Ministry of Land & Environment

BIODIVESITY FINANCE PLAN

MOZAMBIQUE

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LIST OF ACRONYMS

AFD	African Development Bank
ANAC	National Administration for Conservation Areas
BIOFIN	Biodiversity Finance
CBD	Convention of Biological Diversity
CDCF	Community Development Carbon Fund
COP	Conference of Parties
DINAB	National Directorate of Environment
DINAF	National Directorate of Forest
DINAS	National Directorate of Agriculture and Silviculture
EIA	Environmental Impact Assessment
FDF	Fisheries Development Fund
FFEM	French Fund for Global Environment
FNDS	National Sustainable Development Fund
IFC	International Finance Corporation
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEF	Global Environmental Facility
GER	Roadmap for Green Economy
KfW	Kreditanstalt für Wiederaufbau
M&E	Monitoring and Evaluation
MEF	Ministry of Economy and Finance
MICOA	Ministry For Coordination Of Environmental Action
MTA	Ministry of Land and Environment
MPD	Ministry of Planning and Development
NBSAP	National Biodiversity Strategy and Action Plan
NEPAD	New Partnership for African Development
NG	Net Gain
NGO	Non-Governmental Organization
NNL	No Net Loss
PES	Payment for Ecosystem Services
REDD+	Reducing Emissions from Deforestation & Forest Degradation
SADC	Southern African Development Community
SDG	Sustainable Development Goals
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention for Climate Change
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Mozambique has extraordinary biodiversity, encompassed in the country's diverse terrestrial, coastal, marine, and interior water ecosystems. Biodiversity directly and indirectly contributes to many of the country's economic sectors, including agriculture, forestry, fisheries, hydroelectric power generation, and tourism,

To safeguard the country's rich biodiversity, Mozambique has developed various mechanisms, including the establishment of conservation areas (terrestrial and marine), in the form of 7 national parks, 10 national reserves, 20 Coutadas, 3 community conservation areas, 50 Game farms and 13 forestry reserves, which account for about 26% of the country's territory. Mozambique's vision and strategies for biodiversity conservation are encapsulated in its National Biodiversity Strategy and Action Plan (NBSAP) of 2015-2035 - stating that "*By 2035, the ecological, socio-economic and cultural values of biodiversity should have contributed directly to the improvement of quality of life of Mozambicans, derived from biodiversity conservation and fair and equitable sharing of benefits from sustainable utilization of its components*". To effectively implement the NBSAP and achieve its set targets, the biodiversity sector requires at least US$120million for a once off investment to improve the management infrastructure, biodiversity inventories, planning and the requisite capacity to manage the country's biodiversity. This initial outlay would require supplementary allocations of at least US$70million/annum to effectively manage the biodiversity inside and outside the conservation areas.

Financial allocation to the Mozambique's biodiversity sector by the government, international cooperating partners, NGOs, and the private sector average at about US$29.7million/annum. However, considering that Mozambique heavily depends on the unreliable and unsustainable funding (≈ US$22 million/annum) from the bilateral and international cooperating partners, the funding gaps, if only the government funding of approximately US$8 million/annum is considered, is about US$112 million for the initial investment, and US$62 million/annum required to effectively manage the country's rich biodiversity.

To address the funding gap, the Biodiversity Finance Initiative (BIOFIN) has implemented a series of technical assessments, including: (i) the Biodiversity Finance Policy and Institutional Review (PIR), which examined the enabling policies and institutional context in which to initiate new, and/or upscale existing biodiversity finance solutions and identified the key stakeholders in Mozambique to involve in this process; (ii) the Biodiversity expenditure Review (BER), which analyzed the public and private expenditure on biodiversity conservation; and (iii) the Biodiversity Finance Needs Assessment (FNA), which estimated the investment required to implement the NBSAP and achieve the national biodiversity targets.

This Biodiversity Finance Plan (BFP) has been developed to identify the *biodiversity finance solutions* that have the potential to significantly improve the management and financing of biodiversity management in Mozambique. The *Vision* for the national BFP is *"sustainable and innovative financing for biodiversity conservation and management attained by 2035"*. The *mission* is "to mobilize adequate additional financial resources to meet the biodiversity funding gap as well as ensure that funds are used efficiently and effectively to address the biodiversity and ecosystem

challenges in the country." The primary objective is to ensure that Mozambique's unique and valuable biodiversity is protected and maintained through, in part, the adequate financing of the biodiversity conservation and management interventions.

The approach to developing the BFP consisted of the following key steps:

a) Reviewing reports and materials with relevance to biodiversity finance solutions currently in use or under consideration for use in Mozambique and internationally.
b) Reviewing all the NBSAP costable actions.
c) Broadly identifying an initial list of biodiversity finance solutions which showed some level of potential and linking them to the NBSAP costable actions where possible.
d) Broadly assessing the initial list of solutions in terms of their feasibility, acceptability, likely revenue or cost cutting potential.
e) Screening the initial list of solutions in order to prioritise those with the highest potential.
f) Conducting detailed assessments of the prioritized solutions focusing on their feasibility, key responsible actors, social, economic and political implications.
g) Developing of action plans to implement the prioritized solutions.

According to BIOFIN (2016), Finance Solutions are a means of using one or more finance mechanism or instrument in a context, which results in the improvement of biodiversity conservation and management. Finance solutions can result in:

- An increase in funding, either from new sources (e.g. innovative finance) or existing sources
- Better spending of existing funds
- Reducing costs associated with biodiversity conservation and management
- Realigning neutral or harmful expenditure to be beneficial (such as adjusting agricultural subsidies to support green agriculture)

Finance solutions should address specific needs and challenges.

The BFP presents a national approach to biodiversity finance, encompassing a suite of priority finance solutions. It builds on progress already being made in Mozambique in diversifying the financial solutions for biodiversity management. The BFP has been developed to identify and support the implementation of *biodiversity finance solutions* that have the potential to significantly improve the financing of biodiversity management in Mozambique.

Seventeen potential Finance Solutions have been identified, among which six have been prioritized for either improvement, scale-up, or piloting. The prioritized Finance Solution, include the following:

Improving public budget allocations and enhancement of public budget execution

Government funding is the most consistent source of finance for the biodiversity management programmes in Mozambique, albeit being insufficient. The amount of funds allocated to each ministry and department depends largely on the amount of revenue being generated by individual departments/ministries, clarity in the budget's rationale, and its linkage/contribution to achieving the overarching Social and Economic Development Plan, the Sustainable Development Goals, and the supplementary national development plans and strategies. On average,

the government has been allocating about Mt179.52 billion (US$28,795,300)[1] per annum, while expenditure rate has been at about 89% of the allocated amounts per annum. The annual allocations are significantly lower than the requirement for effective management of biodiversity, estimated at US$120 million for a once off investment and US$70 million/annum for effective management of biodiversity in the country. Several factors have been attributed to insufficient investment in the biodiversity sector:

a) The full range of biodiversity values and their contribution to the national economic development are poorly estimated; hence inadequately understood and appreciated by the government.
b) Poor quantification, coding, and tracing of revenues being collected from sustainable use of natural resources (e.g., concession fees, taxes, levies, etc.), consequently, the biodiversity sector gets relatively low funding from the government, compared to other sectors, such as education, military, health, etc.; and
c) Inadequate coordination between departments (e.g. ANAC, DINAF, DINAB) within the Ministry of Environment and Land (MTA), as well as inter-ministerial (MTA, MICTUR, MIMAIP, MASA & MOPHRH) in the process of budget preparation. Consequently, the submitted budgets do not present compelling business case for the government to increase funding for biodiversity management programmes in Mozambique.

The objectives of this finance solution is therefore, to increase government's financial allocation to the biodiversity sector, through: (i) development of capacity within all the state institutions involved in the environment and biodiversity conservation and management to produce and present well-formulated results-based budgets that meet the requirements of MEF; (ii) train the government officials in quantification, coding, and tracing of revenues being collected from the User-Pays initiatives (e.g., concession fees, taxes, levies, etc.) in the wildlife, forestry and fisheries sectors; and (iii) Train them in budget preparation, and making compelling business cases for the government to increase funding for biodiversity management programmes in Mozambique.

Improving revenue earned from recreational/sport hunting

Trophy hunting or sport hunting of wild game for human recreation is a well-recognized form of sustainable utilization of wildlife and a key tourists' attraction in Mozambique, and other countries in the SADC region. State licensed hunting is done in 20 Coutadas (managed hunting reserves) established across the country. The Mozambican government, through the National Administration for Conservation Areas (ANAC) has developed a *Hunting Strategy*, which sets principles and a fee system, comprising an annual concession tax, and hunting license and trophy fees.

Available information on revenue earned from sport hunting show that in 2016, only about US$578,751 was earned. Several factors can be attributed to the low revenue collection, such as poor monitoring of the industry,

[1] This amount is inclusive of government's own resources and funds from other external sources, such as bilateral and international cooperating partners.

low and uncompetitive concession and license fees, and low capacity to carryout regular wildlife population censuses, and set quotas for sustainable offtake of the target species in the industry.

The objective of proposing improvements to this finance solution is to improve revenue earning from recreation hunting, through: (i) improved quota setting, guided by population estimates of the target species, using internationally recognised census survey techniques; (ii) benchmarking the concession and hunting license fees on what is pertaining in other countries in the SADC region, where safari hunting is a recognised form of sustainable use of wildlife; and (iii) improve monitoring, tracing and disbursement of revenues from recreational hunting in Mozambique.

Improved capture and administration of revenue from the "User-Pays" initiatives (licenses, fees, fines, tickets, etc.) in the wildlife, forestry and fisheries sectors

Mozambique has remarkable potential to improve on revenue collection from the User-Pays initiatives for ploughing back into biodiversity management programmes. Several legislative frameworks (*see* text Box 5) have provisions for capturing revenues from exploration and utilisation of natural resources. Examples in this regard include: (i) fees for entrance into conservation areas, ecotourism development concessions, commercial and sport fishing, forestry/timber exploitation concessions, hydrocarbon and mineral resources exploration and exploitation; (ii) bioprospecting; (iii) taxes, and (iv) fines for infringement of the various legislation. Currently, there is poor and uncoordinated approach to collecting, coding and tracking of the revenues from the various User-Pays initiatives in the country. The *e*-SISTAFE system, which can be used in coding revenues by source is not being effectively used.

The objective of this finance solution is, therefore, to expand and improve revenue generation and collection from a full-range of the User-Pays initiatives for re-investment in biodiversity conservation programmes, through: (i) revising the relevant legislation (*see* text Box 5) to optimize revenue from the full range of the "User-Pays" opportunities; (ii) capacity building of the MTA personnel in the application of the *e-SISTAFE*, which establishes the rules and procedures for the coding, management, control, disbursement and tracking of public funds in Mozambique; (iii) benchmarking the fees structure with the best in the SADC region for entrance into conservation areas, ecotourism development concessions, commercial and sport fishing, forestry/timber exploitation, hydrocarbon and mineral resources exploration and exploitation, bioprospecting and fines for infringement of the various natural resources-based legislation.

Biodiversity Offsets

Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual biodiversity loss arising from development after appropriate prevention and mitigation measures have been taken. Offsets can, for example, deliver biodiversity benefits (e.g. reforestation) through a transaction, where offset sellers (e.g. conservation NGOs) sell offsets to developers (e.g. mining companies, construction companies, etc.) seeking to compensate the residual biodiversity loss resulting from development activities. The potential to initiate and scale-up biodiversity offsets as one of the solutions to contributing to

biodiversity conservation in Mozambique is very high because the country is on a path of fast economic growth. The country's Gross Domestic Product (GDP), which between 2006 and 2015 grew on average by 7.3% per annum, is projected to increase to an average of about 15% per year in the early 2020's. This growth is largely being attributed to the natural gas sector, which is expected to represent about half of the national economy. The private sector companies exploiting the hydrocarbon/gas resources are required to protect biodiversity in order to comply with the *International Finance Corporation's 2012 Environmental and Social Performance Standards*, the *Equator Principles*, and numerous national legal frameworks. Alongside the hydrocarbon exploitation, several other economic sectors are expected to grow, such as mining, urbanization, construction of public and private infrastructure, etc., increasing the need for a robust, functioning biodiversity offsets system in Mozambique as soon as possible.

By 2020, three partners (BIOFUND, WCS and UNDP - BIOFIN) were working with the Government to create an enabling environment for implementation of the best practices for biodiversity offset in Mozambique and were exploring innovative mechanisms to enable biodiversity offsets to support biodiversity conservation in the country. In addition, Mozambique has several legal frameworks (*see* text Box 4) with provisions, which could potentially oblige developers, or natural resource users to compensate for the damage or pollution of biodiversity, including ecosystems. Several of these legislation (see text Box 4) require some revision to incorporate procedures and criteria for implementing Biodiversity Offsets.

The objective of this finance solution is to increase revenue for investment in the biodiversity conservation sector, through the development and implementation of a functioning biodiversity offsets system/mechanism. This should be achieved by: (i) developing a national compliance framework to assist the developers (hydrocarbon, mining, and large infrastructure development companies) to fulfill their obligations for Biodiversity Offset; (ii) revising the multiple legislation (*see* Box 4) and harmonizing the guidelines and criteria for obligating the hydrocarbon, mining, and large construction companies to compensate for the damage or pollution of biodiversity, and ecosystems to implement the NNL/NG and biodiversity offsets; (iii) formalizing the process of channeling revenues from Biodiversity Offset to the BIOFUND for re-investment in biodiversity conservation programmes; and (iv) enforcing the International Finance Corporation (IFC) Performance Standard 6 (PS6) for large-scale mining operations financed by IFC to carryout environmental and social impact assessments, including application of the Mitigation Hierarch and Biodiversity Offset to promote biodiversity conservation and sustainable management of natural resources.

Upscale Co-management of Conservation Areas

Co-management is a process of the government's sharing of responsibilities with either the private sector entity, Foundation, or NGO in the management of Conservation Areas. Co-management of Conservation Areas is recognised in the Biodiversity Conservation Law, No. 16/2014 of 20 June; Law of the Sea and Fisheries, No. 4/96, of January 4 and likely to be included in the new Forestry legislation, which is being drafted.

Mozambique has already adopted diverse co-management models, including long-term concessions, devolvement of responsibility to a partner, provision of technical assistance by NGOs, or collaboration with NGOs in the management of Conservation Areas. Over the past decades, the Mozambican government has partnered with multiple entities (see text Box 7). These co-management partners provide financial and technical resources that would otherwise not be available for conservation, especially where park authorities are under-funded. Concession contracts and associated user fees being generated are re-invested into Conservation Areas' management. Similarly, partnerships with the private sector in marketing ecotourism in conservation areas should be upscaled to boost revenue earning from ecotourism and the expertise necessary to position Mozambique in the highly competitive international nature tourism industry.

The objective of this finance solution is in two parts. Firstly, it is to leverage funding from the private sector, conservation NGOs and Foundation for improved Conservation Areas' management in Mozambique, through: (i) issuing a special Decree to provide criteria and guidelines for screening potential partners with whom to enter into co-management arrangements for conservation areas; and (ii) brokering long-term partnerships for the management of conservation areas. Secondly, it is to increase the incentives for community biodiversity stewardship, through: (i) facilitating intra and inter-ministerial processes of improving collection of revenues, including coding, tracing and disbursement to the deserving communities; (ii) facilitating the process of depositing revenues being collected for sharing with local communities from various sustainable use initiatives (forestry, wildlife, tourism, fisheries, etc.) into one centralized Fund, such as the FNDS; (iii) developing guidelines/criteria for administering funds generated from taxes for exploitation of natural resources and sustainable use of biodiversity and disbursing them for rural development endeavours; and (iv) revising all the legislation (*see* text Box 7) to incorporate conditions/obligations for improved accountability, community responsibility, and legally binding agreements between the state and communities, through their Associações – clearly specifying the responsibilities of the state and communities in the public-community partnerships in the management of biodiversity in and outside conservation areas.

Scale-Up Carbon Credit Marketing

Carbon markets have become one of the main approaches to mitigating the climate crisis worldwide, allowing governments, companies, and individuals to compensate their own emissions by financing emissions reductions. Mozambique, with 32 million hectares covered by natural forests, sequestrates more than 5.2 billion tCO_2 per annum; thus, providing an enormous opportunity for both contributing to climate change mitigation and investing revenues from carbon offsets to support biodiversity conservation in the country. Considering the abrupt collapse of tourism due to the Coronavirus pandemic which has reduced revenue earning from ecotourism, Carbon credits should be advanced as one possible source of new funding, but this market's real potential to contribute to biodiversity conservation is yet to be established in Mozambique.

Irrespective of this uncertainty, the objective of this finance solution is to leverage funding from marketing Carbon Credits. This should be achieved through: (i) seeking assistance from the World Bank to access the carbon credit

markets. The Work Bank is currently the biggest carbon investor in Africa. It has launched three carbon funds; Prototype Carbon Fund (PCF), Community Development Carbon Fund (CDCF), and BioCarbon Fund. Tapping into these initiatives should be prioritized by Mozambique; and (ii) find a trusted broker to assist Mozambique access the Carbon Credit markets.

Estimated Financial Benefit from the Prioritized Finance Solutions

The estimated net financial gains, associated with the implementation of all the prioritized finance solutions, would start modestly at about US$83 million in 2021, and increase to about US$212 million by 2025, and probably stabilize at this level moving forward into the future. The total amount to implement the prioritized finance solutions over a period of five years (2021-2025) is US$7.3 million, i.e., about US$1.50 million/annum.

The finance solutions with greatest potential, include:

a) Co-management of Conservation Areas (CA's), modelled on the experience Mozambique has had with the Carr Foundation – in the development and management of Gorongosa National Park; Wildlife Conservation Society for the management of Niassa Game Reserve, Africa Parks Foundation in the management of Bazaruto National Park; and Peace Parks Foundation in the development and management of Maputo Special Reserve and Limpopo, and Zinave National Parks. The assumption is that at least four new CA's will be comanaged between 2021 and 2025. For this to happen, MTA should urgently issue, a special Decree to provide criteria and guidelines for CA's co-management arrangements, and actively advocate public-private partnerships in the management of for Conservation Areas in the country.

b) Scaling-Up of Carbon Credit Marketing. Despite ambiguities on the actual potential of marketing carbon credits, Mozambique has enormous carbon sequestration capacity, and potential to benefit from this potential financial solution. Based on the piloted experience in the Zambezia province, Mozambique should scale-up this initiative, under the assumption that the World Bank, which is currently the biggest carbon investor in Africa, would be willing to assist the country to fully tap into the continental and global carbon credit markets.

c) User-Pays initiatives. The intention is to broaden the options, as well as improve revenues from multiple sources (concession fees, CA entrance fees, taxes, fines, etc.), through benchmarking with the best in the SADC region. The assumption is that Mozambique would be able to increase revenue from a baseline of about US$16m/annum to US$47 million per annum by 2025.

d) Increase public budget allocation. The assumption is that the MTA would prioritize and train officials in the biodiversity sector on quantification, coding and tracing of revenues being collected from the user-pays initiatives as well as train them on result-based budgeting, including development of compelling

business cases to influence the government to allocate more funds to biodiversity conservation. It is expected that by undertaking this training, the government's allocations could increase by at least 80% in the first 1-2 years.

e) Biodiversity Offsets. This finance solution is a low hanging fruit, considering the roadmap for its implementation has already been developed with support from the World Bank, and there is great interest from UNDP and the Mozambique BIOFUND. The assumption is that these agencies will meet the cost of its implementation, and once fully operation, about US$4 million could be earned by 2025.

Implementation of the BFP

The Biodiversity Finance Plan is a living document, which should be owned and used by the Mozambique's biodiversity sector. It is a vital tool to guide the process of developing and encouraging biodiversity finance in Mozambique. It should be updated as circumstances, needs and opportunities evolve. Its effective implementation will require a coordinated effort from the government, civil society (NGO), private and development partners. The bulk of the implementation and monitoring of the Plan will be coordinated by MTA, using existing collaboration frameworks. It is, however, largely recognized that the commitment and financing by the public sector should increasingly be complemented with private sector engagement, foundations, donors, and NGO support.

To initiate the BFP implementation process, the Ministry of Environment and Land should assign a dedicated team of senior officers, who should:

i) Take leadership in implementing the BFP, as well as coordinate intra-departmental (FNDS, ANAC, DINAB, AQUA), and inter-ministerial (MTA, MCULTUR, MIMAIP, MASA) amendment of the various legislation recommended in this document to enable optimization of revenue collection from the multiple User-Pays initiatives in the country.

ii) Urgently raise funds from the bilateral and international cooperating partners to implement the BFP. The total amount to implement the BFP over a period of five years (2021-2025) amounts to about US$7.3 million, i.e., approximately US$1.50 million/annum. The return on investment for all the prioritized finance solutions is very high, implying that there is good value in investing in their implementation.

Monitoring and evaluation (M&E) should be integral to the implementation process of the BFP. M&E should be used to track performance and achievements of the set milestones and the expected targets of the financial gains, as well as systematically measure the effectiveness of the BFP implementation process to provide opportunities for learning and adaptation to improve the strategies to enhance financial gains from the prioritized and the emerging finance solutions. The Ministry of Environment and Land should build internal M&E capacity or outsource the M&E services, which are essential to the success of the overall BFP implementation process in Mozambique

1. INTRODUCTION

Mozambique, measuring 780,000 km^2, has impressive biodiversity, encompassed in the country's diverse terrestrial, coastal, marine, and interior water ecosystems. The number of documented species in the country includes over 6,000 plants, 2,171 reptiles, 85 amphibians, 3,075 insects, 726 birds, 14 terrestrial mammals, 18 marine mammals, 12,626 species of sea fish, 92 cartilaginous fish, 94 coral reef, 9 mangroves, 13 seagrass species, 5 species of turtles, 7 species of dolphin, 8 whale species, 2 species of eel, 1 species of dugong, and 1,363 species of mollusks. As part of the Eastern Africa Ecological Region, Mozambique hosts the second longest extension of mangroves in Africa and the only viable population of dugongs for the whole Indian Ocean.

Biodiversity directly and indirectly contributes to many of the country's economic sectors, including: (i) agriculture whose production depends on the provision of ecosystem services (ES), such as water, microclimates, soil fertility, and pollination; (ii) climate regulation through the natural forests, which sequestrate more than 5.2 billion tCO_2 per annum; (iii) rural livelihoods, supporting the mainstay of about 70% of the country's population, who depend on natural forests, and wildlife for their livelihoods[10] in the form of bioenergy (with 83% of the country's population dependent on it), building materials, food (game meat, fish, edible inserts, fruits, honey & other nontimber products), and traditional medicine; (iv) hydrological services - both forestry and wildlife conservation areas contribute significantly to watershed protection, which in turn raise productivity in agriculture, fisheries, plantation forestry, hydropower, and nature-based tourism, among other sectors; and (v) nature-based tourism, which is intrinsically dependent on biodiversity and the preservation of natural assets.

Overall, biodiversity directly contributes significantly to the country's socioeconomic development. For instance, agriculture[2] contributes almost 25% to the country's GDP, worth approximately US$4.2bn; forestry about US$330 million/annum to the national economy; fisheries about 10.3 % to the country's GDP, and supports about 334,000 people who rely on small-scale fisheries for their livelihoods and fish provide almost 40% of dietary animal protein[3]; while tourism contributes about 6.4% to the national GDP[4].

To safeguard the country's rich biodiversity, Mozambique has developed various mechanisms, including the establishment of conservation areas (terrestrial & marine), in the form of 7 national parks, 10 national reserves, 20 Coutadas[5], 3 community conservation areas, 50 Game farms and 13 forestry reserves, which account for about 26% of the country's territory. Mozambique's commitment to conserving biological diversity is reflected in its enactment of various pieces of treaties, and complimentary protocols and strategies to protect and conserve the country's biodiversity. Additionally, the country has ratified the Convention on Biological Diversity (Resolution 2/94) and signed the Cartagena Protocol on Bio-Safety (Resolution No. 11/2001) and the Nagoya Protocol on equitable and fair benefit access and sharing (Resolution Nº 2/2014), thus embracing the principles of conservation of biological diversity and the fair and equitable benefits sharing arising from its sustainable use.

[2] Deloitte (2016). Mozambique's Economic Outlook | Governance challenges holding back economic potential

[3] FAO Fisheries and Aquaculture Department, Summary tables of Fishery Statistics: Food Balance Sheets 2011. Available from: ftp://ftp.fao.org/FI/STAT/summary/default.htm

[4] Ministry for the Coordination of Environmental Affairs (2014). Fifth National Report on the Implementation of Convention on Biological Diversity in MOZAMBIQUE. Maputo. MICOA. 129 pp.

[5] Hunting Areas

Mozambique's vision and strategies for biodiversity conservation are encapsulated in its National Biodiversity Strategy and Action Plan (NBSAP) of 2015-2035[27]. The NBSAP states that "***by 2035, the ecological, socio-economic and cultural values of biodiversity should have contributed directly to the improvement of quality of life of Mozambicans, derived from biodiversity conservation and fair and equitable utilization of its components***". This will be achieved through mainstreaming biodiversity in all sectors of the country's economy, creating awareness about the value of biodiversity, financing, and strengthening partnerships among the different sectors of society. The specific objectives to achieving the NBSAP vision include:

a) Reducing the direct and indirect causes of degradation and loss of biodiversity by adopting policy options and practices that promote biodiversity conservation.
b) Improving the status of biodiversity and preserving the full range of biodiversity (ecosystems, habitats, species and genes) by adopting a holistic approach to planning and management of conservation areas, putting emphasis on engagement of local communities, and restoration of degraded ecosystems and threatened or endangered species.
c) Improving benefits sharing from biodiversity and ecosystem services for all sectors of the Mozambican society through capacity building in budgeting, and accounting systems to enable determination of the true value of biodiversity and its contribution to the country's sustainable development, and improvement of the rural livelihoods.
d) Enhancing participatory planning to mainstream biodiversity in all sectors, including the local government plans and budgets to strengthen the valorization of biodiversity.

The NBSAP has 20 Targets, among these the following seven targets are most relevant to the Biodiversity Finance Plan:

a) ***Target number 2***: By 2020, there should be a better understanding of the value of biodiversity (socioeconomic & ecological) to enable better integration of biodiversity into all economic sectors of Mozambique.
b) ***Target 3***: By 2015, policies and legal instruments for preventing and mitigating the impacts of human activities likely to cause degradation of biodiversity should have been effectively implemented and adopted in the country.
c) ***Target 11B***: By 2030, 50% of the protected areas should be effectively managed.
d) ***Target 14***: By 2030, payment for environmental goods and services should have been integrated into the national accounts systems to promote fair, equitable and sustainable use of biological diversity.
e) ***Target 16***: By 2020, effective implementation of legislation on access and resources sharing to guarantee compensation for the use of biodiversity, and genetic resources, and their associated traditional knowledge, to improve the livelihoods of local communities should have been formalized.
f) ***Target 20***: By 2020, the country should have established and strengthened national and international partnerships for innovative financing mechanisms for biodiversity programmes, consistent with the CBD COP decision number X/3 on resource mobilization.

The NBSAP is being implemented to achieve both the CBD's Strategic Plan and the Sustainable Development Goals (SDGs), specifically SDG 14 and 15, which respectively compel Parties to conserve and sustainably use the Oceans, Seas, and Marine resources, as well as protect, restore and promote sustainable use of the terrestrial ecosystems,

sustainably manage forests, combat desertification, and halt and reverse land degradation to stop biodiversity loss. Effective implementation of the NBSAP and achievement of the SGDs 14 and 15, however depends on adequate, diverse and sustainable funding.

Box 1: The Biodiversity Finance Initiative (BIOFIN)

The United Nations Development Pogramme (UNDP) launched the Biodiversity Finance Initiative (BIOFIN) in 2012 as new global partnership seeking to address the global biodiversity finance challenge in a comprehensive and systematic manner. The project aims to mainstream biodiversity into national development and sectoral planning, and address the finance gap for biodiversity. Mozambique is one of 30 countries implementing BIOFIN at the national level led by the Ministry of Ministry of Land and Environment (MTA).

To address this need, the Biodiversity Finance Initiative (BIOFIN, *see* Box 1) has implemented a series of technical assessments, including: (i) the Biodiversity Finance Policy and Institutional Review (PIR), which examined the enabling policies and institutional context in which to initiate new, or upscale existing biodiversity finance solutions and identified the key stakeholders in Mozambique to involve in this process; (ii) the Biodiversity expenditure Review (BER), which analyzed the public and private expenditure on biodiversity conservation; and (iii) the Biodiversity Finance Needs Assessment (FNA), which estimated the investment required to implement the NBSAP and achieve the national biodiversity targets. Results of the BER, show that biodiversity related financial allocations by the government, international cooperating partners, NGOs, and private sector averaged at about US$29.7million/annum between 2009 and 2016. This amount falls short of the required amount of at least US$120million for a once off investment to improve management infrastructure, biodiversity inventories, planning and capacity building for biodiversity management. This initial outlay requires supplementary of approximately US$70million/annum[6] for effective management of the country's biodiversity. However, considering that Mozambique heavily realizes on unreliable and unsustainable funding (amounting ≈ US$22 million/annum) from the bilateral and international cooperating partners, the funding gaps, if only the government funding of approximately US$8 million/annum) is considered, is estimated at US$112 million for the initial investment, and US$62 million/annum required to effectively manage the country's rich biodiversity.

The biodiversity finance landscape in Mozambique is currently dominated by the international cooperating partners, such as, the World Bank, Kreditanstalt für Wiederaufbau (KfW), French Fund for Global Environment (FFEM), United States Agency for International Development (USAID), African Development Bank (ADB), Japan International Cooperation Agency (JICA) and various conservation NGOs (Wildlife Conservation Society (WCS), International Union for Conservation of Nature (IUCN), World Wide Fund For Nature (WWF), Peace Parks Foundation (PPF), CARR Foundation, etc., contributing about 73% to overall funding for biodiversity management (US$29.7million/annum).

For planning and implementation of the recommended Biodiversity Finance Solutions, the aim should be to fill the gaps based on the government's subversions, i.e., US$112 million for the initial investment, and US$62 million/annum for effective management of biodiversity.

[6] World Bank Group (2016). A National Biodiversity Offset System: A Road Map for Mozambique, World Bank.

This Biodiversity Finance Plan (BFP) responds to the challenges associated with ensuring that biodiversity conservation is adequately resourced to address the major threats, which include:

i) Deforestation, due to expansive subsistence farming, dependence on biofuel, expanding mining operations, and illegal offtake of timber - including selective logging of hardwood species, such as *Colophospermum mopane, Swartizia madagascariensis, Pterocarpus angolensis, Milletia stulhmannii, Afzelia quazensis, Dalbergia melanoxylon Combretum imberbe*, and *Julbernadia globiflora,* whose sustenance is being threatened by over-harvesting.

ii) Poaching and illegal wildlife trade, due to the increasing international demand, especially in the south-eastern Asian countries for wildlife products, such as ivory, rhino horn, pangolin scales, lion bone and others.

iii) Overfishing and illegal fishing practices, on the other hand have led to a decline in catches in recent years. Shrimp trawls, for instance, which rely on the use of nets with small mesh are responsible for more turtle deaths than all other human activities combined, and this is a serious conservation challenge.

iv) Mining, whose impacts manifest through removal, fragmentation, and degradation of natural habitats around the areas being mined, and pollution of the aquatic ecosystems[7].

To mitigate these threats, the BFP identified priority biodiversity finance solutions, considered their potential, and outlined broad steps needed to implement them (*see* Box 2 for description of the key financial results that are associated with biodiversity finance solutions). The approach to the Biodiversity Finance Planning consisted of the following key steps:

a) Reviewing reports and materials with relevance to biodiversity finance solutions currently in use or under consideration for use in Mozambique and internationally.

b) Identifying an initial list of biodiversity finance solutions which showed some level of potential to contribute to the implementation of the NBSAP.

c) Broadly assessing the initial list of solutions in terms of their feasibility, acceptability, likely revenue or cost cutting potential.

d) Screening the initial list of solutions to prioritise those with the highest potential.

e) Conducting detailed assessments of the prioritized solutions in terms of their feasibility, in terms of the key social, economic and political implications.; and

f) Development of action plans to implement the prioritized solutions.

Box 2: Defining biodiversity finance solutions

Finance solutions are a means of using one or more finance mechanism or instrument in a context, which results in the improvement of biodiversity conservation and management. Finance solutions can result in:

- An increase in funding, either from new sources (e.g. innovative finance) or existing sources
- Better spending of existing funds
- Reducing costs associated with biodiversity conservation and management
- Realigning neutral or harmful expenditure to be beneficial (such as adjusting agricultural subsidies to support green agriculture)

Finance solutions should address specific needs and challenges.

Development of the BFP was done collectively with the BIOFIN team in collaboration with key stakeholders and support from the global UNDP BIOFIN team. The development of the BFP was guided by a national Steering

[7]Duran, A.P., Rauch, J. & Gaston, K.J. (2013). Global spatial coincidence between protected areas and metal mining activities. Biol. Conserv.

Committee, which received technical input from a national Technical Reference Group, and stakeholder engagement was used extensively at all stages of the process. Stakeholders provided valuable inputs specially, in terms of, identifying finance solutions, and assessing their feasibility and prioritization.

2. THE BIODIVERSITY FINANCE PLAN

This Biodiversity Finance Plan (BFP) presents a national approach to biodiversity finance, encompassing a suite of priority finance solutions. It builds on progress already being made in Mozambique in diversifying the financial solutions for biodiversity management. The BFP has been developed to identify and support the implementation of *biodiversity finance solutions* that have the potential to significantly improve the financing of biodiversity management in Mozambique. The aim of the Plan is to ensure that the Mozambique's valuable biodiversity is protected and maintained through, in part, the adequate financing of the biodiversity conservation and management interventions.

The Plan is a living document that builds on progress already made in Mozambique and will be adaptively updated as more finance solution get developed to expand the country's biodiversity finance opportunities in order to achieve the national biodiversity conservation targets.

The Plan is composed of:

i) A prioritized key finance solution based on a participatory selection process;
ii) A systematic approach to address financial needs, emerging opportunities and prioritized key biodiversity outcomes;
iii) Technical proposals to help operationalize the prioritized biodiversity finance solutions, including required steps and identification of risks; and
iv) Consolidated estimates of the expected finance gains where possible.

2.1 Vision and investment case

The *Vision* for the Mozambique's National Biodiversity Finance Plan (NBFP) is "sustainable and innovative financing for biodiversity conservation and management attained by 2035". The *mission* is "to mobilize adequate additional financial resources to meet the biodiversity funding gap as well as ensure that funds are used efficiently and effectively to address the biodiversity and ecosystem challenges in the country."

2.2 Investment Case

Mozambique's rich diversity presents opportunities for delivering multiple co-benefits to the country's socioeconomic development, including achievement of the United Nations Sustainable Development Goals (SDGs). Investment in biodiversity conservation is, therefore, critical to the sustenance of various biodiversity and ecosystems goods and services, such as:

a) Reducing the national and community vulnerability to climate-related impacts at all scales, through the country's 32 million hectares of natural forests, which sequestrate more than 5.2 billion tCO_2 per annum. These natural forests contribute to climate change mitigation and meeting the mitigation targets.

b) Maintaining the hydrologic services, through protected areas. Both forestry and wildlife conservation areas, whose natural forests maintaining water quality and supply, contribute significantly to watershed protection which in turn raise productivity in agriculture, fisheries, plantation forestry, hydropower, and nature-based tourism, among other sectors.
c) Provision of ecosystem goods on which about 70% of the country's vulnerable population depend, e.g., natural forests, and wildlife for their livelihoods[10] in the form of bioenergy (with 83% of the country's population dependent on it), building materials, food (game meat, fish, edible inserts, fruits, honey & other nontimber products), and traditional medicine.

Biodiversity also directly contributes to many of the Mozambique's economic sectors, including:

a) Agriculture, whose production depends on the provision of ecosystem services, such as water, microclimates, soil fertility, pest control, and pollination. The quality and quantity of these ecosystem services, in turn, depend on management of natural ecosystems[8]. Agriculture contributes almost 25% of the country's Gross Domestic Product (GDP), worth approximately US$4.2bn in 2014[9], and is the largest contributing sector to the national GDP.
b) Forestry - natural forests in Mozambique cover about half of the country, encompassing diverse flora species (5,500 plants, among which 250 are endemic), and provide habitat for fauna, including 735 birds, 216 mammals, 3,074 insects, 246 reptiles and amphibians (among which 28 are endemic). Forestry contributes about US$330 million/annum to the national economy through sustainable exploitation of timber (making it the third largest contributor to the national GDP). Natural forests also offer opportunity for bioprospecting to bolster both the economic and conservation goals, while underpinning the medical and agricultural advancements needed to improve human health and food security.
c) Fisheries are characterized by a high diversity of fish, including 2,626 species of sea fish, 92 species of cartilaginous fish and 1,363 species of mollusks. The fisheries sector contributes about 10.3% to the country's GDP, the fourth largest contributing sector. In 2018, the artisanal fisheries contributed more than $6.2 million, representing about 8 percent of the country's Gross Domestic Product[10]. In addition, small-scale fisheries provide almost 40% of dietary animal protein in Mozambique[11].
d) Nature-based tourism is intrinsically dependent on biodiversity and the preservation of natural assets. World-wide, it is the fastest growing industry, and in Mozambique, it is the third largest economic sector, employing at least 718,000 people. In 2013, it was estimated that the sector contributed about US$554.6m to the national economy, i.e., 6.4% of national GDP[12] .

[8] Bovarnick, A., F. Alpizar, C. Schnell, Editors. The Importance of Biodiversity and Ecosystems in Economic Growth and Equity in Latin America and the Caribbean: An economic valuation of ecosystems, United Nations Development Programme, 2010

[9] Deloitte (2016). Mozambique's Economic Outlook | Governance challenges holding back economic potential

[10] https://clubofmozambique.com/news/mozambique-artisanal-fisheries-sector-posts-6-2m-in-revenue/

[11] FAO Fisheries and Aquaculture Department, Summary tables of Fishery Statistics: Food Balance Sheets 2011. Available from: ftp://ftp.fao.org/FI/STAT/summary/default.htm

[12]Ministry for the Coordination of Environmental Affairs (2014). Fifth National Report on the Implementation of Convention on Biological Diversity in MOZAMBIQUE. Maputo. MICOA. 129 pp.

Considering the cross-sectoral contribution of biodiversity to the national economy and livelihoods of its citizens, including the poor, who directly dependent on it for food, bioenergy, building materials, and traditional medicine, Mozambique needs to diversity its financing sources to effectively, and sustainably conserve, manage and utilize its rich biodiversity. To achieve this aspiration, Mozambique, with support from UNDP and other partners, has since 2016 been implementing the Biodiversity Finance Initiative (BIOFIN). In this process, the BIOFIN PIR, BER, and FNA were finalized alongside the identification of seventeen potential Finance Solutions (see Box 3), among which six have been prioritized for either improvement, scale-up, or piloting (Table 1).

Prioritization of the finance solutions was facilitated by UNDP in collaboration with the Ministry of Land and Environment (MITA) and the Ministry of Economy and Finance (MEF), guided by a rigorous screening criterion, adopted from the 2018 BIOFIN Book.

Box 3: Potential Biodiversity Finance Solutions

1. Biodiversity offsets
2. Co-management of Conservation Areas
3. Payment for Custodianship of Biodiversity
4. Biosafety fee
5. Corporate and corporate foundations' donations
6. Corporate social responsibility tax
7. Weather Risk Insurance
8. Allocation of taxes on financial transactions
9. Lobbying for public budget allocations
10. Enhance public budget execution
11. Green lending
12. Promoting natural capital accounting
13. Sovereign wealth funds
14. Fees and royalties in the forestry, wildlife and fishery sectors
15. Trust funds
16. Carbon markets
17. Promotion of Hunting tourism

Table 1: Priority Financial Solutions

Priority Financial Solutions	Ranking Score	Remarks
1. Improving revenue earned from recreational/sport hunting	72	Requires scale-up and improvement
2. Biodiversity offsets	65	New Financial Solution to be piloted
3. Improved capture and administration of revenue from the "User-Pays" initiatives in the wildlife, forestry and fisheries sectors	64	Require improvement
4. Improving public budget allocations & enhancement of public budget execution	60	Requires improvement
5. Up-scaling co-management of Conservation Areas	59	Requires scale-up and improvement
6. Carbon credit marketing	54	Piloted, requires scaling-up

2.3 Biodiversity Finance Solutions

Each of the prioritized biodiversity solution is briefly described below including the solution's overall aim, key objectives and what implementation would entail:

2.3.1 Improving revenue earned from recreational/sport hunting

Context

Trophy hunting or sport hunting of wild game for human recreation is a well-recognized form of sustainable utilization of wildlife and a key tourists' attraction in Mozambique. State licensed hunting is done in 20 Coutadas (managed hunting reserves) established across the country. The Mozambican government, through the National Administration for Conservation Areas (ANAC) has developed a *Hunting Strategy*, which sets principles and a fee system, comprising an annual concession tax, and hunting license and trophy fees. One hundred percent of concession fees and 80% of the hunting fees are paid into the National Sustainable Development Fund (FNDS). The remaining 20% is given to the communities neighbouring or living in the respective Coutadas. The biodiversity conservation legislation could be revised to make it an obligation for a portion (e.g., 60%) of the revenue deposited into the FNDS to be re-invested in biodiversity conservation programmes.

Available information on revenue earned from sport hunting show that in 2016, only about US$578,751 was earned. Several factors can be attributed to the low revenue collection, such as poor monitoring of the industry, low and uncompetitive concession and license fees, and low capacity to carryout regular wildlife population censuses, and set quotas for sustainable offtake quotas of the huntable species.

Objectives

The objective of implementing this finance solution is to improve revenue earning from recreation hunting, through: (i) improved quota setting, guided by population estimates of the hunted species, using internationally recognised census survey techniques; (ii) benchmarking the concession and hunting license fees on what is pertaining in other countries in the SADC region, where safari hunting is a recognised form of sustainable use of wildlife; and (iii) improved monitoring, tracing and disbursement of revenues from recreational hunting in Mozambique.

Expected financial results

Revenues from the Mozambique's recreation hunting industry were estimated at US$578,751 per annum. By 2025 the target is to earn at least US1.8million. This can be achieved if ANAC can improve on wildlife census, quota setting, increase the concession and hunting license fees, based on what other countries, such as, Namibia, South Africa, and Zimbabwe charge, improve on monitoring the industry, and improve on the monitoring and administration of the revenue from industry.

Next steps

Table 2: Next steps, key actors and milestones, improved revenue from recreational hunting

Action	Lead Agency	Milestone	Years					
			2020	2021	2022	2023	2024	2025
Aerial survey 20 Coutada	ANAC	Hunting quota set based on established populations of hunted wildlife species						
Benchmarking fees with the best in SADC. This will be desktop work by ANAC officials, with no additional cost	ANAC & ANAC	New hunting concession and licenses prices, benched on neighbouring countries and SADC						
Training/capacity building in monitoring, tracing and disbursement of revenues from recreational hunting	MTA	A dedicated team of monitors employed and deployed to monitor hunting operation in the Coutadas						

2.3.2 Biodiversity Offsets

Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual biodiversity loss arising from development after appropriate prevention and mitigation measures have been taken. Offsets can, for example, deliver biodiversity benefits (e.g. reforestation) through a transaction, where offset sellers (e.g. conservation NGOs) sell offsets to developers (e.g. mining companies, construction companies, etc.) seeking to compensate the residual biodiversity loss resulting from development activities. The potential to initiate and scale-up biodiversity offsets as one of the solutions to contributing to biodiversity conservation in Mozambique is very high because the country is on a path of fast economic growth. For instance, the country's Gross Domestic Product (GDP), which between 2006 and 2015 grew on average by 7.3% per annum, is projected to increase to an average of about 15% per year in the early 2020's. This growth is largely being attributed to the natural gas sector, which is expected to represent about half of the national economy. The private sector companies exploiting the hydrocarbon/gas resources are required to protect biodiversity in order to comply with the *International Finance Corporation's 2012 Environmental and Social Performance Standards*[13], the *Equator Principles*[14], and numerous national legal frameworks. Alongside the hydrocarbon exploitation, several other economic sectors are expected to grow, such as mining, urbanization, construction of public and private

[13] https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards

[14] https://equator-principles.com/

infrastructure, etc., increasing the need for a robust, functioning biodiversity offsets system in Mozambique as soon as possible.

A key requirement to operationalize biodiversity offsets is the application of the mitigation hierarchy through the implementation of a policy of No Net Loss (NNL), or Net Gain (NG) of biodiversity. Several legal frameworks (*see* Box 4) have provisions, which should be revised to obligate the hydrocarbon exploitation companies, mining companies and large construction companies to implement the NNL/NG and biodiversity offsets. This is feasible in Mozambique, as there is already a growing consensus in the business community, as well as key government ministries such as MTA and the Ministry of Mineral Resources and Energy, that a national-level compliance framework promoting No Net Loss is a valuable tool for mitigating adverse impacts of large-scale development projects. Various private sector companies operating in the country have also expressed a clear commitment to adhere to the international standards (IFC & Equator Principles Performance Standards). Development of a national compliance framework could therefore assist the developers to fulfill their obligations. MTA has initiated the process of revising existing EIA regulations to incorporate a No Net Loss framework within the existing EIA regulations. A Roadmap for a No Net Loss system including biodiversity offsets has been developed with the World Bank's assistance.

Currently, three partners (BIOFUND, WCS and UNDP - BIOFIN) are working with the Government to create an enabling environment for implementation of the best practices for biodiversity offset in Mozambique and are exploring innovative mechanisms to enable biodiversity offsets to support biodiversity conservation in the country. In addition, Mozambique has several legal frameworks (*see* Box 4) with provisions, which could potentially oblige developers, or natural resource users to compensate for the damage or pollution of biodiversity, including ecosystems. Several of these require some revision to incorporate procedures and criteria for implementing Biodiversity Offsets.

Box 4: Enabling legislation for Biodiversity Offset in Mozambique

i) Environmental Law (Law 20/1997), Article 4, which discusses the general principles; and Article 11 addresses the need to respect the Mitigation Hierarchy (Article 9, Point 2) and Article 12 (h).
ii) Environmental Impact Assessment Legislation and updated Decree 54/2015;
iii) Conservation Law, No.16/2014 of 20 June, creates a foundation for the need for biodiversity conservation, and compliance with the Mitigation Hierarchy, and for NNL;
iv) The Water Law 16/1991 of 16/1991 of 3 August establishes the basis for management of water resources and advocates a "user pays" and "polluter pays" policy; thus, providing opportunity to include provisions for Biodiversity Offset;
v) The Mineral Resources Law, No. 20/2014, of 18 August, has provisions which are, in general, favourable to the conservation and sustainable management of natural resources and Biodiversity Offset;
vi) Hydrocarbon Law No. 21 / 2014 contributes to the implementation of provisions related to the protection and conservation of the environment and biodiversity. Articles 66 and 90, and Decree 24 / 2004 specifically refer to avoidance of the degradation of the environment.
vii) Tourism Law, No. 4/2004, Articles 3, 9 and 16, Resolution 14/2003, Points 6, 7 and 9 spell out explicit requirements for EIA in all tourism development projects, including those located within conservation areas (Resolution 14/2003, Point 9.11) - thus, providing yet another opportunity to include provisions on Mitigation Hierarchy, including the offsets, to achieve NNL

Objectives

The objective of this finance solution is to increase revenue for investment in the biodiversity conservation sector, through the development and implementation of a functioning biodiversity offsets system/mechanism. This should be achieved by: (i) developing a national compliance framework to assist the developers (hydrocarbon, mining, and large infrastructure development companies) to fulfill their obligations for Biodiversity Offset; (ii) revising the multiple legislation (*see* Box 4) and harmonizing the guidelines and criteria for obligating the hydrocarbon, mining, and large construction companies to compensate for the damage or pollution of biodiversity, and ecosystems to implement the NNL/NG and biodiversity offsets; (iii) formalizing the process of channeling revenues from Biodiversity Offset to the BIOFUND for re-investment in biodiversity conservation programmes; and (iv) enforcing the International Finance Corporation (IFC) Performance Standard 6 (PS6) for large-scale mining operations financed by IFC to carryout environmental and social impact assessments, including application of the Mitigation Hierarch and Biodiversity Offset to promote biodiversity conservation and sustainable management of natural resources.

Expected financial results

It is expected that about US$4 million could be realized from biodiversity offsets by 2025.

Next steps

Table 3: Next steps, key actors and milestones - Biodiversity Offsets

Action	Lead Agency	Milestone	Years					
			2020	2021	2022	2023	2024	2025
Revise multiple legislation (see text Box 4) and harmonize the guidelines and criteria for obligating the hydrocarbon, mining, large construction companies to compensate for the damage or pollution of biodiversity.	*MTA; Ministry of Mineral Resources & Energy; MOPH; MCULTUR; MIMAIP & MASA.*	*Revised and harmonized guidelines and criteria for obligating compensation for the damage or pollution of biodiversity/ecosystems to implement the NNL/NG and biodiversity offsets*						
Implement a Roadmap for a No Net Loss system including biodiversity offsets	*MTA; BIOFUND; WCS; UNDP; MEF; Private Sector.*	*Progress reports on implementation of the Roadmap*						
Formalize the process of channeling revenues from Biodiversity Offset to BIOFUND for re-investment in biodiversity	*MTA, MEF, BIOFUND*	*Amount of revenue deposited into the BIOFUND endowment account and disbursed to various biodiversity*						

conservation to BIOFUND for re-investment in biodiversity conservation.		*programmes in Mozambique*						
Draft & implement Statutory Instruments/ Decree to enforce the International Finance Corporation (IFC) Performance Standard 6 (PS6) for large-scale mining operations financed by IFC.	*MTA & Ministry of Mineral Resources & Energy*	*Amount of revenue disbursed by large-scale mining operations & others deposited into BIOFUND and disbursed to various biodiversity programmes in Mozambique*						

2.3.3 Improved capture and administration of revenue from the "User-Pays" initiatives

Context

Mozambique has remarkable potential to improve on revenue collection from the user-pays initiatives for ploughing back into biodiversity management programmes. Several legislative frameworks (*see* text Box 5) have provisions for capturing revenues from exploration and utilisation of natural resources. Examples in this regard include: (i) fees for entrance into conservation areas, ecotourism development concessions, commercial and sport fishing, forestry/timber exploitation concessions, hydrocarbon and mineral resources exploration and exploitation; (ii) bioprospecting; (iii) taxes, and (iv) fines for infringement of the various legislation. Currently there is poor and uncoordinated approach to collecting, coding and tracking of the revenues from the various user-pays initiatives in the country. The *e*-SISTAFE system, which can be used in coding revenues by source is not being effectively used.

The objective of this finance solution is to expand and improve revenue generation and collection from a full-range of the user-pays initiatives for re-investment in biodiversity conservation programmes, through: (i) revising the relevant legislation (Box 5) to optimize revenue from the full range of the "User-Pays" opportunities; (ii) capacity building of the MTA personnel in the application of the *e-SISTAFE*, which establishes the rules and procedures for the coding, management, control, disbursement and tracking of public funds in Mozambique; (iii) benchmarking the fees structure with the best in the SADC region for entrance into conservation areas, ecotourism development concessions, commercial and sport fishing, forestry/timber exploitation, hydrocarbon and mineral resources exploration and exploitation, bioprospecting and fines for infringement of the various natural resources-based legislation.

Expected financial results

In 2016, an equivalent of about US$12 million was generated from various User-pays initiatives, but with the proposed improvements, it is expected that by 2025, the Mozambique government's User-pays initiatives would generate at least about US$47/annum.

Box 5: Enabling legislation for the "User-Pays" initiatives in Mozambique

1. Conservation Law, No. 16/2014 of 20 June -has provisions for ecotourism concession fees, entrance fees, and fines for infringements, such as poaching, illegal entry, logging of timber, etc.
2. Forest Law define provisions for revenue accrual from timber concession fees, licensing, fines and taxes.
3. The Water Law, No. 16/1991 of 3 August establishes the basis for management of water resources and advocates a "user pays" and "polluter pays" policy. The user pays provision in this legislation should be the basis upon which PES should be premised, more especially payment for watershed preservation.
4. Tourism Law, No. 4/2004, establishes fee structure for investment/concessions in Conservation Areas CA), entrance to CAs, hunting concession, trophy fees, etc.
5. The Law of the Sea, No. 4/96, of January 4, sets a fees structure for exploitation of the fisheries resources, through licensing, taxes and fines.
6. Environmental Law (Law 20/1997). Principle 7, which states that, "whoever pollutes or in any way degrades the environment shall always have the obligation to repair or compensate for the resulting damage.

Next steps

Table 4: Key actors and milestones – improved revenue capture from the "User-Pays" initiatives

Action	Lead Agency	Milestone	Years					
			2020	2021	2022	2023	2024	2025
Revise the relevant legislation to optimize revenue from the full range of the "User-Pays" opportunities	*MTA; Ministry of Mineral Resources & Energy; MOPH; MCULTUR; MIMAIP*	*Revised and harmonized guidelines and criteria for optimizing revenue from a full range of user-pays initiatives*						
Train MTA personnel in the application of e-SISTAFE to improve recording, coding, management, control, disbursement and tracking/monitoring of public revenues earned from the user-pays initiatives	*MTA; Mineral Resources & Energy; MOPH; MCULTUR; MIMAIP & MEF*	*Number of trainees, and increased amount of revenue captured and disbursed to biodiversity conservation programmes*						
Revise the fees structure of a full range of the user-pays initiatives based on SADC's best examples	*MTA; Mineral Resources & Energy; MOPH; MCULTUR; MIMAIP & MEF*	*Revised fees being implemented across the natural resources/ biodiversity sectors*						

Lobby the government of Mozambique to channel all revenue earned from User-pays initiatives through the already established BIOFUND to support biodiversity conservation in the country	*ANAC, MTA; Mineral Resources & Energy; MOPH; MCULTUR; MIMAIP*	*Statutory instrument, and Agreement enabling the BIOFUND to administer revenues from the User-pays initiatives*						

2.3.4 Improved public budget allocations and enhancement of public budget execution

Government funding is the most consistent source of finance for the biodiversity management programmes in Mozambique, albeit being insufficient. The amount of funds allocated to each ministry and department depends largely on the amount of revenue being generated by individual department/ministries, clarity in the budget's rationale, and linkage/contribution to achieving the overarching Social and Economic Development Plan, Sustainable Development Goals, and the supplementary national development plans and strategies. According to MICOA (2011)[15], funding of the public natural resources/environment, and biodiversity conservation programmes comes from two main sources:

a) Unearmarked funding allocated through the budget negotiation process originating from the government revenue (such as tax revenues); and
b) Earmarked revenue generated by natural resources, such as concession fees and fines collected from the management and sustainable use of natural resources such as fisheries, forestry, wildlife, ecotourism, and land.

Figure 1 below illustrates trends in the state budgetary allocation to the biodiversity management sectors in Mozambique.

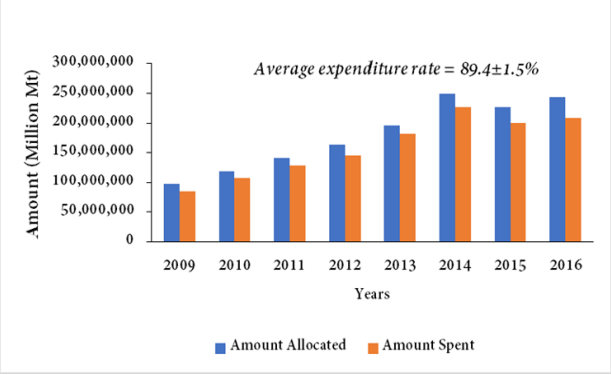

Figure 1. Government allocated funds to the biodiversity conservation sector in Mozambique.

The average allocated funds to the key environment and biodiversity conservation government sectors between 2009 and 2016 was Mt179.52 billion (US$29.70)[16] per annum, while expenditure rate has been at about 89% per annum. The amount being allocated is lower than the requirement for effective management of biodiversity in Mozambique, i.e., US$120 million as once off investment and

[15] MICOA (2012). Public Environmental Expenditure Review 2005-2010. Directorate of Planning and Studies, MICOA, Mozambique.

[16] Based on Metical – US$ exchange of 7th November 2019

US$70 million/annum for effective management of biodiversity in the country. Several factors can be attributed to insufficient investment in the biodiversity sector:

d) the full range of biodiversity values and their contribution to the national economic development have not been estimated; hence inadequately understood and appreciated by the government;
e) poor quantification, coding, and tracing of revenues being collected from sustainable use of natural resources (e.g., concession fees, taxes, levies, etc.), consequently, as the amount of revenue collected is one of the criteria for allocation of funds to government departments/ministries, the biodiversity sector get relatively low funding from the government, compared to other sectors, such as education, military, health, etc.; and
f) inadequate coordination between departments (e.g. ANAC, DINAF, DINAB) within MTA, as well as inter-ministerial (MTA, MICTUR, MIMAIP, MASA & MOPHRH) in the process of budget preparation, which would be necessary to make a compelling business case for government to increase funding for biodiversity management programmes in Mozambique.

Objectives

The objective this finance solution is to develop capacity within all the state institutions involved in environment and biodiversity conservation and management to develop and present well-formulated results-based budgets that meet the requirements of MEF and, supported by powerful socio-economic justifications. This will result in increased state budget allocation to priority biodiversity actions. This objective will be achieved through:

a) training of the government officials in the environment and biodiversity line ministries in quantification, coding, and tracing of revenues being collected from the user-pays initiatives (e.g., concession fees, taxes, levies, etc.) in the wildlife, forestry and fisheries sectors;
b) training of the government personnel in the environment and biodiversity line departments (e.g., FNDS, ANAC, DINAB, AQUA, etc.) on budget justification with emphasis on amplifying biodiversity contribution (monetary & non-monetary) to the national economy and rural livelihoods;
c) improving coordination between departments (e.g. FNDS, ANAC, DINAB, AQUA) within MTA, as well as inter-ministerial (MTA, MCULTUR, MIMAIP, MIMAIP, MASA) in the process of budget preparation, and making compelling business cases for the government to increase funding for biodiversity management programmes in Mozambique;
d) training of the government personnel in the environment and biodiversity line departments and ministries on application of the *Results-based budgeting* - a process in which budget formulation revolves around a set of predefined objectives and *Expected Results*, and *Expected Results* justify the resource requirements which are derived from and linked to expected outputs.

Expected financial results

It is expected that by 2025, the government of Mozambican, excluding external funding will quadruple its allocations to the environment, and biodiversity conservation sectors from the current average of about US$8 million per annum to US$29 million per annum. The assumption is that once the current bottlenecks constraining government funding have been resolved, more public funds will flow to the environment and biodiversity conservation and management programmes in Mozambique. Achievement of the set target will also be enabled by the country's expected economic growth. For instance, the country's Gross Domestic Product (GDP), which

between 2006 and 2015 grew on average by 7.3% per annum, is projected to increase to an average of about 15% per year in the early 2020's.

Next steps

Table 5: Key actors and milestones – improved public budget allocation

Action	Lead Agency	Milestone	Years					
			2020	2021	2022	2023	2024	2025
Train the government officials in environment and biodiversity line ministries and departments in quantification, coding & tracing of revenues being collected from the user-pays initiatives	*MEF*	*Improved amounts (Million Mt) and accountability of revenues being collected from the user-pays initiatives*						
Train the government personnel in the same ministries and departments on result-based budgeting, including development of compelling business cases to influence the government to allocate more funds to biodiversity conservation	*MEF,*	*Quadrupled government allocation of funds to biodiversity conservation from about US$8 million to US$29 million/annum by 2025*						
Facilitate coordination between departments within MTA, and inter-ministerial in the preparation of budgets, and development of compelling business cases for government to increase funding to biodiversity management programmes	*FNDS, ANAC, DINAB, AQUA; MTA, MCULTUR, MIMAIP, MIMAIP, MASA*	*Increased allocation of funds to biodiversity management programmes in Mozambique*						

2.3.5 Upscale Co-management of Conservation Areas

Context

Co-management is a process of the government's sharing of responsibilities with either the private sector entity, Foundation, or NGO in the management of Conservation Areas. Co-management of Conservation Areas is recognised in the Biodiversity Conservation Law, No. 16/2014 of 20 June; Law of the Sea and Fisheries, No. 4/96, of January 4 and likely to be included in the new Forestry legislation, which is being drafted.

Box 6: Co-management partnerships in Mozambique

Foundations:
- Carr Foundation – management of Gorongosa national park;
- Africa Parks - management of Bazaruto national park.

Conservation NGOs:
- Wildlife Conservation Society (WCS) - management of Niassa game reserve
- Peace Parks Foundation (PPF) - management of Maputo Special Reserve and Limpopo national park;
- WWF - management of Quirimbas national park between 2004-2010).

Private sector:
- Hunting sector in Coutadas

Local communities
- Payment for custodianship of biodiversity.

Diverse models are being used, including long-term concessions, devolvement of responsibility to a partner, provision of technical assistance by NGOs, or collaboration with NGOs in the management of Conservation Areas. Over the past decades, the Mozambican government has partnered with multiple entities (see Box 6). These co-management partners provide financial and technical resources that would otherwise not be available for conservation, especially where park authorities are under-funded. Concession contracts and associated user fees being generated are a potential source of revenue that could contribute to sustainable self-financing of conservation areas in Mozambique. Involvement of the private sector in marketing tourism in protected areas also provides the expertise necessary to position Mozambique in the highly competitive international nature tourism industry.

In view of its good performance in the country, co-management should be scaled-up across the entire spectrum of the conservation areas – forest reserves, and terrestrial and marine conservation areas. This should be done by enacting a special Decree, which should provide criteria and guidelines for co-management arrangements for conservation areas in Mozambique. Besides these, tested models of co-management of conservation areas, Mozambique recognises local people's customary rights to land, and entitlement to the benefits accruing from sustainable utilization of forests and wildlife in the country. These rights are stipulated in the legislation governing the management of land and biodiversity resources (*see* Box 7). These legislations establish the mechanisms for sharing 20% of revenues earned from wildlife and forest use with the local communities that inhabit areas where these resources are being exploited, including

Box 7: Enabling legislation for community custodianship of biodiversity in Mozambique

1. Land Law, No. 19/97 of 1 October
2. Forest and Wildlife Law, No. of 1999, Decree 93/2005 of 4th May
3. Biodiversity Conservation Law, No. 16/2014 of 20 June;
4. Tourism Law, No. 4/2004;
5. Law of the Sea and Fisheries, No. 4/96, of January 4.

Conservation areas. From 2015-2018, communities earned an average of about Mt7,316,455 and Mt44,086,982 per annum from wildlife and forestry sustainable use, respectively (Fig. 2).

This noble initiative is, however, inundated with problems, such as: (i) lack of capacity to fully capture, timely disburse, and trace benefits to the local communities; (ii) lack of capacity to trace and monitor how the revenues are being used; (iii) lack of transparency on how the revenues are being used at local level; (iv) lack of legally binding agreements compelling the communities to participate in the management of biodiversity resources; and (v) limited scope of revenue which is currently being shared with local communities, e.g., tax on sustainable use of natural resources.

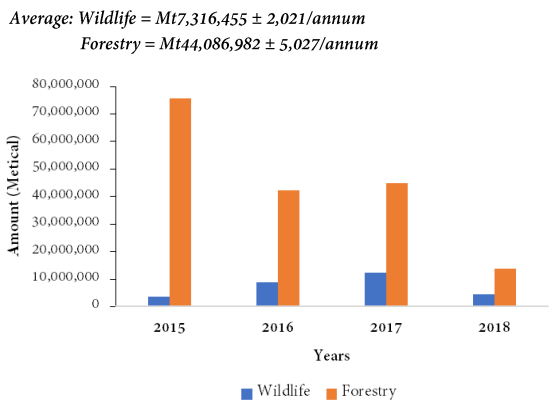

Figure 2: Revenue earned by local communities from sustainable use of Forestry & wildlife

Objectives

The objectives of this finance solution are to:

1. Leverage financial and technical resources to improve the effectiveness of biodiversity management in conservation areas. To achieve this objective, the following should be undertaken:
    a) a special Decree to provide criteria and guidelines for screening potential partners and entering co-management arrangements for conservation areas should e developed; and
    b) long-term partnerships for the management of conservation areas should be actively pursued.
2. Improve payment for community custodianship of biodiversity, through:
    a) revising all the legislation (Box 7) to incorporate conditions/obligations for improved accountability, community responsibility, and legally binding agreements between the state and communities, through their Associações – clearly specifying the responsibilities of the state and the communities in the management of biodiversity.
    b) facilitating intra and inter-ministerial processes of collecting revenues, including coding, tracing and disbursement to the deserving communities;
    c) facilitating the process of depositing revenues being collected for sharing with local communities from various sustainable use initiatives (forestry, wildlife, tourism, fisheries, etc.) into one centralized Fund, such as the FNDS;
    d) Restructuring the FNDS and developing guidelines/criteria for administering funds generated from taxes for exploitation of natural resources and sustainable use of biodiversity and disbursing them for rural development endeavours.

Expected financial results

Currently, Mozambique has 17 wildlife conservation areas, 13 forest reserves, and 20 Coutadas. By 2025, it is expected that at least 75% (12) of the wildlife conservation areas will be under a co-management arrangement with private sector or NGO partners. This would significantly ease the state's funding burden of conservation areas in

Mozambique. The collective expected investment in the 12 wildlife conservation areas is expected to amount to approx. US$96 million/annum by 2025.

Considering the currently the very low revenues accruing to communities from sustainable use of wildlife, improved tax collection from these ventures, as well improved administration and disbursement should result in quadrupling community earnings from currently MZM1.3 million (UD$124,000/annum) to about US$0.50 million by 2025. From the forestry sector, the projected increase is from the currently MZM44.1 million (US$ 747,237) to treble this amount to about US$2.2 million/annum by 2025. The expected improvement in financial benefits accruing to the local communities will enable Mozambique to fulfil the Nagoya Protocol on Access and Fair Sharing of Benefits – thus, creating community incentives for biodiversity conservation, sustainable use and increase the contribution of biodiversity to sustainable development and human well-being.

Next steps

Table 6: Key actors and milestones – Upscaling co-management of Conservation Areas

Action	Lead Agency	Milestone	Years					
			2020	2021	2022	2023	2024	2025
Draft and enact a special Decree to provide criteria and guidelines for co-management arrangements for Conservation Areas.	*ANAC; DINAB; MTA.*	*Special Decree*						
Advertise for co-management of Conservation Areas in Mozambique	*ANAC; DINAB; MTA; MIMAIP*	*Increased number of Conservation Areas under co-management arrangement, reaching the set target of US$29 million for CA management in Mozambique by 2025*						
Develop guidelines/ criteria for administering funds generated from taxes for exploitation of natural resources and sustainable use of biodiversity and disbursement for rural development endeavours through the SDF	*ANAC; DINAB; MTA; MIMAIP*	*Implemented Guidelines & Criteria*						

Revise all the relevant legislation, and draft & enact Decrees to incorporate legally binding agreements – clearly specifying communities' responsibilities in the management of biodiversity processes of collecting, coding, tracing and disbursing revenues from sustainable use initiatives to the deserving communities	*ANAC; DINAB; MTA; MIMAIP*	*Guidelines & increased amounts revenues flowing into the SDF*						

2.3.6 Carbon Credits

Context

Carbon markets have become one of the main approaches to mitigating the climate crisis worldwide, allowing governments, companies, and individuals to compensate their own emissions by financing emissions reductions. Mozambique, with 32 million hectares covered by natural forests, sequestrates more than 5.2 billion tCO_2 per annum; thus, providing an enormous opportunity for both contributing to climate change mitigation and investing revenues from carbon offsets to support biodiversity conservation in the country.

Considering the abrupt collapse of tourism due to the coronavirus pandemic which has reduced revenue earning from ecotourism, Carbon credits have been advanced as one possible source of new funding, but this market's real potential to contribute to biodiversity conservation is yet to be established.

Irrespective of this uncertainty, the objective of this finance solution is to leverage funding from marketing Carbon Credits. This should be achieved through: (i) seeking assistance from the World Bank to access the carbon credit markets. The Work Bank is currently the biggest carbon investor in Africa. It has launched three carbon funds; Prototype Carbon Fund (PCF), Community Development Carbon Fund (CDCF), and BioCarbon Fund. Tapping into these initiatives should be prioritized by Mozambique; and (ii) find a trusted broker to assist Mozambique accee the Carbon Credit markets.

Table 7: Carbon sequestrated by protected area in Mozambique

PROTECTED AREA	DESIGNATION	SIZE (Ha)	CARBON (Million tonnes)
Limpopo	National Park	1,048,982	342,551
Quirimbas	National Park	820,752	340,307
Coutada 5	Hunting Reserve	638,840	184,837
Banhine	National Park	604,651	123,544
Coutada 13	Hunting Reserve	590,451	304,421
Coutada 7	Hunting Reserve	476,406	226,078
Niassa Bloco C	Hunting Reserve	454,265	115,839
Niassa Bloco E	Hunting Reserve	403,254	173,123
Zinave	National Park	388,848	149,235
Coutada 9	Hunting Reserve	376,090	214,674
Gorongosa	National Park	367,469	161,849
Niassa Bloco D2	Hunting Reserve	343,321	194,093
Niassa Bloco A	Hunting Reserve	321,318	95,848
Coutada 4	Hunting Reserve	319,400	138,271
Coutada 6	Hunting Reserve	304,172	136,147
Gilé	National Reserve	286,106	203,168
Coutada 12	Hunting Reserve	271,662	163,180
Coutada 10	Hunting Reserve	260,021	115,025
Mecuburi	Forest Reserve	240,467	115,545
Niassa Bloco D	Hunting Reserve	223,088	122,884
Niassa Bloco B	Hunting Reserve	221,748	73,113
Mnazi Bay	Marine Park	187,075	74,211
Coutada 11	Hunting Reserve	186,823	100,613
Derre	Forest Reserve	158,296	96,206
Marromeu	Game Reserve	155,882	37,080
Bazaruto	National Park	136,041	1,144
Coutada 15	Hunting Reserve	131,135	38,062
Coutada 1	Hunting Reserve	129,394	59760.8
Coutada 3	Hunting Reserve	107,714	53,370
Maputo	Special Reserve	103,888	44,916
REM	Zona de Vigilancia	94,368	40,802
Chimanimani	Protected Area	64,635	35,722
Coutada 14	Hunting Reserve	64,597	14,082
Coutada 8	Hunting Reserve	31,592	9,358
Mupalué	Forest Reserve	27,577	12,127
Baixo Pinda	Forest Reserve	20,264	2,976
Moribane	Forest Reserve	16,134	13,291
Maronga	Forest Reserve	15,001	12,148
Licuati	Forest Reserve	14,093	9,125
Ribáuè	Forest Reserve	12,956	4,726
Pomene	Game Reserve	12,660	4,937
Matibane	Forest Reserve	11,110	5,527
Mucheve	Forest Reserve	9,195	4,898
Total			**5,197,147**

Next steps

Table 8: Key actors and milestones – Carbon credit marketing

Action	Lead Agency	Milestone	Years					
			2020	2021	2022	2023	2024	2025
Engage World Bank for assistance to tap into the international carbon credit market	Ministry of Land & Environment (MTA)	Broker for carbon market						
Develop a Roadmap for tapping into carbon credit markets	ANAC	Roadmap for tapping into carbon credit markets						
Implement the Roadmap for implementing	Implement the carbon credit marketing Roadmap	Among of revenue accruing from traded carbon credits						

2.4 Summary Action Plan

2.4.1 Financial benefit projections from the prioritized finance solutions

The estimated net financial gains, associated with the implementation of all the prioritized finance solutions, would start modestly at about US$83 million in 2021, and increase to about US$212 million by 2025, and probably stabilize at this level moving forward into the future. The total amount to implement the prioritized finance solutions over a period of five years (2021-2025) is US$7.3 million, i.e., about US$1.50 million/annum.

Table 9. Estimated revenue, and cost of implementing the prioritized Finance Solutions in Mozambique

Finance Solution	Years					
	Baseline[17]	**2021**	**2022**	**2023**	**2024**	**2025**
Improvement to recreation hunting revenue	**0.58**	**1.04**	**1.2**	**1.38**	**1.59**	**1.83**
Cost of implementation						
– *Aerial survey 20 Coutada at an average of US$30,000/annum, with an annual increment of about 10% on the survey costs*	0.0	0.03	0.04	0.04	0.04	0.05
– *Training/capacity building in monitoring, tracing and disbursement of revenues from recreational hunting*	0.0	0.03	0.01	0.01	0.01	0.01
– *Benchmarking fees with the best in SADC. This will be desktop work by ANAC officials, with no additional cost*	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal, implementation costs	**0.0**	**0.06**	**0.05**	**0.05**	**0.05**	**0.06**
Estimated net gain	**0.58**	**0.99**	**1.15**	**1.33**	**1.53**	**1.77**
Expected return on investment[18]	0	16.5	23	26.6	30.6	29.5

[17] Average based on data available from 2009 to 2016.

[18] See BIOFIN Book, 2018, Chap. 5.3 for the formula

Finance Solution	Years					
	Baseline	2021	2022	2023	2024	2025
Biodiversity offsets	**0.00**	**1.40**	**1.80**	**2.40**	**3.10**	**4.00**
Cost of implementation						
– *Revise multiple legislation (see text Box 4) and harmonize the guidelines and criteria for obligating the hydrocarbon, mining, large construction companies to compensate for the damage or pollution of biodiversity.*	0.0	0.07	0	0	0	0
– *Implement a Roadmap for a No Net Loss system including biodiversity offsets*	0.0	0.03	0.03	0.03	0.03	0.03
– *Formalize the process of channeling revenues from Biodiversity Offset to BIOFUND for re-investment in biodiversity conservation.*	0.0	0.04	0.06	0	0	0
– *Draft and implement Statutory Instruments/Decree to enforce the International Finance Corporation (IFC) Performance Standard 6 (PS6) for large-scale mining operations financed by IFC.*	0.0	0.04	0.02	0	0	0
Subtotal - implementation costs	**0.0**	**0.18**	**0.11**	**0.03**	**0.03**	**0.03**
Estimated net benefit	**0.00**	**1.22**	**1.69**	**2.37**	**3.07**	**3.97**
Expected return on investment	**0.00**	6.8	15.4	79.0	102.3	132.3

Finance Solution	Years					
	Baseline	2021	2022	2023	2024	2025
Improved capture and administration of revenue from the "User-Pays" initiatives (licenses, fees, fines, tickets, etc. in the wildlife & forestry sector)	**10.9**	**16.35**	**21.26**	**27.63**	**35.92**	**46.7**
Cost of implementation						
– *Revise the relevant legislation to optimize revenue from the full range of the "User-Pays" opportunities*	0.0	0.1	0.05	0	0	0
– *Train MTA personnel in the application of e-SISTAFE to improve recording, coding, management, control, disbursement and tracking/monitoring of public revenues earned from the user-pays initiatives*	0.0	0.2	0.04	0.04	0.04	0.04
– *Lobby the government of Mozambique to channel all revenue earned from User-pays initiatives through the already established BIOFUND to support biodiversity conservation in the country*	0.0	0.15	0	0	0	0
Subtotal - implementation costs	**0.0**	**0.4**	**0.09**	**0.04**	**0.04**	**0.04**
Estimated net benefit	**10.9**	**15.95**	**21.17**	**27.59**	**35.88**	**46.66**
Expected return on investment	**0.0**	39.8	235.2	689.7	897.0	1166.5

Finance Solutions	Years					
	Baseline	2021	2022	2023	2024	2025
Improving public budget allocations & enhancement of public budget execution	7.80	10.14	13.18	17.14	22.28	29
Cost of implementation						
– *Train the government officials in environment and biodiversity line ministries and departments in quantification, coding & tracing of revenues being collected from the user-pays initiatives*	0	0.2	0.07	0.07	0.07	0.07
– *Train the government personnel in the same ministries and departments on result-based budgeting, including development of compelling business cases to influence the government to allocate more funds to biodiversity conservation*	0	0.2	0.07	0.07	0.07	0.07
– *Facilitate coordination between departments within MTA, and inter-ministerial in the preparation of budgets, and development of compelling business cases for government to increase funding to biodiversity management programmes*	0	0.75	0.75	0.75	0.75	0.75
Subtotal - implementation costs	0	1.15	0.89	0.89	0.89	0.89
Estimated net benefit	7.8	8.99	12.29	16.25	21.39	28.11
Expected return on investment	0.0	7.8	13.8	18.3	24.0	31.5

Finance Solutions	Years					
	Baseline	2021	2022	2023	2024	2025
5. Upscale Co-management of Conservation Areas	**0.0**	**33.61**	**43.70**	**56.80**	**73.85**	**96.00**
Cost of implementation						
– *Draft and enact a special Decree to provide criteria and guidelines for co-management arrangements for Conservation Areas.*	0.0	0.15	0.08	0	0	0
– *Advertise for co-management of Conservation Areas in Mozambique*	0.0	0.01	0.01	0.01	0.01	0.01
– *Develop guidelines/criteria for administering funds generated from taxes for exploitation of natural resources and sustainable use of biodiversity and disbursement for rural development endeavours through the SDF*	0.0	0.04	0.08	0	0	0
– *Revise all the relevant legislation, and draft & enact Decrees to incorporate legally binding agreements – clearly specifying communities' responsibilities in the management of biodiversity*	0.0	0.04	0.08	0	0	0
Subtotal - implementation costs	**0.0**	**0.23**	**0.24**	**0.01**	**0.01**	**0.01**
Estimated net benefit	**0.0**	**33.38**	**43.46**	**56.79**	**73.84**	**95.99**
Expected return on investment	**0.0**	145.1	181.0	5679	7384	9599

Finance Solutions	Years					
	Baseline	2021	2022	2023	2024	2025
6. Carbon Credits	**0.0**	**24.9**	**27.40**	**30.00**	**33.00**	**36.40**
Cost of implementation						
– *Engage World Bank for assistance to tap into the international carbon credit market*	**0.0**	**0**	**0**	**0**	**0**	**0**
– *Develop & implement a Roadmap for tapping into carbon credit markets*	**0.0**	**0.2**	**0.15**	**0.15**	**0.15**	**0.15**
Subtotal - implementation costs	**0.0**	**0.2**	**0.15**	**0.15**	**0.15**	**0.15**
Estimated net benefit	**0.0**	**24.7**	**27.25**	**29.85**	**32.85**	**36.25**
Expected return on investment	**0.0**	123.5	181.6	199	219	241.6

SUMMARY ON ALL FINANCE SOLUTIONS	Years					
	Baseline	2021	2022	2023	2024	2025
Overall expected revenue from the prioritized Finance Solutions	19.28	85.23	107.01	134.18	168.56	212.75
Overall implementation cost of the prioritized Finance Solutions	0.0	2.22	1.53	1.17	1.17	1.18
Estimated net gain, excluding implementation costs	**19.28**	**83.01**	**105.48**	**133.01**	**167.39**	**211.57**
Overall expected return on investment	**0.0**	37.4	68.9	113.6	143.0	179.2

The estimated net financial gains, associated with the implementation of all the prioritized finance solutions, would start modestly at about US$83 million in 2021, and increase to about US$212 million by 2025 (Fig. 3), and probably stabilize at this level moving forward.

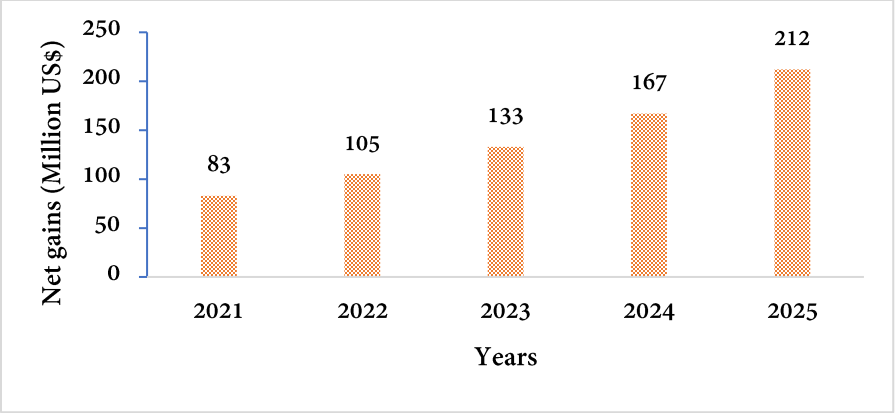

***Figure 3*: Aggregate net gains from all prioritized finance solutions**

The finance solutions with greatest potential (Fig. 4), include:

a) Co-management of Conservation Areas (CA's), modelled on the experience Mozambique has had with the Carr Foundation – in the development and management of Gorongosa National Park; Wildlife Conservation Society for the management of Niassa Game Reserve, Africa Parks Foundation in the management of Bazaruto National Park; and Peace Parks Foundation in the development and management of Maputo Special Reserve and Limpopo, and Zinave National Parks. The assumption is that at least four more CA's will be comanaged between 2021 and 2025. For this to happen, MTA should urgently issue, a special Decree to provide criteria and guidelines for CA's co-management arrangements, and actively advocate public-private partnerships in the management of for Conservation Areas in the country.

b) Scaling-Up of Carbon Credit Marketing. Despite ambiguities on the actual potential of marketing carbon credits, Mozambique has enormous carbon sequestration capacity, and potential to benefit from this potential financial solution. Based on the piloted experience in the Zambezia province, should scale-up on this initiative, under the assumption that World Bank, which is currently the biggest carbon investor in Africa, would be willing to assist the country to fully tap into the continental and global carbon credit markets.

c) User-Pays initiatives. The intention if broaden the options, as well as improve revenues from multiple sources (concession fees, CA entrance fees, taxes, fines, etc.), through benchmarking with the best in the SADC region. The assumption is that if MTA can urgently

d) Increase public budget allocation. The assumption is that the MTA would prioritize and train officials in the biodiversity sector on quantification, coding and tracing of revenues being collected from the user-pays initiatives as well as train them on result-based budgeting, including development of compelling business cases to influence the government to allocate more funds to biodiversity conservation. It is expected that by undertaking this training, the government's allocations could increase by at least 80% in the first 1-2 years.

f) Biodiversity Offsets. This finance solution is a low hanging fruit, considering the roadmap for its implementation has already been developed with support from the World Bank, and there is great

interest from UNDP and the Mozambique BIOFUND. The assumption is that these agencies will meet the cost of its implementation, and once fully operation, about US$4 million could be earned by 2025.

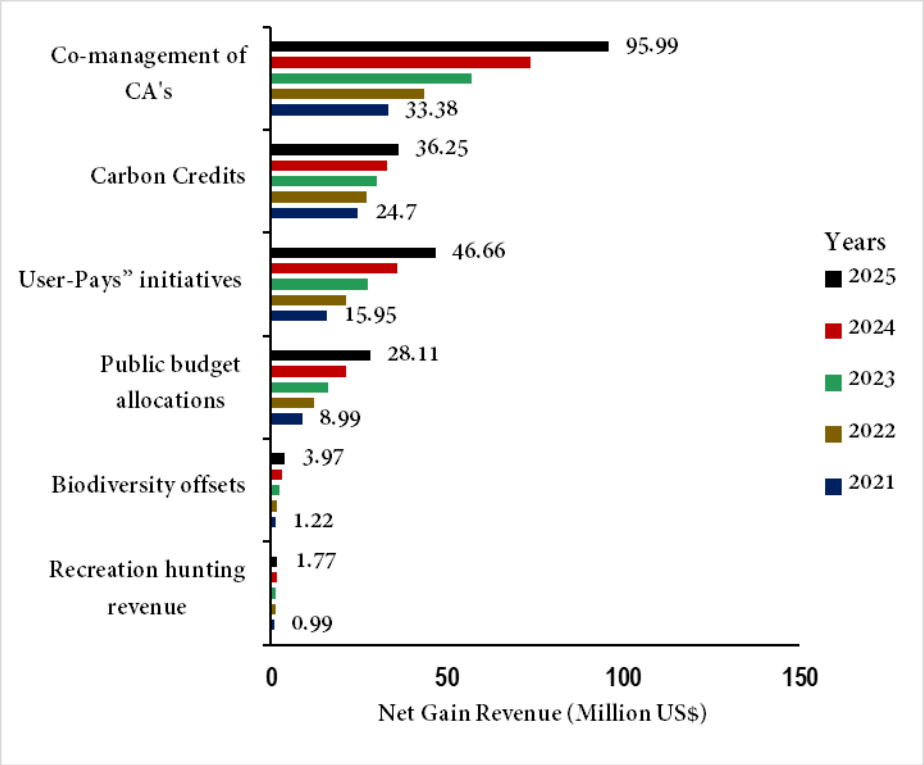

Figure 4: **prioritized finance solutions based on the expected net gain revenue**

3. IMPLEMENTATION OF THE BFP

The Biodiversity Finance Plan is a living document, which should be owned and used by the Mozambique's biodiversity sector. It is a vital tool to guide the process of developing and encouraging biodiversity finance in Mozambique. It should be updated as circumstances, needs and opportunities evolve. Its effective implementation will require a coordinated effort from the government, civil society (NGO), private and development partners. The bulk of the implementation and monitoring of the Plan will be coordinated by MTA, using existing collaboration frameworks. It is, however, largely recognized that the commitment and financing by the public sector should increasingly be complemented with private sector engagement, foundations, donors, and NGO support.

The Ministry of Environment and Land (MTA) should lead implementation of the BFP. A specially dedicated team of senior officers, from the who should:

iii) Take leadership in implementing the BFP, as well as coordinate intra-departmental (FNDS, ANAC, DINAB, AQUA), and inter-ministerial (MTA, MCULTUR, MIMAIP, MASA) amendment of the various

legislation recommended in this document to enable optimization of the various prioritized finance solutions

iv) Urgently raise funds from the bilateral and international cooperating partners to implement the BFP. The total amount of funds required to implement the BFP over a period of five years (2021-2025) is US$7.3 million, i.e., about US$1.50 million/annum. The return on investment for all the prioritized finance solutions is very high, implying that there is good value in investing in their implementation.

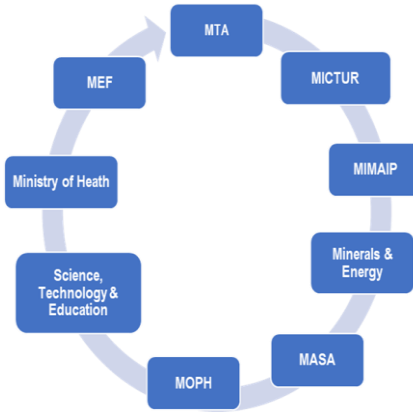

Figure 5: Schematic illustration of coordination to effectively implement the BFP

Monitoring and evaluation (M&E) should be integral to the implementation process of the BFP. M&E should be used to track performance and achievements of the set milestones and the expected targets of the financial gains, as well as systematically measure the effectiveness of the BFP implementation process to provide opportunities for learning and adaptation to improve the strategies to enhance financial gains from the prioritized and the emerging finance solutions. The Ministry of Environment and Land should build internal M&E capacity or outsource the M&E services, which are essential to the success of the overall BFP implementation process in Mozambique.

4. CONCLUSION

Mozambique's biodiversity sector needs at least US$112 million for the initial investment, and US$62 million/annum required to effectively manage the country's rich biodiversity. To address the funding gap, this Biodiversity Finance Plan (BFP) has identified, and prioritized six finance solutions for either improvement, scale-up, or piloting, among which scaling-up of co-management of conservation areas, scaling-up of carbon credit marketing, improvement of revenue capture from the user-pays initiatives, increase public budget allocation, and implementation of the biodiversity offsets mechanisms have the highest potential.

The estimated net financial gains, associated with the implementation of all the prioritized finance solutions, would start modestly at about US$83 million in 2021, and increase to about US$212 million by 2025. The total amount to implement the prioritized finance solutions over a period of five years (2021-2025) is US$7.3 million, i.e., about US$1.50 million/annum. The Ministry of Environment and Land should urgently raise funds from the bilateral and international cooperating partners to implement the BFP. The return on investment for all the prioritized finance solutions is very high, implying that there is good value in investing in their implementation

The BFP should be updated as circumstances, needs and opportunities evolve. Its effective implementation will require a coordinated effort from the government, civil society (NGO), private and development partners. While the bulk of the implementation and monitoring of the Plan will be coordinated by MTA, using existing collaboration frameworks, the commitment and financing by the public sector, private sector, foundations, donors, and NGO will is essential to its effective implementation.

Monitoring and evaluation (M&E) should be integral to the implementation process of the BFP. M&E should be used to track performance and achievements of the set milestones and the expected targets of the financial gains, as well as systematically measure the effectiveness of the BFP implementation process to provide opportunities for learning and adaptation to improve the strategies to enhance financial gains from the prioritized and the emerging finance solutions. The Ministry of Environment and Land should build internal M&E capacity or outsource the M&E services, which are essential to the success of the overall BFP implementation process in Mozambique

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