing biodiversity programmes and policies. This process was envisaged to eventually help in determining how to prioritise the allocation of resources for various activities when developing cost tables.

3) Preparation of initial costing tables: Compiling an Activities cost table and implementation timeline for each of the 16 NBSAP II (2015-2025) Targets. At this stage, the focus was on developing comprehensive lists for Activities required to achieve NBSAP II Targets, Actions and Outputs, and providing the estimated costs to achieve those Activities and Targets.

4) Stakeholder detailed assessments: Consultation and engagement with at least three key experts per Target Cost Table. At this stage, the focus was on gaining a consensus on the proposed activities and estimated costs. This was also an opportunity to engage external stakeholders in various sectors in order to include their input in the FNA process since some of them would be engaged in the implementation of some of the Activities. This was also the stage where stakeholders were given the opportunity to highlight some crucial Activities that were missing on the cost tables.

5) Refinement and analysis of cost models: Workshops with EAD Biodiversity Division and other experts to refine FNA Cost Tables, proposed timeline and implementation modalities. The workshops were also meant to determine some current NBSAP II (2015-2025) implementation challenges so that more investments and financial resources could be devoted towards activities with the greatest challenges.

6) Finance Gap: An assessment to estimate Malawi's unmet biodiversity finance needs.

7) Validation: Submission of the FNA to the BioFin Technical Working Committee for final comments and input.

8) Evaluation and Publication: Consultation with BioFin Global Team on FNA content and publication of FNA report on different platforms in collaboration with the BioFin Global Team.

2.3 Cost Estimation Methodology

The FNA focuses on estimating the financing needs for biodiversity conservation in Malawi based on the Strategic Objectives, Targets, Actions, Output Indicators and Timeframes contained in the NBSAP II (2015-2025). Through this approach, it was envisaged that the FNA would be able to expedite the processes of mobilising funding for biodiversity conservation and management in Malawi without creating a new and isolated tool that would not have direct links to the existing biodiversity programmes being implemented in Malawi. The NBSAP II (2015-2025) implementation plan was therefore used as a template for guiding the consultants to determine which activities were required in the FNA to ensure the successful delivery of Malawi's priority biodiversity Targets, Actions and Outputs.

Since Malawi joined the BioFin programme in the second implementation phase, the development of the FNA has also benefited from reviews of secondary data consisting of FNAs from other countries. In this regard, the FNAs for countries such as Botswana (MENT, 2019), Uganda (NEMA, 2018), Seychelles (UNDP-BioFin Seychelles, 2017) and Rwanda (REMA, 2018) greatly aided in providing guidance and insights into the methodologies which could be adopted in the Malawi FNA as well as providing guidance on costabe actions for the development of Costing Tables.

The BioFin Workbook (UNDP, 2018) provides five different approaches[1] to costing biodiversity strategies and programmes. In the case of Malawi, the costing approach taken to develop the cost tables for the FNA was the Activity Based Costing approach. Some of the factors that contributed to an Activity Based Costing approach to be adopted included that (i) the Activity Based Costing approach is widely used by many government ministries, departments and agencies in Malawi hence many stakeholders that were consulted/were to be consulted could easily resonate with the costing approach, and (ii) the NBSAP II (2015-2025) was developed using an Activity Based Costing approach hence the process of comparing and contrasting FNA and NBSAP II (2015-2025) budgets could be simplified by the FNA also adopting an Activity Based Costing approach. Once the initial cost tables were developed by the BioFin team, the stakeholders provided in table 3 provided their input to help in the refinement of the proposed approaches, activities and costs to achieve the stipulated Actions and Outcomes.

[1] The five approaches provided in the BioFin Workbook (UNDP, 2018) include: Incremental Budgeting Approach (IBA), Historical Projections, Cost Modelling, Activity Based Costing (ABC) and Results Based Costing (RBC).

The NBSAP II (2015-2025) implementation plan provides various estimations for implementing biodiversity Targets and Activities. Due to this factor, in some cases, the estimated costs provided in the NBSAP II (2015-2025) implementation plan provided baselines for developing cost estimates for activities and cost baselines for consultations with external stakeholders when undertaking steps 4 (Stakeholder detailed assessments) and 5 (Refinement and analysis of cost models) of the FNA steps provided in the previous section.

The following procedure was followed when calculating the cost estimates and preparing cost tables as explained in section 2.2:

1. Determine preferred strategy or modality to achieve a NBSAP II (2015-2025) Action. At this stage, consideration was also given to assessing the alternative approaches that could be undertaken to achieve a given biodiversity Action and Output.

2. Determine optimum Activities to achieve an Action and Output through chosen strategy/modality. At this stage, consideration was also given to determining the sequence and frequency of activities to achieve an Action and Output.

3. Determine optimum sub-activities (items and sub-items) to be undertaken to complete an Activity. At this stage, the cost tables could reflect the allocation of recurrent costs and capital development costs amongst the items and sub-items.

4. Provide an analogous estimate for the item based on secondary data such as NBSAP II cost estimates and primary data from budgets provided by state and non-state actors, and adjust accordingly.

5. Refine analogous estimate with expert judgement.

6. Develop cost table per each Target disaggregated by Action, Output, Activities, Item, sub-item, Unit Cost (US$), Units, Days, Frequency and Total Cost (US$).

7. Undertake (i) stakeholder detailed assessments and refinement and (ii)

analysis of cost models as described in section 2.2.

The FNA costs have not been adjusted for inflation over the 2020-2025 FNA implementation period due to a lack of reliable projections and data on Malawi's economic growth trends, currency fluctuations and inflation over the 2020-2025 period. This is mainly because at the compilation of the FNA data it was still too early to determine how the Covid-19 pandemic would affect the economic growth prospects for Malawi and its donors, and ultimately how the contraction in economies or diversion of resources would influence the allocation of biodiversity financing. As it stands, at a global level, some of the economic ramifications of the Covid-19 pandemic include that developing countries require about US$2.5 trillion if they are to prevent the worst outcomes following the Covid-19 pandemic (Bisong et al., 2020). Additionally, since the Covid-19 pandemic is anticipated to cause declines in Foreign Direct Investment (FDI) flows, increase capital flight, tighten domestic financial markets and slowdown investments, some projections are indicating that Africa's GDP growth might fall from 3.2% in 2019 to 1.8% in 2020 whilst sub-Saharan Africa's real GDP growth may sharply decline from 2.4% in 2019 to -2.1% in 2020 (Calderon et al., 2020). Malawi has not yet produced a definitive economic projection for the next five years hence it is arguably too early to have a clear picture of how the Covid-19 pandemic will impact inflation levels, foreign exchange rates and economic growth rates for Malawi. Notwithstanding the above considerations, the cost estimations have been provided in United States Dollars (US$) rather than Malawi Kwacha (MK) hence this partly mitigates the impact to which currency volatility could have on programme cost estimates and budgets over a long time frame.

3 Summary of Estimated Financial Needs for the NBSAP II

3.1 Costs per NBSAP II Strategic Objectives

The NBSAP II (2015-2025) (GoM, 2015) has five strategic objectives namely:
Strategic Objective One: Improve Capacity and Knowledge on Biodiversity Issues;
Strategic Objective Two: Mainstream Biodiversity into National, Sectoral and Local Development Plans;
Strategic Objective Three: Reduce Direct Pressures on Biodiversity;
Strategic Objective Four: Improve the Status of Biodiversity; and
Strategic Objective Five: Enhance the Benefits to All from Biodiversity and Ecosystem Services.

Table 4 provides the estimated cost for the implementation of each strategic objective, figure 2 provides a pie-chart for the distribution of the total cost estimates by strategic Objective and figure 3 provides a bar graph for the distribution of the total cost estimates by Strategic Objective. Furthermore, a breakdown of estimated costs per NBSAP II targets is provided in Annex I and Annex II contains a detailed breakdown of cost estimations per Activity and Action for Target 16. The detailed cost tables for all Targets and Activities are provided as a separate Excel file (Annex III).

Table 4: Implementation Cost per NBSAP II Strategic Objective

Objective	Cost (US$)	Proportionate cost (%)
Strategic Objective One: Improve Capacity and Knowledge on Biodiversity Issues	13,554,576.33	15
Strategic Objective Two: Mainstream Biodiversity into National, Sectoral and Local Development Plans	6,580,736.67	7
Strategic Objective Three: Reduce Direct Pressures on Biodiversity	33,770,330.00	36
Strategic Objective Four: Improve the Status of Biodiversity	23,521,100.00	25
Strategic Objective Five: Enhance the Benefits to All from Biodiversity and Ecosystem Services	15,270,610.00	16
Total Cost	**92,697,353.00**	**100**

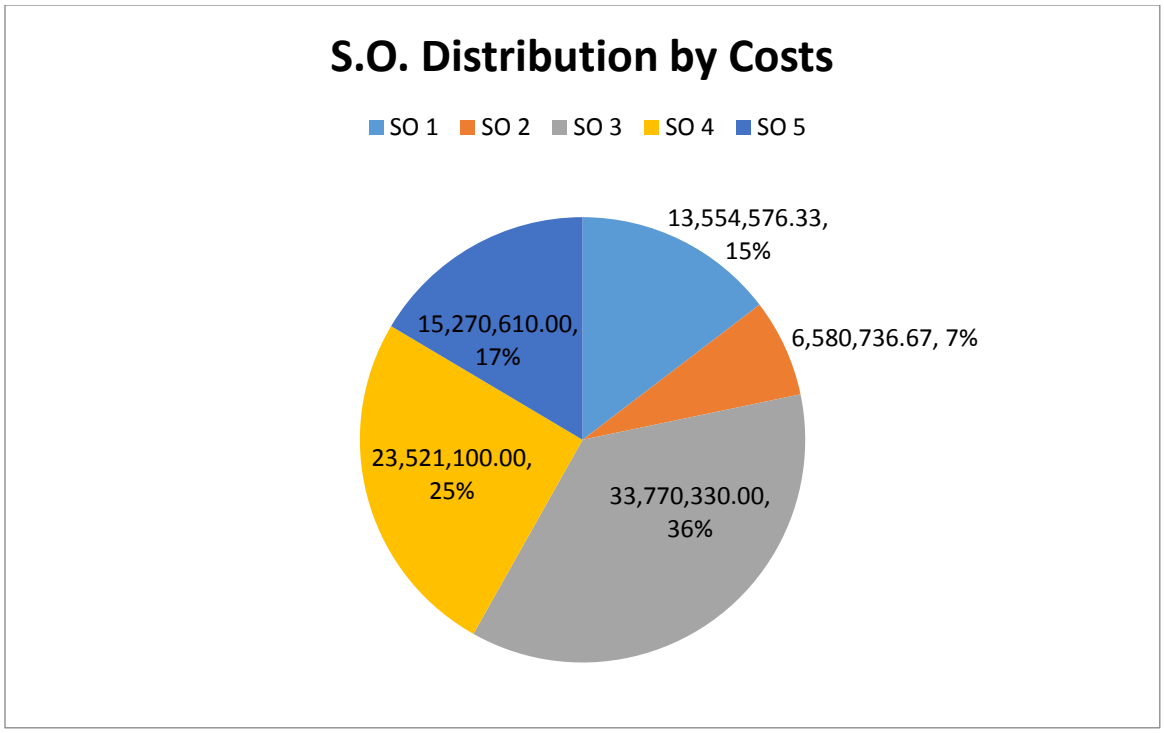

Figure 2: Distribution of Total Cost by Strategic Objective

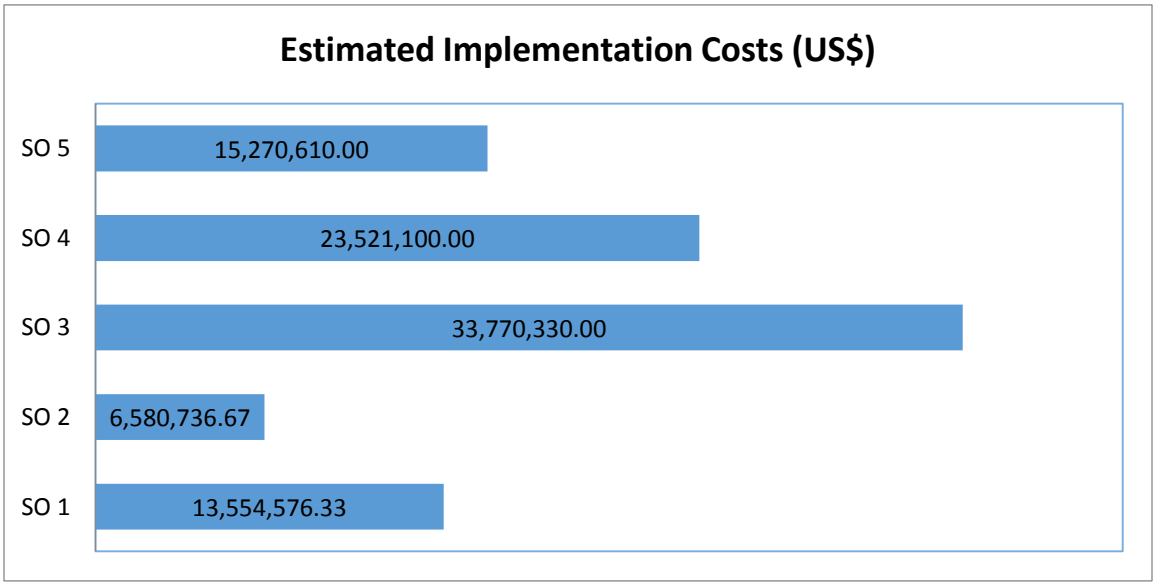

Figure 3: FNA Estimated Implementation Costs

The table and graphs above show that the estimated total implementation cost for Malawi's biodiversity Strategic Objectives and Targets is US$92,697,353.00. As shown in table 4 and figure 3, in absolute terms NBSAP II (2015-2025) Strategic Objective Three (Reduce Direct Pressure on Biodiversity) has the most significant financial requirement at US$33,770,330.00 and Strategic Objective

Two (Mainstream Biodiversity into National, Sectoral and Local Development Plans) has the least financial requirement at US$6,580,736.67. Similarly, Strategic Objective Three has the highest proportion of the FNA budget at 36% and Strategic Objective Two has the lowest proportion of the FNA budget at 7% (figure 2).

3.2 Estimated Costs per Target

When the five Strategic Objectives are disaggregated by targets, Target 2 (by 2025, traditional knowledge, innovations and practices of local communities are respected and harnessed in line with national and international legislation) is noted to have the least implementation cost at US$1,272,283.33 whilst Target 10 (by 2025, pollution is reduced to minimise ecosystem degradation and biodiversity loss) is noted to have the highest implementation cost at US$12,651,646.67. Figure 4 provides a breakdown of estimated implementation costs per target in ascending order. Figure 5 shows that the implementation cost of Target 2 is 1% of the total implementation cost and the implementation cost of Target 10 is 14% of the total implementation cost.

Figure 4: Estimated Cost per Target (US$)

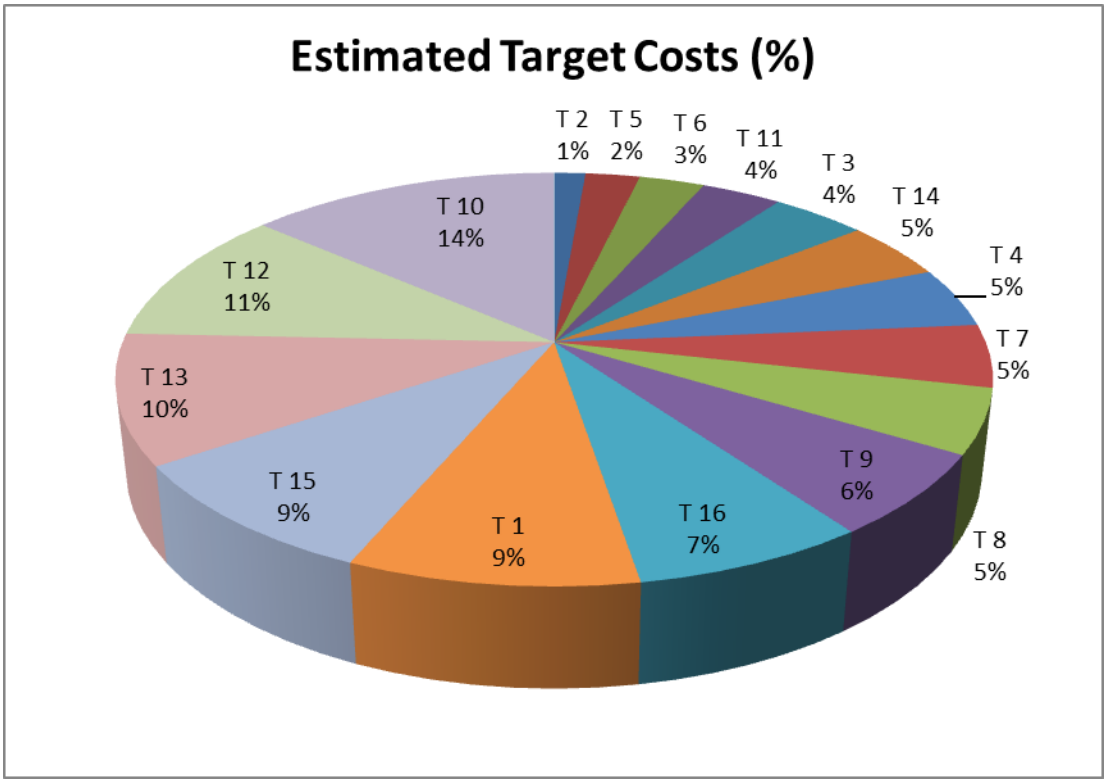

Figure 5: Estimated Target Costs (%)

Reference may be made to Annex I and Annex III where the cost tables and calculation methods for each target are provided. From the cost tables in Annex I and Annex III, it becomes more evident as to which Actions and Activities have the greatest or least financial demands within the biodiversity Targets.

Since the FNA has a basis on NBSAP II Objectives and Targets, it might also be helpful to highlight or contrast the estimated costs for the implementation of biodiversity priorities as per the NBSAP II (2015-2025) implementation plan. The inclusion of the estimated implementation costs of the NBSAP II (2015-2025) as per the implementation plan is therefore meant to mainly highlight the distribution of costs within the NBSAP II (2015-2025) implementation plan rather than provide direct comparisons with the FNA estimated costs.

As seen from figure 6, Target 5 has the least implementation cost at US$1,500,000.00 and Target 12 has the highest implementation cost at US$20,000,000.00. However, it should be noted that direct comparisons between the estimated costs provided in figure 4 (FNA estimated cost per target (US$)) and figure 6 (NBSAP II national target costs) should be avoided since the budgeting approaches for the FNA and NBSAP II (2015-2025) implementation

plan were different and the estimated costs provided in the NBSAP II (2015-2025) implementation plan have various limitations as elaborated in section 4.2 (NBSAP II (2015-2025) Finance Needs). Nonetheless, both figure 4 and figure 6 show that when grouped together, Targets 15, 10, 13 and 12 are the Targets with the highest implementation costs (i.e. FNA highest implementation costs are Targets 10, 12, 13 and 15 and NBSAP II highest implementation costs are Targets 12, 13, 10 and 15).

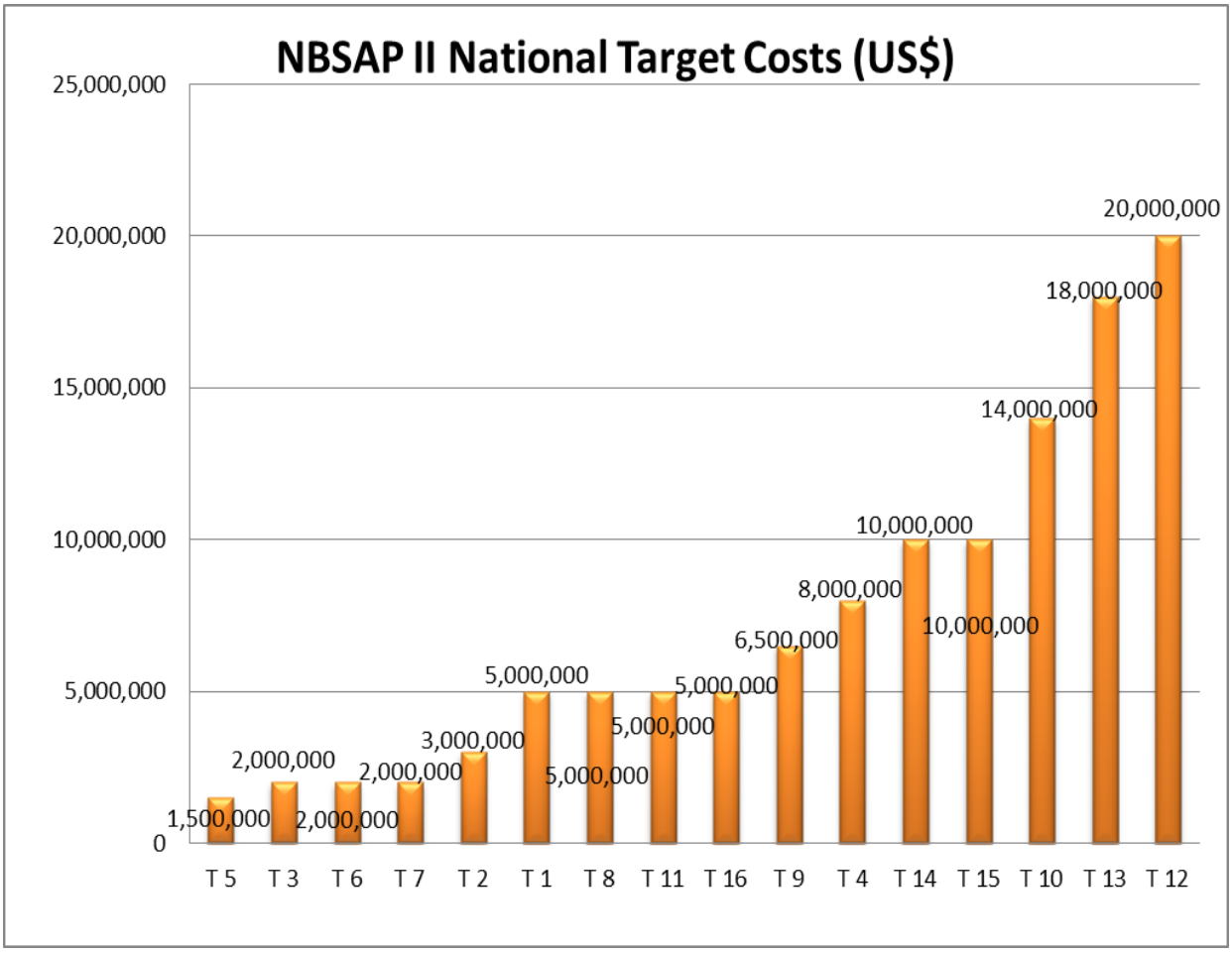

Figure 6: NBSAP II National Target Costs

3.3 Annual Implementation Costs

It was also necessary to provide a breakdown of the estimated implementation costs per year. Table 5 and figure 7 provide breakdowns of the estimated costs towards biodiversity initiatives from the fiscal year 2020/2021 to fiscal year 2024/2025.

Table 5: Breakdown of Annual Costs

			Fiscal Year (US$)			
Target	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**Total**
Strategic Objective One: Improve Capacity and Knowledge on Biodiversity Issues						
Target 1: By 2025, human and institutional capacity for science and technology related to biodiversity is improved	1,832,995.27	1,740,235.27	1,636,488.60	1,701,428.60	1,519,335.27	8,430,483.00
Target 2: By 2025, traditional knowledge, innovations and practices of local communities are respected and harnessed in line with national and international legislation	336,712.22	263,158.89	254,923.33	231,025.56	186,463.33	1,272,283.33
Target 3: By 2025, at least 50% of the Malawi population is aware of the value of biodiversity to ensure its conservation and sustainable use	844,093.33	859,493.33	669,076.67	766,493.33	712,653.33	3,851,810.00
Total	*3,013,800.82*	*2,862,887.49*	*2,560,488.60*	*2,698,947.49*	*2,418,451.93*	13,554,576.33
Strategic Objective Two: Mainstream Biodiversity into National, Sectoral and Local Development Plans						
Target 4: By 2025, biodiversity values are integrated into national, sectoral and local development policies and plans	757,850.00	900,606.67	1,210,746.67	948,780.00	550,980.00	4,368,963.33
Target 5: By 2025, sustainable financing mechanisms for effective implementation of biodiversity programmes developed	412,500.00	677,566.67	436,460.00	411,146.67	274,100.00	2,211,773.33
Total	*1,170,350.00*	*1,578,173.33*	*1,647,206.67*	*1,359,926.67*	*825,080.00*	6,580,736.67
	Strategic Objective Three: Reduce Direct Pressures on Biodiversity					
Target 6: By 2025, at least 50% of the degraded terrestrial habitats are restored and protected	0.00	931,806.67	732,866.67	824,406.67	164,573.33	2,653,653.33
Target 7: By 2025, aquatic biodiversity is managed and harvested sustainably within safe ecological limits	1,042,373.33	1,411,023.33	531,243.33	994,506.67	582,060.00	4,561,206.67
Target 8: By 2025, area under forest cover is increased by 4% and managed sustainably, ensuring conservation of biodiversity	996,550.00	978,283.33	892,163.33	910,583.33	892,163.33	4,669,743.33
Target 9: 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	1,138,723.33	1,509,706.67	1,473,780.00	1,223,633.33	617,593.33	5,963,436.67
Target 10: By 2025, pollution is reduced to minimise ecosystem degradation and biodiversity loss	1,515,006.67	3,462,382.22	2,878,408.89	2,822,832.22	1,973,016.67	12,651,646.67
Target 11: By 2025, anthropogenic pressures on vulnerable ecosystems are minimised, thereby improving ecosystems resilience to climate change	565,563.33	770,816.67	615,416.67	799,496.67	519,350.00	3,270,643.33
Total	*5,258,216.67*	*9,064,018.89*	*7,123,878.89*	*7,575,458.89*	*4,748,756.67*	33,770,330.00

Table 5 cont. …

	Fiscal Year (US$)					
Target	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**Total**
Strategic Objective Four: Improve the Status of Biodiversity						
Target 12: By 2025, the extinction of known threatened species is prevented and their conservation status is improved and sustained	1,701,333.33	2,715,213.33	2,848,693.33	1,702,060.00	917,133.33	9,884,433.33
Target 13: By 2025, the genetic diversity of wild and domesticated plants and animals is maintained and safe guarded	467,980.00	2,644,250.00	2,357,340.00	2,328,930.00	1,590,900.00	9,389,400.00
Target 14: 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	873,620.00	953,597.78	1,372,897.78	244,551.11	802,600.00	4,247,266.67
Total	*3,042,933.33*	*6,313,061.11*	*6,578,931.11*	*4,275,541.11*	*3,310,633.33*	23,521,100.00
Strategic Objective Five: Enhance the Benefits to All from Biodiversity and Ecosystem Services						
Target 15: By 2025, the supply of important ecosystem services is safeguarded and restored, taking into account gender roles and responsibilities of the youth, the poor and the vulnerable	1,673,830.00	2,069,993.33	1,840,086.67	1,528,366.67	1,332,313.33	8,444,590.00
Target 16: By 2025, access to genetic resources and traditional knowledge is regulated and benefits arising from utilisation of the resources and associated traditional knowledge are shared in a fair and equitable manner	778,135.56	1,579,571.11	1,828,155.56	1,236,035.56	1,404,122.22	6,826,020.00
Total	*2,451,965.56*	*3,649,564.44*	*3,668,242.22*	*2,764,402.22*	*2,736,435.56*	15,270,610.00
Grand Total	*14,937,266.38*	*23,467,705.27*	*21,578,747.49*	*18,674,276.38*	*14,039,357.49*	92,697,353.00

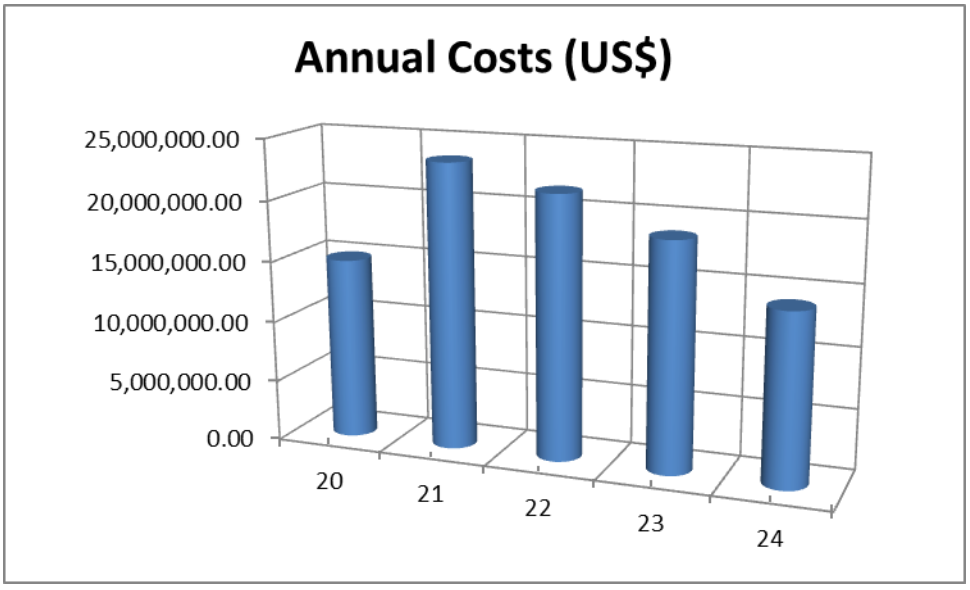

Figure 7: Annual Estimated Costs

Table 5 and figure 7 both illustrate that the 2021/2022 fiscal year, which is the second year of implementation of this strategy is the year with the most financial requirements at US$23,467,705.27 followed by the 2022/2023 fiscal year at US$21,578,747.49. 2024/2025 is the last year of implementation and also the year with the least financial costs at US$14,039,357.499. The higher implementation cost in year 2 rather than year 1 can be explained by the need to create baselines and gather information in year 1 with more activities and investments being undertaken in the successive years. Reference may be made to Annex III where calculation methods for each Target are provided. In general terms, the cost tables show that the planned biodiversity programmes and activities have different start dates of implementation and various durations (some running into years) hence influencing the total amounts of expenditures per fiscal year and causing variations in expenditures per fiscal year.

The 2020/2021 national budget for Malawi was pegged at MK2.2 trillion (US$ 2.9 billion). Hypothetically speaking, the US$14,937.266.38 estimated cost for biodiversity financing for 2020/2021 represents 0.52% of the national budget.

3.4 Costs per BioFin Categories

The BioFin Workbook has nine Biodiversity Expenditures Categories namely: (i) Access and Benefit Sharing, (ii) Biodiversity and development planning and finance, (iii) Biodiversity awareness and knowledge, (iv) Biosafety, (v) Green economy, (vi) Pollution management, (vii) Protected areas and other conservation measures, (viii) Restoration, and (ix) Sustainable use. Table 6, figure 8 and table 7 provide details of the allocation of costs and investments across the nine Biodiversity Expenditures Categories.

Table 6: Annual Cost Allocations per Biofin Expenditure Category

		Fiscal Year (US$)					
Category	**Target**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**Total**
Access and Benefit Sharing	Target 16: By 2025, access to	778,135.56	1,579,571.11	1,828,155.56	1,236,035.56	1,404,122.22	6,826,020.00
Biodiversity and development planning and finance	Target 5: By 2025, sustainable	412,500.00	677,566.67	436,460.00	411,146.67	274,100.00	2,211,773.33
Biodiversity awareness and knowledge	Target 1: By 2025, human and institutional	1,832,995.27	1,740,235.27	1,636,488.60	1,701,428.60	1,519,335.27	8,430,483.00
Biodiversity awareness and knowledge	Target 2: By 2025, traditional knowledge,	336,712.22	263,158.89	254,923.33	231,025.56	186,463.33	1,272,283.33
Biodiversity awareness and knowledge	Target 4: By 2025, biodiversity	757,850.00	900,606.67	1,210,746.67	948,780.00	550,980.00	4,368,963.33
Total							14,071,729.67
Biosafety	Target 9: By 2025, invasive alien species and ...	1,138,723.33	1,509,706.67	1,473,780.00	1,223,633.33	617,593.33	5,963,436.67
Biosafety	Target 14: By 2025, the level of protection on	873,620.00	953,597.78	1,372,897.78	244,551.11	802,600.00	4,247,266.67
Total							10,210,703.33
Green economy	Target 3: By 2025, at least 50% of the	844,093.33	859,493.33	669,076.67	766,493.33	712,653.33	3,851,810.00
Pollution management	Target 10: By 2025, pollution is reduced to minimise ...	1,515,006.67	3,462,382.22	2,878,408.89	2,822,832.22	1,973,016.67	12,651,646.67
Protected areas and other conservation measures	Target 12: By 2025, the extinction of	1,701,333.33	2,715,213.33	2,848,693.33	1,702,060.00	917,133.33	9,884,433.33
Protected areas and other conservation measures	Target 13: By 2025, the genetic diversity of wild and ...	467,980.00	2,644,250.00	2,357,340.00	2,328,930.00	1,590,900.00	9,389,400.00
Total							19,273,833.33
Restoration	Target 6: By 2025, at least 50% of the degraded ...	0.00	931,806.67	732,866.67	824,406.67	164,573.33	2,653,653.33

Table 6 cont.

		Fiscal Year (US$)					
Category	**Target**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**Total**
Sustainable use	Target 7: By 2025, aquatic	1,042,373.33	1,411,023.33	531,243.33	994,506.67	582,060.00	4,561,206.67
Sustainable use	Target 8: By 2025, area under forest cover is increased ...	996,550.00	978,283.33	892,163.33	910,583.33	892,163.33	4,669,743.33
Sustainable use	Target 11: By 2025, anthropogenic pressures on	565,563.33	770,816.67	615,416.67	799,496.67	519,350.00	3,270,643.33
Sustainable use	Target 15: By 2025, the supply of important ecosystem	1,673,830.00	2,069,993.33	1,840,086.67	1,528,366.67	1,332,313.33	8,444,590.00
Total							20,946,183.33

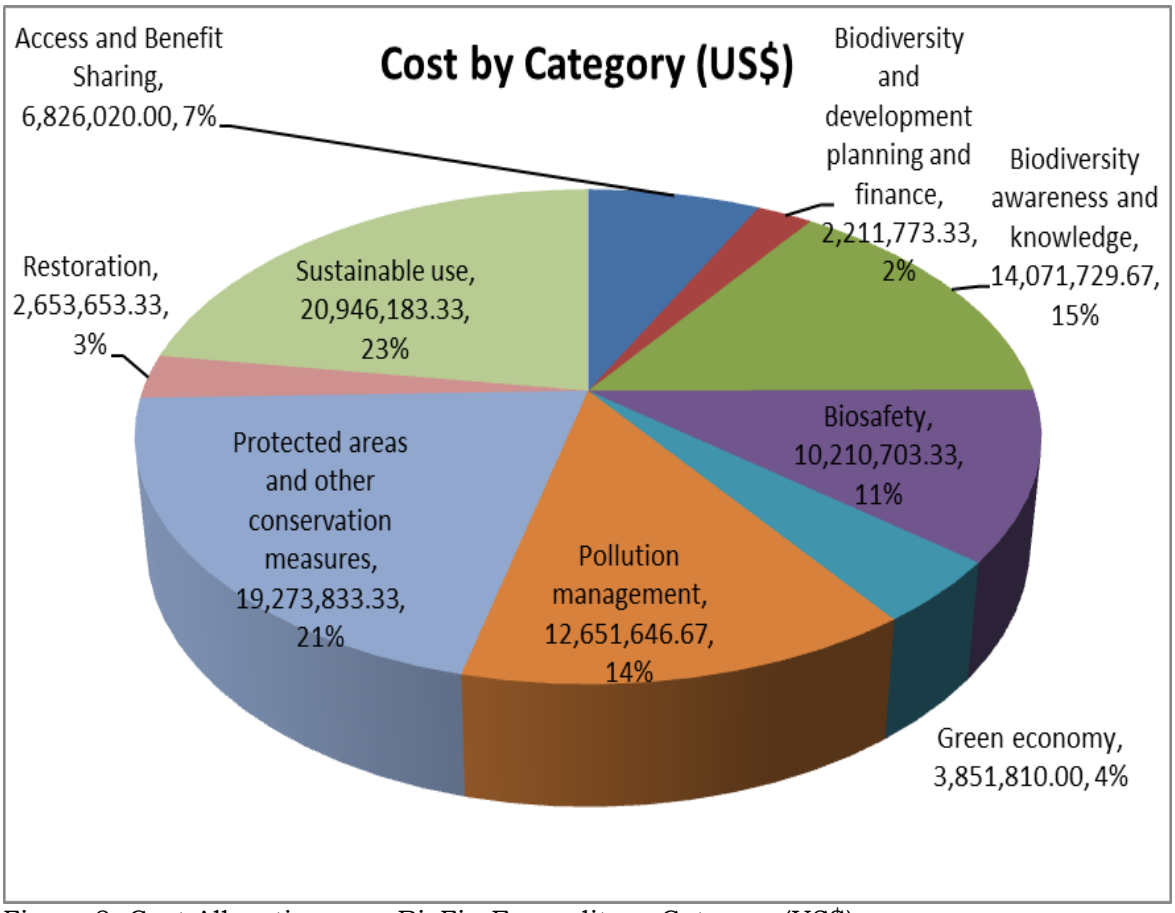

Figure 8: Cost Allocations per BioFin Expenditure Category (US$)

Table 7: Cost Allocations per BioFin Expenditure Category (%)

BioFin Category	NBSAP II Target	Total Sum	Cost Allocations (%)
Access and Benefit Sharing	Target 16: By 2025, access to genetic resources and traditional	6,826,020.00	7
Biodiversity & development planning & finance	Target 5: By 2025, sustainable financing mechanisms for …	2,211,773.33	2
Biodiversity awareness and knowledge	Target 1: By 2025, human and institutional capacity for science and technology related to biodiversity is improved		
Biodiversity awareness and knowledge	Target 2: By 2025, traditional knowledge, innovations and practices …	14,071,729.67	15
Biodiversity awareness and knowledge	Target 4: By 2025, biodiversity values are integrated into national, sectoral and local development policies and plans		
Biosafety	Target 9: By 2025, invasive alien species and their …		
	Target 14: By 2025, the level of protection on safe handling, …	10,210,703.33	11
Green economy	Target 3: By 2025, at least 50% of the Malawi population is …	3,851,810.00	4
Pollution management	Target 10: By 2025, pollution is reduced to minimise …	12,651,646.67	14
Protected areas & other conservation measures	Target 12: By 2025, the extinction of known threatened …		
	Target 13: By 2025, the genetic diversity of wild and …	19,273,833.33	21
Restoration	Target 6: By 2025, at least 50% of the degraded terrestrial …	2,653,653.33	3
Sustainable use	Target 7: By 2025, aquatic biodiversity is managed …		
	Target 8: By 2025, area under forest cover is increased by 4% …		
	Target 11: By 2025, anthropogenic pressures on vulnerable ecosystems are …	20,946,183.33	23
	Target 15: By 2025, the supply of important ecosystem services …		
Total		**92,697,353.00**	**100**

With reference to the tables and chart provided above, it can be seen that the 16 NBSAP II Targets touch all the nine BioFin categories. Four NBSAP II targets relate to Sustainable use and three NBSAP II targets relate to Biodiversity awareness and knowledge. This means that Sustainable use is the most common theme in the NBSAP II followed by Biodiversity awareness and

knowledge. In terms of monetary value, Sustainable use has the highest cost at US$20,946,183.33 followed by Protected areas and other conservation measures at US$19,273,833.33 then Biodiversity awareness and knowledge at US$ 14,071,729.67. The BioFin categories with the least costs are Biodiversity and development planning and finance at US$ 2,211,773.33 and Restoration at US$ 2,653,653.33.

3.5 Costs by Capital Development and Recurrent Costs

An assessment was undertaken to determine the distribution of costs between capital development and recurrent costs.[2] In this assessment, it was seen that the total capital development costs amounted to US$20,125,000.00 and the recurrent costs amounted to US$72,572,353.00. This translated into a distribution of 22% capital development costs and 78% recurrent costs. In terms of comparisons of distribution of costs per strategic objective, Strategic Objective Five was noted to have the least capital development costs at 6% whilst Strategic Objective One was noted to have the highest capital development costs at 29%. Table 8 depicts the distribution of costs by capital development and recurrent costs and figure 9 presents a column graph on the distribution of costs by capital development costs and recurrent costs.

[2] Capital development cost were classified as investments or expenditures for goods, services and tangible assets that would be utilised for more than one year. Reccurent costs were classified as exenditures related to operational costs and other activities that produce intangible assets.

Table 8: Cost Distribution by capital and recurrent costs

Activity	Amount (US$)	Distribution (%)	Activity	Amount (US$)	Distribution (%)
SO One: Improve Capacity and Knowledge on ...					
Target 1: By 2025, human and institutional capacity ...			Target 9: By 2025, invasive alien species ...		
Capital	3,785,500.00	45	**Capital**	2,138,000.00	36
Recurrent	4,644,983.00	55	**Recurrent**	3,825,436.67	64
Target 2: By 2025, traditional knowledge, innovations ...			Target 10: By 2025, pollution is reduced to minimise ...		
Capital	65,000.00	5	Capital	3,414,000.00	27
Recurrent	1,207,283.33	95	Recurrent	9,237,646.67	73
Target 3: By 2025, at least 50% of the Malawi population ...			Target 11: By 2025, anthropogenic pressures ...		
Capital	109,000.00	3	Capital	897,000.00	27
Recurrent	3,742,810.00	97	Recurrent	2,373,643.33	73
Aggregate Capital	**3,959,500.00**	**29**	**Aggregate Capital**	**9,113,000.00**	**27**
Aggregate Recurrent	**9,595,076.33**	**71**	**Aggregate Recurrent**	**24,657,330.00**	**73**
SO Two: Mainstream Biodiversity into National ...			**Strategic Objective Four: Improve the Status ...**		
Target 4: By 2025, biodiversity values are integrated ...			Target 12: By 2025, the extinction of known threatened ...		
Capital	*78,000.00*	*2*	Capital	2,516,000.00	25
Recurrent	*4,290,963.33*	*98*	Recurrent	7,368,433.33	75
Target 5: By 2025, sustainable financing mechanisms ...			Target 13: By 2025, the genetic diversity of wild and ...		
Capital	630,000.00	28	Capital	2,839,000.00	30
Recurrent	1,581,773.33	72	Recurrent	6,550,400.00	70
Aggregate Capital	**708,000.00**	**11**	Target 14: By 2025, the level of protection on safe ...		
Aggregate Recurrent	**5,872,736.67**	**89**	Capital	128,000.00	3
			Recurrent	4,119,266.67	97
SO Three: Reduce Direct Pressures on Biodiversity			**Aggregate Capital**	**5,483,000.00**	**23**
Target 6: By 2025, at least 50% of the degraded terrestrial ...			**Aggregate Recurrent**	**18,038,100.00**	**77**
Capital	631,000.00	24			
Recurrent	2,022,653.33	76	**SO Five: Enhance the Benefits to All from ...**		
Target 7: By 2025, aquatic biodiversity is managed ...			Target 15: By 2025, the supply of important ecosystem		
Capital	805,000.00	18	Capital	655,000.00	8
Recurrent	3,756,206.67	82	Recurrent	7,789,590.00	92
Target 8: By 2025, area under forest cover is increased ...			Target 16: By 2025, access to genetic resources ...		
Capital	1,228,000.00	26	Capital Cost	206,500.00	3
Recurrent	3,441,743.33	74	Recurrent Cost	6,619,520.00	97
			Aggregate Capital	**861,500.00**	**6**
			Aggregate Recurrent	**14,409,110.00**	**94**
Aggregate for all Targets					
Capital	*20,125,000.00*	*22*			
Recurrent	*72,572,353.00*	*78*			
Total	*92,697,353.00*	*100*			

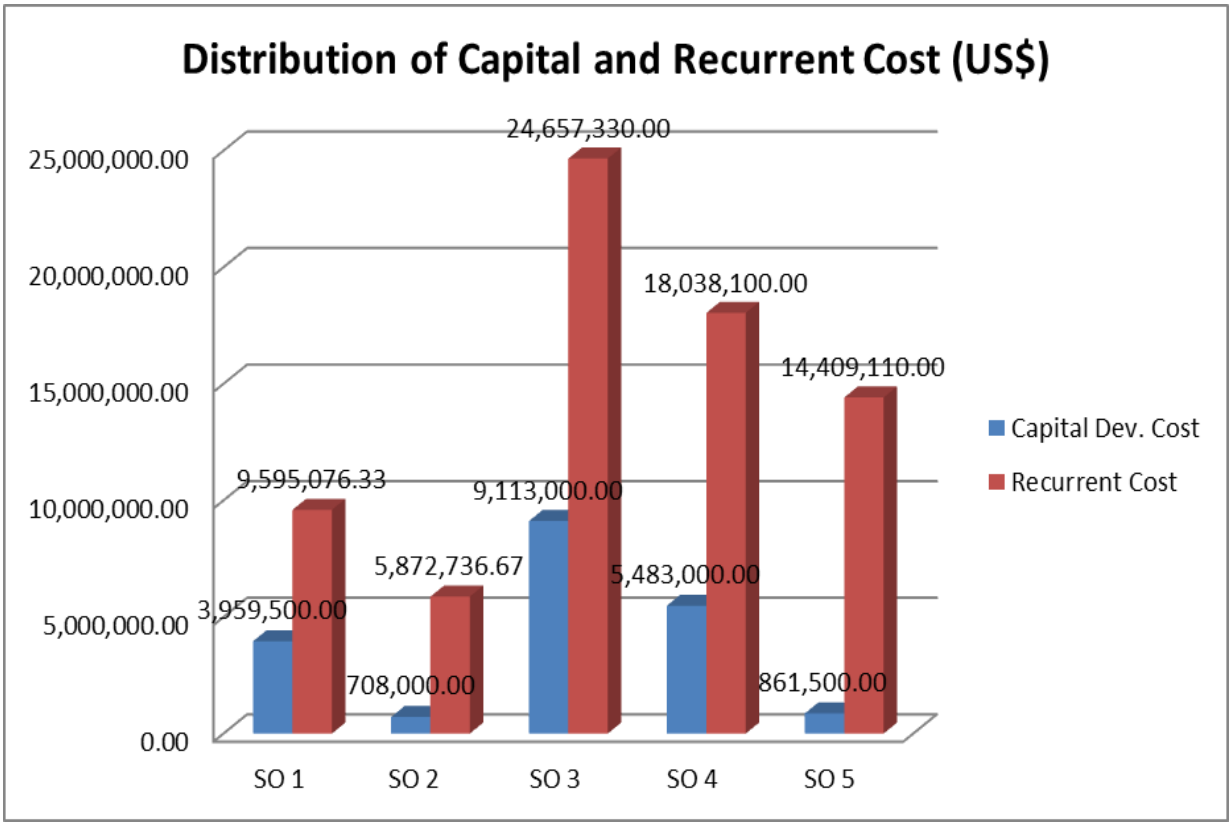

Figure 9: Cost Distribution by capital and recurrent costs

4 Financing Gap

4.1 The Unmet Finance Needs

A crucial aspect in the FNA process is the estimation of the unmet finance needs in a country. The BioFin workbook (UNDP, 2018) provides three approaches that can be undertaken to determine the unmet finance needs- that is the difference between the finance requirements as determined by the FNA and the financing that can be mobilised based on historical biodiversity expenditure data. The three approaches given are:

(1) FNA reflects unmet needs - This approach assumes that the biodiversity strategies costed are incremental and thus, except for specific financing identified for specific actions, the entire FNA directly reflects unmet financing needs;

(2) FNA-focused - Make one-on-one comparisons for specific activities in the FNA. For each FNA action, the BER can be examined to determine if there is a corresponding expenditure(s) closely tied to that action and the difference will be the unmet needs; and

(3) BER-focused - Reduce the BER results to only those fully captured in the FNA.

However, in our case, it has not been possible to quantify Malawi's biodiversity financial gap due to information gaps on the status of implementation of the NBSAP II (2015-2025), and incomparability of data on NBSAP II (2015-2025) expenditures by state and non-state actors and the BER. Some of the factors that have made it challenging to estimate the biodiversity financing gap in Malawi include:

(i) a mid-term evaluation of the financing and implementation of the NBSAP II (2015-2025) has not been undertaken hence it was not yet possible to have a definite figure on cumulative expenditures to date and pledged (future) financing for NBSAP II (2015-2025) targets and important biodiversity programmes;

(ii) the BER could not provide a basis for estimating the financing gap since the BER encompasses primary and secondary expenditures from various sectors (including recurrent expenditures not included in the NBSAP II) thereby skewing the actual amount of finance available or financing gaps to implement the NBSAP II; and

(iii) there is a paucity of data on the actual biodiversity programmes undertaken by non-state actors and the amount of biodiversity related investments undertaken by local and international non-state actors in Malawi. A lack of data on the non-state actor biodiversity investments and programmes can therefore distort estimates on the country's financing gap.

With reference to historical expenditure on biodiversity, the BER reported that Malawi's expenditure on biodiversity protection, management and conservation was estimated to be US$164 million over the past five years between 2016 and 2020 fiscal years, translating into an annual average expenditure of US$33 million. At first glance, from the estimated biodiversity expenditures, it might be assumed that Malawi makes substantial investments in the biodiversity sector hence might not necessarily require new biodiversity financing sources, collaborations and partnerships. However, in practice, the biodiversity expenditures provided in the BER are aggregated figures from various biodiversity related expenditures undertaken by various state and non-stake actors in various biodiversity related sectors and are not necessarily included in Malawi's priority biodiversity programmes, strategies and policies as presented in the NBSAP II (2015-2025). It is therefore difficult to compare the BER and the NBSAP II (2015-2025) costing. It should therefore not be assumed that Malawi's historical biodiversity expenditures signify that most or all biodiversity priorities are well funded.

4.2 NBSAP II (2015-2025) Finance Needs

Different methods, approaches and modalities were taken to develop the cost estimates for the NBSAP II and the FNA. This therefore brings to the fore the need to highlight the cost estimates for the two framework documents. In this regard the estimated implementation cost for the NBSAP II for the period 2015-2025 was US$117,000,000.00 whilst the FNA estimates US$92,697,353.00 for the period 2020-2025 as the total finance required to implement Malawi's biodiversity priorities.

An important limitation to the estimated cost provided in the NBSAP II is that the sum of US$117,000,000.00 provided in the NBSAP II was given as a provisional estimate with the final estimate envisaged to be provided once the NBSAP II was implemented and Activities (assessments) undertaken under Target 5 (by 2025, sustainable financing mechanisms for effective implementation of biodiversity programmes developed) were undertaken. However, since the implementation of the NBSAP II, the provisional estimate has not been revised. Moreover, the processes and methodology for the development of the NBSAP II shows that emphasis was placed on revising and incorporating targets not achieved/implemented in the NBSAP I into the NBSAP II rather than improving budgeting tools and processes.[3]

[3] See page 18 of the NBSAP II document (GoM, 2015).

5 Conclusions and Recommendations

The FNA has been prepared following the methodologies and processes in the BioFin Workbook 2018 (UNDP, 2018), albeit with minor deviations in order to conform to the Malawi context. The FNA is based on the biodiversity Targets and Actions promoted in the NBSAP II (2015-2025) hence even though the FNA has been developed as a standalone framework for determining biodiversity financial requirements, it is envisaged that it will provide a complimentary role to enhance the implementation of the NBSAP II (2015-2025).

The main findings are:

1. The total estimated implementation costs for the period 2020-2025 amount to approximately US$92,697,353.00;
2. Malawi's 2020/2021 national budget was estimated to be MK2.2 trillion (US$2.9 billion), whilst the FNA's 2020/2021 estimated costs for biodiversity investments amounted to approximately US$14,937.266.38, about 0.52% of the national budget;
3. The total capital development costs amount to US$20,125,000.00 and the recurrent costs amount to US$72,572,353.00 (i.e. a distribution of 22% capital development costs and 78% recurrent costs);
4. The BioFin category with the most financial demand was Sustainable use at US$20,946,183.33 and the BioFin category with the least financial demand was Biodiversity and development planning and finance at US$2,211,773.33;
5. The lowest and highest implementation costs for biodiversity targets were Target 2 at US$1,272,283.33 (1% of the total budget) and Target 10 at US$12,651,646.67 (14% of the total budget)respectively; and
6. It has not been possible to quantify Malawi's biodiversity financial gap due to information gaps and incomparability of data on NBSAP II expenditures by state and non-state actors.

Moving forward, some of the important observations and recommendations related to the FNA and FNA process in Malawi include:

1. The FNA was developed in 2020 which was the mid-term implementation mark for the NBSAP II (2015-2025). Unfortunately, a mid-term implementation evaluation of the NBSAP II was not undertaken. Arguably, if a mid-term implementation evaluation of the NBSAP II was undertaken, there would have been more data available to feed into the FNA particularly in identifying which areas in the NBSAP II implementation were facing the greatest challenges. It is therefore

recommended that there should be more efforts to increase the frequency to which long-term biodiversity frameworks are systematically evaluated. By adopting this recommendation, it can also be envisaged that implementation challenges in different biodiversity sectors can be highlighted in a timely manner and appropriate responses enacted swiftly.

2. The FNA has been developed based on the Targets and Actions of the NBSAP II. This led to the engagement and consultation of stakeholders to be principally based on central government departments and sectoral state and non-state actors involved in the implementation of biodiversity programmes. The FNA has therefore been developed with limited direct involvement of stakeholders from local government (i.e. City and District Councils) even though they have significant roles to play in developing local biodiversity management budgets and implementing biodiversity programmes.
3. The FNA has been developed by external consultants (the BioFin Consultants Team) rather than internal EAD (Biodiversity Division) staff. It will be important to strengthen the capacity of the EAD and critical stakeholders on the FNA methodology and approach in order to institutionalise the BioFin process and improve the efficiency of the NBSAP budget implementation. Moreover, efforts to improve the dialogue and awareness on the FNA methodology and approach to a diverse set of stakeholders can ensure that future biodiversity programmes and strategies developed bring out common and shared budget tools.
4. Malawi lacks a systematic framework to record the investments and contributions that non-state actors such as Non-Governmental Organisations and the private sector are undertaking in the biodiversity protection and conservation arena. The lack of such a framework possess challenges in biodiversity policy formulation since (i) it makes it challenging to determine the areas that are underinvested by non-state actors, (ii) it makes it challenging to estimate annual expenditures on biodiversity by non-state actors, and (iii) it makes it challenging to quantify the country's biodiversity financing gaps. The lack of such a framework also led to the FNA to have challenges in estimating the country's unmet finance needs (section 4). Malawi's biodiversity finance and budgeting landscape could therefore be improved by developing and implementing a system to accurately capture non-state actor biodiversity contributions.

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Annex I:

Estimated Costs per NBSAP II Targets

Estimated Costs per NBSAP II Targets

Strategic Objective One: Improve Capacity and Knowledge on Biodiversity Issues			
Target 1: By 2025, human and institutional capacity for science and technology related to biodiversity is improved	**Budget No.**	**Impl. Cost**	**% of Total**
a) Establish a National Biodiversity Information Facility	Sub-Total 1.1	2,614,861.33	31
b) Update an inventory of institutions that are involved in biodiversity research and management	Sub-Total 1.2	52,526.67	1
c) Assess knowledge gaps and identify priority research areas	Sub-Total 1.3	80,680.00	1
d) Enhance institutional capacity to manage and monitor implementation of biodiversity programmes	Sub-Total 1.4	2,163,276.67	26
e) Increase the number of programmes on biodiversity research	Sub-Total 1.5	1,733,906.67	21
f) Strengthen the capacity of training institutions on biodiversity research and dissemination	Sub-Total 1.6	895,151.67	11
g) Strengthen human capacity to manage biodiversity	Sub-Total 1.7	890,080.00	11
Total		**8,430,483.00**	**100**

Strategic Objective One: Improve Capacity and Knowledge on Biodiversity Issues			
Target 2: By 2025, traditional knowledge, innovations and practices of local communities are respected and harnessed in line with national and international legislation	**Budget No.**	**Impl. Cost**	**% of Total**
a) Update an inventory of traditional management systems, innovations and practices in Malawi	Sub-Total 1.8	337,920.00	27
b) Conduct awareness campaigns among communities, researchers and NGOs to raise the profile on the value of traditional systems and Knowledge	Sub-Total 1.9	480,390.00	38
c) Facilitate development of community protocols on traditional knowledge, practices and innovations	Sub-Total 1.10	87,366.67	7
d) Promote and upscale best traditional management systems	Sub-Total 1.11	366,606.67	29
Total		**1,272,283.33**	**100**

Strategic Objective One: Improve Capacity and Knowledge on Biodiversity Issues			
Target 3: By 2025, at least 50% of the Malawi population is aware of the value of biodiversity to ensure its conservation and sustainable use	**Budget No.**	**Impl. Cost**	**% of Total**
a) Develop a communication, education and public awareness strategy for biodiversity	Sub-Total 1.12	212,133.33	6
b) Integrate biodiversity issues in primary and secondary school curricula	Sub-Total 1.13	431,503.33	11
c) Conduct awareness campaigns on the importance of biodiversity	Sub-Total 1.14	1,421,800.00	37
d) Promote active participation of local communities in biodiversity conservation through various Community-Based Institutions	Sub-Total 1.15	517,713.33	13
e) Publications to raise the profile on biodiversity in Malawi	Sub-Total 1.16	951,100.00	25
f) Number of CBNRM programmes on biodiversity promoted	Sub-Total 1.17	317,560.00	8
Total		**3,851,810.00**	**100**

Strategic Objective Two: Mainstream Biodiversity into National, Sectoral and Local Development Plans			
Target 4: By 2025, biodiversity values are integrated into national, sectoral and local development policies and plans	**Budget No.**	**Impl. Cost**	**% of Total**
a)Conduct integrated ecosystem assessments and economic analyses to evaluate the specific contributions of biodiversity to the national economy and human well-being	Sub-Total 1.18	877,610.00	20
b) Integrate biodiversity poverty linkages into the Malawi Growth Development Strategy III	Sub-Total 1.19	238,533.33	5
c) Develop guidelines on how sectors and national planners can integrate biodiversity conservation into relevant policies and plans	Sub-Total 1.20	1,088,173.33	25
d) Identify and engage sectors to integrate biodiversity conservation	Sub-Total 1.21	1,246,060.00	29
e) Develop Local Biodiversity Strategies and Actions Plans (LBSAPs)	Sub-Total 1.22	918,586.67	21
Total		**4,368,963.33**	**100**

Strategic Objective Two: Mainstream Biodiversity into National, Sectoral and Local Development Plans			
Target 5: By 2025, sustainable financing mechanisms for effective implementation of biodiversity programmes developed	**Budget No.**	**Impl. Cost**	**% of Total**
a) Develop and implement a Biodiversity Resource Mobilisation Strategy	Sub-Total 1.23	864,626.67	39
b) Promote and implement innovative finance mechanisms such as Access and Benefit Sharing (ABS) and Public-Private Partnership (PPP) programmes	Sub-Total 1.24	684,886.67	31
c) Develop and implement market-based approaches for biodiversity conservation including Payment of Ecosystem Services (PES)	Sub-Total 1.25	662,260.00	30
Total		**2,211,773.33**	**100**

Strategic Objective Three: Reduce Direct Pressures on Biodiversity			
Target 6: By 2025, at least 50% of the degraded terrestrial habitats are restored and protected	**Budget No.**	**Impl. Cost**	**% of Total**
a) Identify degraded habitats	Sub-Total 1.26	185,953.33	7
b) Identify habitats with high species diversity	Sub-Total 1.27	109,953.33	4
c) Develop, review and implement strategies and programmes for restoring habitats	Sub-Total 1.28	1,326,726.67	50
d) Develop and implement programmes to protect habitats of high species diversity	Sub-Total 1.29	1,031,020.00	39
Total		**2,653,653.33**	**100**

Strategic Objective Three: Reduce Direct Pressures on Biodiversity			
Target 7: By 2025, aquatic biodiversity is managed and harvested sustainably within safe ecological limits	**Budget No.**	**Impl. Cost**	**% of Total**
a) Develop guidelines to promote integrated watershed management	Sub-Total 1.30	139,633.33	3
b) Develop programmes on integrated watershed management	Sub-Total 1.31	845,500.00	19
c) Promote use of legal fishing gear	Sub-Total 1.32	320,613.33	7
d) Develop a national wetlands policy	Sub-Total 1.33	109,613.33	2
e) Identify, rehabilitate and protect fish spawning and nursing areas	Sub-Total 1.34	1,328,013.33	29

f) Undertake ex-situ conservation of threatened or endangered aquatic species	Sub-Total 1.35	759,246.67	17
g) Review and implement strategies and plans for management of endemic fish species	Sub-Total 1.36	587,666.67	13
h) Reduce fishing effort in shallow waters by promoting deep-water fishing	Sub-Total 1.37	470,920.00	10
Total		**4,561,206.67**	**100**

Strategic Objective Three: Reduce Direct Pressures on Biodiversity			
Target 8: By 2025, area under forest cover is increased by 4% and managed sustainably, ensuring conservation of biodiversity	**Budget No.**	**Impl. Cost**	**% of Total**
a) Review and implement effective reforestation programmes that ensure survival and diversity of planted trees	Sub-Total 1.38	1,268,360.00	27
b) Develop and implement community-based programmes on conservation and sustainable use of forest biodiversity	Sub-Total 1.39	792,116.67	17
c) Promote improved forest management techniques	Sub-Total 1.40	848,473.33	18
d) Promote the use of alternative sources of energy	Sub-Total 1.41	1,760,793.33	38
Total		**4,669,743.33**	**100**

Strategic Objective Three: Reduce Direct Pressures on Biodiversity			
Target 9: 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	**Budget No.**	**Impl. Cost**	**% of Total**
a) Compile documentation and maps on IAS in Malawi, including an inventory of invasive alien species prevalent in the country	Sub-Total 1.42	106,286.67	2
b) Develop a national invasive species management plan	Sub-Total 1.43	361,416.67	6
c) Conduct awareness campaigns and build capacity of different stakeholders on how to identify, track and prevent IAS in their localities and on the threats of invasive alien species to biodiversity (cross-border inspection, quarantine and certification)	Sub-Total 1.44	522,213.33	9
d) Procure and upgrade inspection infrastructure for tracking and identifying IAS in Malawi	Sub-Total 1.45	1,851,800.00	31
e) Conduct capacity-building initiatives on invasive alien species monitoring	Sub-Total 1.46	445,720.00	7
f) Monitor the entry and spread of invasive alien species	Sub-Total 1.47	2,008,906.67	34

g) Regulate and control movement and spreading of IAS	Sub-Total 1.48	667,093.33	11
Total		**5,963,436.67**	**100**

Strategic Objective Three: Reduce Direct Pressures on Biodiversity			
Target 10: By 2025, pollution is reduced to minimise ecosystem degradation and biodiversity loss	**Budget No.**	**Impl. Cost**	**% of Total**
a) Procure equipment for monitoring environmental pollution	Sub-Total 1.49	2,613,266.67	21
b) Conduct capacity-building initiatives on monitoring of environmental pollution	Sub-Total 1.50	1,691,013.33	13
c) Develop and implement polluter pays principle regulations	Sub-Total 1.51	1,571,393.33	12
d) Develop programmes to promote the reduction, reuse and recycling of wastes	Sub-Total 1.52	3,879,246.67	31
e) Promote public-private partnerships on waste management	Sub-Total 1.53	1,422,006.67	11
f) Strengthen enforcement of policy and regulatory frameworks for pollution control	Sub-Total 1.54	1,474,720.00	12
Total		**12,651,646.67**	**100**

Strategic Objective Three: Reduce Direct Pressures on Biodiversity			
Target 11: By 2025, anthropogenic pressures on vulnerable ecosystems are minimised, thereby improving ecosystems resilience to climate change	**Budget No.**	**Impl. Cost**	**% of Total**
a) Promote alternative energy sources to fuel wood and charcoal	Sub-Total 1.55	525,953.33	16
b) Promote sustainable livelihood programmes such as bee keeping and mushroom production	Sub-Total 1.56	881,433.33	27
c) Identify and promote REDD+ programmes	Sub-Total 1.57	359,750.00	11
d) Promote afforestation programmes	Sub-Total 1.58	882,563.33	27
e) Promote initiatives on payment of ecosystem services	Sub-Total 1.59	377,316.67	12
f) Promote the enforcement of legislation	Sub-Total 1.60	243,626.67	7
Total		**3,270,643.33**	**100**

Strategic Objective Four: Improve the Status of Biodiversity			
Target 12: By 2025, the extinction of known threatened species is prevented and their conservation status is improved and sustained	**Budget No.**	**Impl. Cost**	**% of Total**
a) Update the National Red Data List	Sub-Total 1.61	91,660.00	1
b) Increase connectivity between protected areas and wildlife home ranges both locally and internationally	Sub-Total 1.62	691,506.67	7
c) Reintroduce species that have been locally extinct	Sub-Total 1.63	3,462,500.00	35
d) Develop and implement strategies to manage threatened and endemic species	Sub-Total 1.64	1,807,240.00	18
e) Conduct robust species monitoring using methods that account for both common and threatened species	Sub-Total 1.65	1,566,493.33	16
f) Identify and characterise biodiversity hotspots	Sub-Total 1.66	231,753.33	2
g) Ensure that current protected areas with special designations (biosphere reserves, Ramsar sites, world heritage sites) actively seek and are able to access funds through these designations	Sub-Total 1.67	1,531,993.33	15
h) Develop a National Action Plan for implementation of Programme of Work on Protected Areas (POWPA)	Sub-Total 1.68	501,286.67	5
Total		**9,884,433.33**	**100**

Strategic Objective Four: Improve the Status of Biodiversity			
Target 13: By 2025, the genetic diversity of wild and domesticated plants and animals is maintained and safe guarded	**Budget No.**	**Impl. Cost**	**% of Total**
a) Document community practices and traditional knowledge on agro-biodiversity management	Sub-Total 1.69	238,713.33	3
b) Develop guidelines for the collection, characterisation and conservation of germplasm	Sub-Total 1.70	201,600.00	2
c) Conduct capacity-building initiatives on collection, characterisation and conservation of species	Sub-Total 1.71	1,098,026.67	12
d) Procure equipment for collection characterization and conservation of species	Sub-Total 1.72	947,000.00	10
e) Update land use maps and management plans for biodiversity conservation sites	Sub-Total 1.73	114,933.33	1
f) Conduct research on genetic variation of domesticated wild plants	Sub-Total 1.74	533,373.33	6
g) Develop mechanisms to harmonise activities of organisations dealing with agro-biodiversity	Sub-Total 1.75	346,513.33	4

conservation (genetic material conservation)			
h) Promote the cultivation of indigenous plant species such as fruits and vegetables to enhance their preservation	Sub-Total 1.76	895,120.00	10
i) Maintain and promote local land races by establishing local community and provincial gene banks	Sub-Total 1.77	894,906.67	10
j) Promote farmers rights and collaborate on prioritisation	Sub-Total 1.78	1,077,060.00	11
k) Collect representatives of common flora and fauna currently not available in the Herbarium and Museums' Natural History collections	Sub-Total 1.79	1,666,893.33	18
l) Conduct targeted conservation research in biodiversity hotspots	Sub-Total 1.80	1,375,260.00	15
Total		**9,389,400.00**	**100**

Strategic Objective Four: Improve the Status of Biodiversity			
Target 14: 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	**Budget No.**	**Impl. Cost**	**% of Total**
a) Revise the Biosafety Act and regulations	Sub-Total 1.81	654,540.00	15
b) Conduct public awareness campaigns on biosafety legislation	Sub-Total 1.82	462,280.00	11
c) Develop and implement a National Biosafety Capacity Building Plan	Sub-Total 1.83	826,140.00	19
d) Establish national systems for documentation, management and information sharing on biosafety	Sub-Total 1.84	1,279,740.00	30
e) Establish an effective detection and monitoring system for biotechnology	Sub-Total 1.85	1,024,566.67	24
Total		4,247,266.67	100

Strategic Objective Five: Enhance the Benefits to All from Biodiversity and Ecosystem Services			
Target 15: By 2025, the supply of important ecosystem services is safeguarded and restored, taking into account gender roles and responsibilities of the youth, the poor and the vulnerable	**Budget No.**	**Impl. Cost**	**% of Total**
a) Develop policy and legislative frameworks on biodiversity management that take into account the needs of vulnerable groups and gender roles	Sub-Total 1.86	1,019,063.33	12
b) Develop and implement collaborative management programmes for the terrestrial and	Sub-Total 1.87	4,469,400.00	53

aquatic ecosystems with the participation of vulnerable groups, including women			
c) Conduct awareness-raising campaigns in the fringes of protected ecosystems on biodiversity management from a poverty and gender perspective	Sub-Total 1.88	1,082,486.67	13
d) Develop programmes to support alternative income-generating activities that can take away pressure from the ecosystems, support livelihoods and address gender issues (e.g. bee keeping; energy efficient stoves)	Sub-Total 1.89	1,873,640.00	22
Total		**8,444,590.00**	**100**

Strategic Objective Five: Enhance the Benefits to All from Biodiversity and Ecosystem Services			
Target 16: By 2025, access to genetic resources and traditional knowledge is regulated and benefits arising from utilisation of the resources and associated traditional knowledge are shared in a fair and equitable manner	**Budget No.**	**Impl. Cost**	**% of Total**
a) Develop legislation on Access and Benefit Sharing (ABS) and Intellectual Property Rights (IPR)	Sub-Total 1.90	961,453.33	14
b) Conduct sensitisation on the ABS and IPR legislation at all levels	Sub-Total 1.91	769,506.67	11
c) Develop a valorisation strategy for Malawi	Sub-Total 1.92	1,560,353.33	23
d) Strengthen capacity of institutions and local communities to effectively participate in negotiations, regulation and monitoring compliance of genetic resources (GR) and traditional knowledge (TK) users	Sub-Total 1.93	994,266.67	15
e) Establish an effective system for monitoring and tracking compliance to ABS legislation	Sub-Total 1.94	885,740.00	13
f) Establish institutional and administrative structures to facilitate implementation of the Nagoya Protocol in Malawi	Sub-Total 1.95	735,300.00	11
g) Establish an effective mechanism for documentation, management and sharing of information related to ABS and ensure effective participation in the Access and Benefit Sharing Clearing House (ABS-CH)	Sub-Total 1.96	919,400.00	13
Total		**6,826,020.00**	**100**

Annex II:

Detailed Cost Estimations per Action (Target 8, Action A)

Detailed Cost Estimates

This section presents a detailed breakdown of the cost estimates for implementing Action A (Review and implement effective reforestation programmes that ensure survival and diversity of planted trees) of Target 8 of the NBSAP II (Target 8: By 2025, area under forest cover is increased by 4% and managed sustainably, ensuring conservation of biodiversity). Reference can be made to Annex III for the detailed breakdowns of all the Targets and Actions contained in the NBSAP II.

Action	a) Review and implement effective reforestation programmes that ensure survival and diversity of planted trees							
Outputs/Outcome	a) Number of reforestation programmes reviewed and implemented							
Activities	**Item**	**sub-item**	**Unit Cost ($)**	**Units**	**Days**	**Freq.**	**Total ($)**	**Item aggr.**
Evaluate impacts of local and international reforestation programmes/Evaluate impacts of various implementation modalities	Undertake studies on impacts of tree planting initiatives and reforestation modalities	Int. Consultant Airfare	1,200.00	1.00	1.00	1.00	1,200.00	48,413.33
		Int. Consultant Prof. Fees	300.00	1.00	25.00	1.00	7,500.00	
		Local Consultant Pro. Fee	300.00	2.00	15.00	1.00	9,000.00	
		Int. Consultant Per diem	140.00	1.00	25.00	1.00	3,500.00	
		Local Consultant Per diem	133.33	2.00	15.00	1.00	4,000.00	
		Consultants Travel	33.33	1.00	25.00	1.00	833.33	
		Airtime & communication	13.33	1.00	25.00	1.00	333.33	
		Misc. (Advertising, etc.)	500.00	1.00	1.00	1.00	500.00	
		Allowances (G)	40.00	2.00	6.00	1.00	480.00	

		Facilitation	20,000.00	1.00	1.00	1.00	20,000.00	
		Venue	1,066.67	1.00	1.00	1.00	1,066.67	
	Undertake systematic observations on the impacts of national reforestation programmes	Allowances (G)	40.00	3.00	8.00	5.00	4,800.00	321,000.00
		Allowances	133.33	3.00	8.00	5.00	16,000.00	
		Transport and fuel	53.33	3.00	4.00	5.00	3,200.00	
		Airtime & communication	33.33	3.00	4.00	5.00	2,000.00	
		Misc. (Support staff, etc.)	1,800.00	4.00	1.00	5.00	36,000.00	
		Facilitation-Surveys, training and workshops	25,000.00	2.00	1.00	5.00	250,000.00	
		Printing & dissemination	900.00	2.00	1.00	5.00	9,000.00	
	Disseminate results through media and stakeholder engagement through workshops	Facilitation	5,000.00	1.00	1.00	5.00	25,000.00	56,333.33
		Media costs (TV, Radio, Social media, newspaper)	4,000.00	1.00	1.00	5.00	20,000.00	

		Printing & distribution	1,200.00	1.00	1.00	5.00	6,000.00	
		Venue	1,066.67	1.00	1.00	5.00	5,333.33	
Create digital map and database of priority reforestation programmes	Mapping and digitisation of priority reforestation programmes (commission consultancy or use similar modality)	Allowances (G)	40.00	2.00	6.00	2.00	960.00	28,080.00
		Transport and fuel	53.33	1.00	1.00	2.00	106.67	
		Airtime & communication	13.33	1.00	1.00	1.00	13.33	
		Database consultant	15,000.00	1.00	1.00	1.00	15,000.00	
		Facilitation & training (including training)	12,000.00	1.00	1.00	1.00	12,000.00	
Capacity building and awareness raising	Identify and evaluate reforestation programmes to implement and implementation modalities	Allowances (G)	40.00	2.00	6.00	5.00	2,400.00	67,033.33
		Transport and fuel	53.33	1.00	3.00	5.00	800.00	
		Airtime & communication	33.33	1.00	3.00	5.00	500.00	
		Venue	1,066.67	1.00	1.00	5.00	5,333.33	
		Facilitation	8,000.00	1.00	1.00	5.00	40,000.00	
		Misc. (Support	3,000.00	1.00	1.00	5.00	15,000.00	

		staff, etc.)						
		Printing & dissemination	600.00	1.00	1.00	5.00	3,000.00	
	Launch reforestation pilot programmes using different funding and management modalities	Allowances (G)	40.00	2.00	6.00	5.00	2,400.00	483,700.00
		Transport and fuel	53.33	1.00	3.00	5.00	800.00	
		Airtime & communication	33.33	1.00	3.00	5.00	500.00	
		Facilitation	3,000.00	3.00	1.00	5.00	45,000.00	
		Co-Funding	12,000.00	6.00	1.00	5.00	360,000.00	
		Misc. (Support staff, meals, printing, etc.)	2,500.00	6.00	1.00	5.00	75,000.00	
	Support stakeholders to implement reforestation programmes using different funding and management modalities through technical support	Allowances (G)	40.00	2.00	6.00	5.00	2,400.00	175,900.00

		Transport and fuel	53.33	1.00	3.00	5.00	800.00	
		Airtime & communication	13.33	1.00	3.00	5.00	200.00	
		Facilitation-Workshops and training	9,000.00	3.00	1.00	5.00	135,000.00	
		Misc. (Support staff, meals, printing, etc.)	2,500.00	3.00	1.00	5.00	37,500.00	
	Disseminate results through workshops and media	Allowances (G)	40.00	2.00	6.00	5.00	2,400.00	87,900.00
		Transport and fuel	53.33	1.00	3.00	5.00	800.00	
		Airtime & communication	13.33	1.00	3.00	5.00	200.00	
		Printing and stationery	900.00	1.00	1.00	5.00	4,500.00	
		Facilitation	4,500.00	1.00	1.00	5.00	22,500.00	
		Media costs (TV, Radio, newspaper)	9,000.00	1.00	1.00	5.00	45,000.00	
		Misc. (Support staff, Dissemination, Meals, etc.)	2,500.00	1.00	1.00	5.00	12,500.00	
Sub-Total 1.38							**1,268,360.00**	

Annex III:

Detailed Cost Tables

See attached Excel file.