MINISTRY OF LAND, ENVIRONMENT AND RURAL DEVELOPMENT

MINISTRY OF ECONOMY AND FINANCE

MOZAMBIQUE BIODIVERSITY FINANCIAL NEEDS ASSESSEMET:

The cost of implementing the Mozambique's National Biodiversity Strategy and Action Plan

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BIOFIN
THE BIODIVERSITY FINANCE INITIATIVE
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Compiled by: Izilda Nhantumbo

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1. INTRODUCTION

Mozambique is endowed with natural resources raging from fertile land, inland water with several rivers and lakes; fisheries and marine resources; forests with high value timber and non-timber forest products as well as watershed and other services; diverse range of other types of flora and fauna, terrestrial and coastal landscapes of high tourism attraction, mineral resources and energy including hydropower, coal, oil and gas as well as high potential of renewable energy (solar, wind, biofuels and others).

These diverse ecosystems host about 6000[1] species of plants with over 350 in the IUCN Red List of Threatened Species. There are about 4200 species of animals among which 3075 insects, 726 birds, 214 mammals, 171 reptiles and 85 amphibians. Furthermore, the marine ecosystems extending over 2700 km of coastal line offer habitat for 194 species of coral reefs, 9 of mangrove; 13 of seagrass, 5 of turtles, 900 species of bonny fish, 122 species of sharks and rays, 27 of marine mammals including possibly the last viable dugong population in the Eastern Indian Ocean, with very localized occurrence (Inhambane Bay and Bazaruto Archipelago). There are also 7 species of dolphins and 8 of whales. Of 2626 species of sea fish, 800 species are associated with coral reefs, 92 cartilaginous fish and 1363 species of molluscs. There are sixteen important birdlife areas and over 2252 germplasm of agriculture crops. The country´s regional and national centres of endemism include the Zambezian, Swahilian (from Zanzibar to Inhambane), the transition zone Swahilian-Maputaland and mountainous areas.

Pereira and Nazerali (2016) found that 366 species in studied protected areas in Mozambique are in the IUCN red list of threatened species under categories of *Near Threatened, Vulnerable, Endangered, Critically Endangered* while 2381 species are considered to be of "least concern". While the current network of conservation areas hosts about 90% of threatened species, identifying ecosystems where others are located and protecting them should also be a priority.

Currently *in-situ* conservation and protection of biodiversity and sensitive or fragile ecosystems cover 26% of the national territory including seven national parks, ten national reserves, twenty game hunting areas, three community conservation areas, fifty wild farms and thirteen forest reserves. A number of cross border conservation areas such as the Chimanimani and Limpopo have been set up with neighbouring countries such as South Africa and Zimbabwe. The aim is to open wildlife corridors and enhance the potential for tourism development.

Mozambique is party to the Convention on Biodiversity (CBD) since 1994 and adhered to the Nagoya Protocol on equitable and fair access and benefit sharing, and the country is part the of pool of countries supported to identify opportunities for innovative and sustainable financing mechanism for biodiversity. More than seeking new sources of finance, this process should

[1] Discrepancies in the statistics of country´s biodiversity prevail.

incentivise rational use of existing resources often dispersed in fragmentation government agencies. BIOFIN provides a systematic and analytical approach comprising 4 steps:

(i) Review of policy and institutional (PIR) framework for generating, allocating and managing funds for biodiversity conservation;

(ii) Analysis of trends in past expenditure on biodiversity (BER) in public and non-public sector agencies;

(iii) Determination of costs of priority actions through financial needs assessment (FNA), to help meet the NBSAP strategic objectives and outcomes,

(iv) Develop the biodiversity finance plan which identifies different financing solutions or options and a pathway for proactive fundraising from domestic and international public and private sources.

The subject of this assignment is conducting the third step - financial needs assessment (FNA) - of Mozambique´s NBSAP. Key steps include integrating FNA with the national planning and budgeting process; clarifying and structuring the NBSAP strategies and actions with expected biodiversity results in a logical framework for costing; prioritize biodiversity strategies and actions based on specific biodiversity and cost criteria; present detailed budget for each costable action, define unit costs and quantities over the target time frame; use the results to build a strong case for biodiversity finance and calculate the finance gap between business as usual biodiversity expenditures projections and the needs identified through FNA.

The report is structured as follows: the section 2 gives a brief summary of the Mozambique NBSAP and section 3 presents the scope and methodology followed in this assignment; section 4 highlights key observations from the review and prioritisation of the NBSAP for costing purposes; section 4 presents the results of the NBSAP costing; Section 5 draws conclusions and suggests the way forward towards coordinated financing of biodiversity conservation across all ecosystems irrespective of the agency responsible for management or taking investment decisions that impact biodiversity.

2. THE MOZAMBIQUE NBSAP

2.1 The context

Anthropogenic and natural drivers are responsible for the decline of quantity, quality and diversity of terrestrial, inland water and marine ecosystems and species in Mozambique. The quest for rapid extraction of natural resources to propel economic development seems to override critical safeguards in implementation and monitoring of social, economic and environmental management plans. Evaluation of negative impacts from illegal, inefficient and unsustainable production practices and trade of the extractive-based industry (forests, mining, fisheries) and implementation of mitigation measures are scanty. Additionally, infrastructure development plus scattered and unsustainable settlements are exacerbated by absence of or lack of implementation of strategic land use plans and poor enforcement of minimum standards.

The National Directorate of Territorial Planning (DINOTER) recently led the development of land use planning that highlights the potential conflicting land use between conservation objectives and other economic activities such as mining and forest production (GoM, 2018). However, this

instrument will only have a positive impact if used to inform decision making on land allocation at both national and more so at local level.

The Government of Mozambique, is undertaking steps toward sustainable management of natural resources and Biodiversity Conservation.

The National Directorate of Territorial Planning (DINOTER) of MITADER conducted a Strategic Environmental and Social Assessment (SESA) in the context of the development of National Territorial Planning. While highlighting the fact that there is already a large area under conservation in Mozambique, the report also stresses the opportunity for expansion of the network of conservation areas and establish cross border ecosystem connectivity. Among priorities are the assessment of vulnerability and risks that can affect different ecoregion including important ecological mountain areas such as the North of the Chimanimani TFCA, the Great Archipelago of Inselbergs including Chiperoni and Namuli mountains, the coastal areas such as the North of Beira City and the provinces of Maputo, Gaza and Inhambane plus Panda and the 10 important birdlife areas (IBAs).

The National Territorial (Land Use) Planning (GoM, 2018) maps areas of potential conflicts between extraction and use of natural resources and, protection of biodiversity:

- Heavy and precious mineral resources up for bidding or under different types of licences in several conservation areas and other zones of critical habitats including the Niassa National Reserve (NNR), the coast of Nampula in the Islands *Primeiras and Segundas*, Mágoe National Park (MNP), Limpopo National Park (LNP), Chimanimani National Reserve (CNR), in the Ramsar and mangrove rich areas of the lower Zambezi (Marromeu Reserve) and areas of productive forest (timber production);
- Hydrocarbon resources within the Quirimbas National Park (QNP) and along the Coast of Cabo Delgado and in the Sofala Bank both with important marine diversity.
- The slash and burn agriculture practices affect almost all the rural area of Mozambique with fire incidence classified as very high to extreme or severe, particularly in the period preceding the rainy season.
- The land use planning also maps the distribution of natural resources and critical habitats such as areas of endemism, key evolution sites, habitat of migratory species, principal biodiversity areas as well as areas of incidence of threats to unique habitats and species.

This recent mapping represents an important instrument for guiding the focus areas for conservation of biodiversity.

The fifteen-year Sustainable Development Programme (PNDS – 2015-2030) of the Ministry of Land, Environment and Rural Development (MITADER) defines targets such as reducing poverty to 45%; improve access to financial services and expanding infrastructure including the rural road network; access to renewable energy; increasing the population of elephants to 17.5 thousand; and reducing emissions of CO_2 in a magnitude of 72.5 million CO_2 annually. A number of ancillary projects (e.g. MozBio and MozFIP, MozLand, SUSTENTA) contribute to delivering this strategy through sustainable environmental and natural resources management as well as biodiversity conservation.

However, there is certainly a challenge in balancing economic development imperatives and sustainability. On the other hand, there is lack of capacity for technical monitoring and audit of environmental and social practices in large scale investments and their respective impacts. Law enforcement is equally weakened by lack of well trained personnel and the limited workforce for the scale of activities and need for deterring illegalities and unsustainable uses.

There is a wealth of information to guide implementation of various sectoral policies, legislation and strategies – minerals, energy, fisheries, forests, land, agriculture and infrastructure. They all embed sustainability as principle and long term objective to be considered in the utilization of resources. The Environmental Impact Regulation provides the framework that aims at guiding the development of safeguards and plans for managing negative impacts of investments. This, together with the Conservation Law sets the stage for financing restoration of ecosystems through biodiversity offsets and no-net loss (NNL).

The country equally ratified the United Nations Framework Convention on Climate Change (UNCCC). A Climate Change Adaptation and Mitigation Strategy (2013-2025) was developed to guide climate-smart development pathways. The conservation of biodiversity, reduction of deforestation and forest degradation and efficient use of terrestrial, coastal and marine resources are key strategic actions. The 2016-2030 Strategy for Reduction of Emissions from Deforestation and Forest Degradation, Sustainable Forest Management, Conservation of Forests and Enhancement of Carbon Stocks (REDD+) details interventions to address drivers and underlying causes of forest and biodiversity loss due to land use and land use change.

This section presented a brief context of the NBSAP costing (FNA) being undertaken nearly 4 years after its approval in 2015. The costing process coincides with the end of the current government cycle (2015-2019) and of the mid-term fiscal scenario (2017-2019). The implementation of biodiversity financing solutions can be aligned with government cycle programming and prioritisation.

The imperative of embracing sustainable development similarly continues relevant and explicit in the long term strategy documents such as the Agenda 2025, the commitment to the 2030 Sustainable Development Goals (SDG) amongst others.

The 2015-2024 Strategic Plan for Conservation Areas (ANAC, 2015) defines the following objectives for biodiversity conservation and financing:

- Review classification and categorization of conservation areas; extend the network to ensure representation of high biodiversity value ecosystems; technical capacity for applied research; and, strengthen law enforcement capacity.
- Pursue sustainable finance of conservation areas and increase their contribution to the national economy through a combination of interventions including tourism development, community involvement in sustainable income generating businesses, increase state revenue collection and allocation towards conservation and explore other innovative financing mechanisms.

The FNA process, therefore, contributes to these strategic objectives as well as assessing finance needs for conservation of biodiversity outside gazetted conservation areas.

2.2 NBSAP Strategic Objectives and Targets

The Mozambique's National strategy and action plan of biological diversity of (NBSAP 2015-2035) vision is *"In 2035, the ecological, socio-economic and cultural value of biodiversity in Mozambique will contribute directly to improving the quality of life of Mozambicans, derived from its integrated management, conservation and fair and equitable utilization".* To achieve this vision, our mission is defined as: *"To ensure the conservation of biodiversity through integration, training, financing, and strengthening of strong partnerships between the different sectors of society."* Four strategic objectives (areas of focus) including:

A. Reducing the direct and indirect causes of degradation and loss of biodiversity.
B. Improve the status of biodiversity by preserving the diversity of ecosystems, habitats, species and genes.
C. Improve the benefits sharing from biodiversity and ecosystem services for all sectors of the Mozambican society.
D. Enhance implementation through participatory planning, knowledge management and training.

The targets for the above Strategic Objectives are summarized in the following Box.

Mozambique NBSAP Strategic Objectives (SO) and Targets

SO A: Reduce the direct and indirect causes of degradation and loss of biodiversity.

Target 1: The latest, by 2020, increase by 30% the level of awareness of the Mozambican population about the values of biodiversity and the impacts that human activity can cause.

Target 2: By 2020, there should be a better understanding of the value (economic, social and ecological) of biodiversity, in order to allow a better integration in the decision-making and management.

Target 3: By 2025, adopt and effectively implement policies and legal instruments for preventing and mitigating the impacts of human activities likely to cause degradation of biodiversity.

Target 4: By 2025, define ecologically sustainable systems for the production and consumption based on sustainable practices and adequate investment.

Target 5: By 2035, reduce by at least 20% the area of critical ecosystems, or that provide essential goods and services under degradation and fragmentation.

Target 6: By 2025, have at least 30% of habitats of endemic and/or threatened flora and fauna species with strategies and action plans for their conservation in place.

Target 7: By 2020, catalog/systematize, disseminate and encourage sustainable management practices in agriculture, livestock, aquaculture, forestry and wildlife.

Target 8: By 2025, reduce the pollution levels at critical locations and ecosystems by 20%, pollution.

Target 9: By 2025, reduce in at least 10% the area of occurrence of invasive species and establish/implement strategies for managing the impacts.

Target 10: By 2035, put at least 20% critically affect ecosystems by climate changes under adaptive ecosystem management.

SO B: Improve the status of biodiversity by preserving the diversity of ecosystems, habitats, species and genes.

Target 11A: By 2025, evaluate and redefine 75% of current conservation areas, and include, formally, 100% of the Afromontane endemism centers (altitud > 1.500m) and up to 5% of marine ecosystems and mountain in conservation areas.

Target 11B: By 2030, manage effectively and equitably, 50% of the protected areas.

Target 12: By 2035, rehabilitate at least 15% of the degraded ecosystems /habitats, restoring their biodiversity and ensuring its sustainability, with a view to mitigating the effects of climate change and combating desertification.

Target 13: By 2030, complete the characterization and cataloging the genetic diversity of cultivated plants and domestic animals and their threatened ancestors in natural habitats, including species of socio-economic and/or cultural value and defining strategies for their conservation.

SO C: Improve the benefits sharing from biodiversity and ecosystem services for all sectors of the mozambican society.

Target 14: By 2030, create and integrate the national accounts a payment mechanism for environmental goods and services to promote fair, equitable and sustainable use of biological diversity.

Target 15: By 2025, knowing and strengthen the contribution of biodiversity to increase the stock of carbon in order to mitigate and adapt to climate change.

Target 16: By 2020, implement national legislation on access and benefit sharing arising from the use of biodiversity and genetic resources.

SO D: Enhance implementation through participatory planning, knowledge management and training.

Target 17: By 2020, the sectors involved in biodiversity issues must develop, based on national targets, sectoral goals, integrate them into sectoral plans, and start implement it.

Target 18: By 2035, value and respect the knowledge and traditional uses of on biodiversity, in accordance with national legislation.

Target 19: By 2035, strengthen the capacity of key stakeholders and improve the integration of gender issues, to enable the effective implementation of national targets.

Target 20: By 2020, strengthen national and international partnerships and establish innovative mechanisms for financing and support biodiversity programs.

2.3 The challenge of Financing Biodiversity and conservation in Mozambique

In Mozambique, biodiversity financing is mainly provided through government budget and development partners.

Government Budget

Government funding is the most consistent source of finance for the management of biodiversity in Mozambique, albeit being insufficient. The annual planning and budgeting process is mainly guided by two instruments: (i) the Five-Year Government Program (2015-2019), a high-level planning instrument laying out the government priorities, strategic objectives, programs and actions, including the milestone for each five-year cycle of governance; (ii) the Medium Term Fiscal Review Framework, which is a three-years rolling planning and budgeting instrument for the medium term, in which the appropriate options and strategies to fulfil the governance policies for the relevant period are organized and updated. The main objective of the Medium-Term Fiscal Review Framework is to set out the economic context in which the budgeting process is inserted, explaining the fiscal policy in the context of economic perspectives, propose of the structure and resource allocation, as well as define the budget ceilings to be planned for by each state entity for the following year. Fig.1 below illustrates the Mozambique's budget preparation process. Funding of the public natural resources/environment, and biodiversity conservation programs comes from three 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.

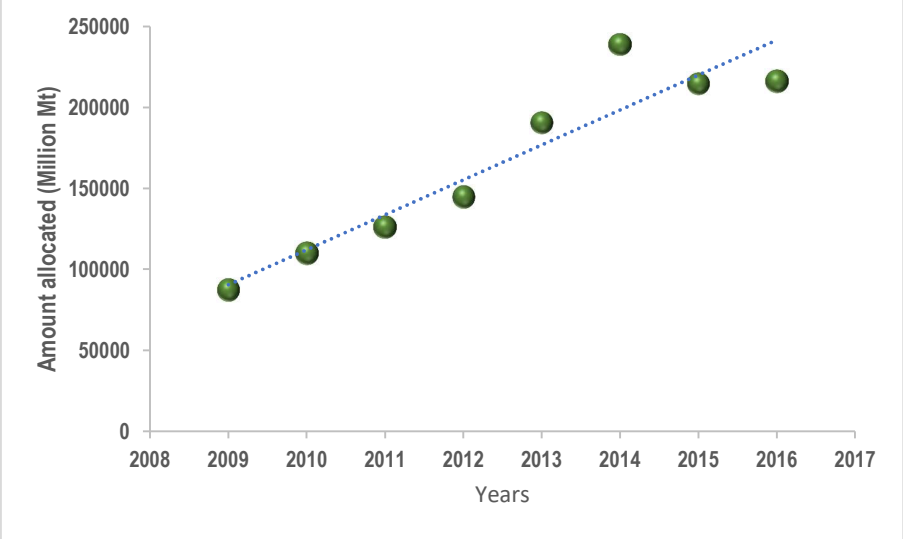


***Figure 1**: State budgetary allocation to the biodiversity conservation sectors in Mozambique*[2]

The state's allocation to the biodiversity conservation sectors has consistently been increasing over the past 10 years (Fig. 1), but these sectors have not been very successful in motivating for adequate government funding.

External Funding from development partners

Mozambique has a large portfolio of funding from its bilateral and multilateral cooperating partners, including AFD, FFEM, KFW, USAID, the Global Environment Facility (GEF), the World Bank and conservation NGOs, which dominate the biodiversity finance landscape in Mozambique. While the government's contribution has consistently remained below 15%, due to competing demands by other sectors, such as agriculture, health, education, energy, infrastructure development, etc. Table 1 below presents examples of bilateral and multilateral cooperation partners support,

Table 1. Bilateral and multilateral cooperation organizations playing a role in biodiversity financing in Mozambique.

Organization	Main Areas of Intervention
UNDP	Support of creation of enabling environment for biodiversity conservation in Mozambique through interventions at various level. UNDP has been supporting the government of Mozambique in accessing the GEF funding, used to finance different projects in institutional capacity building of ANAC and specific protected areas, legal framework, sustainable financing, with a direct technical support from UNDP. For example, the establishment of the Fund for Biodiversity Conservation (BIOFUND) is an output of UNDP-GEF 5 project, and currently UNDP is providing technical support to BIOFIN project. Because of its leveraging partnerships, UNDP is part of the management board of key protected areas in Mozambique, such as the Gorongoza National Park and Niassa National Reserve.
European Union	Environment and Biodiversity is one of the thematic programs that benefit from development and cooperation instruments of European Union. Specific interventions include strengthening of financial sustainability and biodiversity of Gilé National Reserve. EU is currently assessing modalities to finance biodiversity and community development projects in Afromontane Biodiversity Hotspots in the Zambezia province.
World Bank	Support and finance a wide range of biodiversity programs and projects, to improve the practices and enabling environment in natural resources management. Examples of ongoing projects include Forest Investment Project and the Mozambique GEF Conservation Areas for Biodiversity and Development.
USAID	Biodiversity and tourism programs, with focus on building local capacities and skills for scientific research and management decisions in biodiversity conservation. Flagship supported projects include the Gorongosa Restoration Project and the creation and protection of Lake Niassa Reserve, to support local livelihoods. The recently created SPEED+ project aimed at supporting the policy environment for economic development in Mozambique, has a portfolio of biodiversity to support policy and legal reforms.

[2] Source: Ministry of Economy and Finance, CGE Reports (2009-2015), REO 2016

KFW	Technical assistance and implementation of activities in some protected areas and support of Great Limpopo trans-frontier Park development.
FDA	Grants supporting three protected areas, with threefold objectives of protecting biodiversity, creating economic opportunities in agriculture and sustainable tourism, and contributing to sustainable development of the people. AFD also supports the development of new financial instruments in the country such as the biodiversity trust fund, compensation and REDD+
JICA	Support in establishment of Sustainable Resource Information Platform for Monitoring REDD+ and strengthening of forest management.

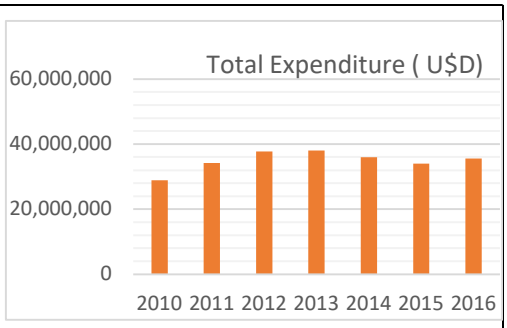
However, much as external funding continues to grow, and contributes substantially to biodiversity conservation efforts in Mozambique, such dependence is unreliable and unsustainable, because it is highly influenced by political stability and good relations with the donor countries, which if curtailed can severely constrain biodiversity conservation gains so far made in the country.

The Mozambique Biodiversity Expenditure Review (BER), indicated that between 2015 to 2017 the revenues collected rose significantly. For example, the revenues collected in the forest sector increased from 290 million meticais to 479 million meticais, and, the revenues collected from protected areas rose from 76 million to 85 million meticais.

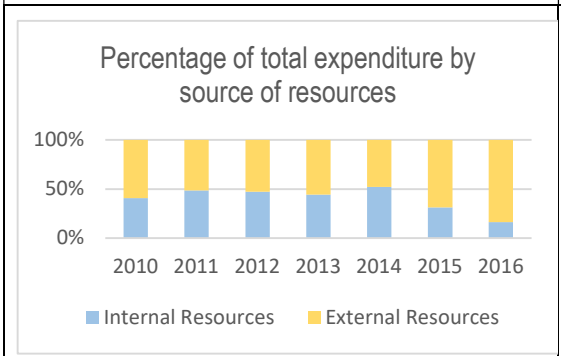
Figure 2: Trends in Biodiversity Expenditure

The biodiversity expenditure is made in sectors such as biodiversity conservation, tourism and recreation, forests, wildlife ,agriculture, public safety and water.

The level of biodiversity expenditure between 2010 and 2016 registered an increasing trend. The biodiversity related expenditure grew from 952 million meticais (USD 29 million) in 2010 to 2 224 million meticais (USD 36 million) in 2016. The total biodiversity expenditure between 2010 and 2016 is here illustrated below:



Biodiversity expenditure between 2010 and 2016 (Source, BER Mozambique)



The largest proportion of financial resources invested in biodiversity in Mozambique comes from external resources, especially donors, with about 50% to 85% which include bilateral and multilateral cooperation partners and international NGOs. The distribution of biodiversity expenditure by source of financial resources is shown the table below.

Private biodiversity expenditure, other than that linked to privately managed protected areas, is almost inexistent in Mozambique

Source, BER Mozambique

Although Environment and Sustainable Natural resource management are a priority in the 2014=2019 Government Program, Biodiversity did not receive high priority in terms of budget allocation. The Government biodiversity expenditure in Mozambique represent represents between 0.17% to 0.39 % of total government spending. The public biodiversity expenditure is largely concentrated at central level, with ministries, national directorates and administrations accounting for more than 70 % of total biodiversity expenditure.

In Non-government biodiversity spending, the largest share of international donor's biodiversity financing is channelled to national and international NGOs operating in Mozambique.

Table 2: Biodiversity spending focus in Mozambique

National Targets	%
Sustainable Production & Consumption	1.57
Ecosystem Rehabilitation & Biodiversity Restoration	0.35
Biodiversity Awareness	0.98
Biodiversity Mainstreaming	2.53
Preventing Biodiversity Degradation	6.62
Sustainable Production Systems	9.64
Protected Areas	77.49
Protecting Critical Ecosystems	0.74
Strengthening Capacities & Integration of Gender	0.05
Protecting Traditional Knowledge & Uses	0.03

Biodiversity spending in Mozambique is largely concentrated on protected areas (77.5%), followed by sustainable production systems as presented.

There is, therefore, need to diversity and increase funding from local sources, as well as explore additional biodiversity solutions for scale-up in Mozambique.

3. SCOPE AND METHODOLOGY

3.1 Scope of the FNA

The overall scope of the FNA has been to calculate the detailed costs for implementing the prioritized strategies and actions based on NBSAP In this regard, the FNA is meant to help policy-makers and senior managers be able to:

- understand the total cost implications for implementing each activity, and therefore aggregate the total cost for all strategies and actions within the NBSAP;
- be in a position to prioritize the set of cost-able actions that comprise the strategies and actions within the NBSAP; and
- recognize the need to manage annual fluctuations in biodiversity financing, and therefore anticipate the need for increased mobilization of funds for biodiversity and conservation.

The scope for the FNA was further defined based on national stakeholder consultations, in alignment with the earlier BIOIFN PIR and the BER processes. The scope also embraces the Sustainable Development Goals (SDGs), and the Paris Declaration on Climate Change (2030).

The FNA for Mozambique´s NBSAP determines capital and recurrent costs for a 10-year period, that is, for 2020 to 2029. A mid-term review is envisaged at the end of the 5th year to ensure that the expected changes in macroeconomic fundamentals are embedded, if significantly affecting the biodiversity finance. This cautionary measure is necessary as despite stabilizing relative to the previous three-four years, Mozambique´s economy is fragile, financial and economic challenges prevail mainly due to the large foreign debt, political instability in the North and Center of the country, the fragile recent peace accord, the recent devastation caused by natural disasters among

others. The combination of these aspects affects projections of growth, interest rates, inflation and other economic and investment indicators hence, to the extent possible, they will be considered in costing the NBSAP.

3.2 Steps in the FNA analysis

The assessment process follows the BIOFIN methodology, which consists of nine steps outlined below:

1. Preparation involving the inception activities and making relevant arrangements for secondary data collection and literature review. This phase entails background work covered related to the inception and post-inception activities.
2. Scoping and clarifying the NBSAP actions. Scoping was covered as part of the inception activities. Early engagement with stakeholders provides clarification on the NBSAP goals and action plans, the institutional arrangements and the resource mobilization plan.
3. Desktop study and preparation of initial costing tables. This activity involved disaggregating the NBSAP implementation and timeline into cost elements, i.e., cost-able actions or specific cost elements and units to be calculated.
4. Stakeholder engagement during and after the costing activities through key informant meetings and a consultation workshop in the early stages as well as a validation workshop, at a later stage, to discuss the complete findings and final recommendations.
5. Refinement of cost models with expert input. The initial basic model drawn from the NBSAP and other policies was further refined to the proposed timeline and improved understanding of relationships for implementation of the NBSAP.
6. Analysis of costing results. The analysis aimed at providing a clear aggregation of actions, activities, targets and goals;
7. Estimation of finance needs. The finance need was calculated as the final aggregation of the costing of the NBSAP actions, targets and goals.
8. Completion of the report detailing the biodiversity finance needs and finance gap

This approach (Figure 3) was followed, subject to review in key stakeholders meeting with the participation of the National BIOFIN team, the National Directorate of Environment and Biodiversity (DINAB) and the Directorate of Planning and Cooperation (DPC) both of MITADER provided the necessary context and a common understanding of the assignment, expectations and process.

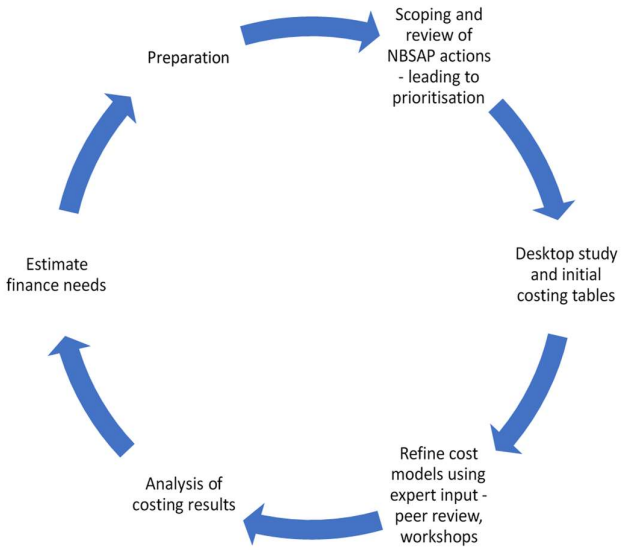


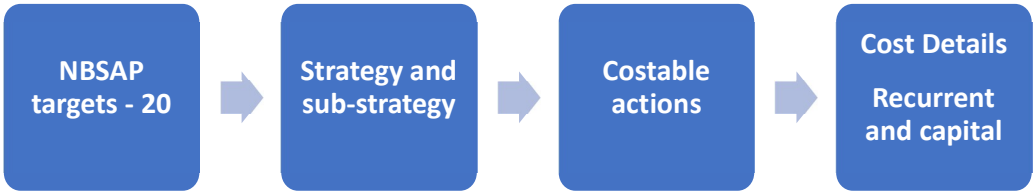
Figure 3 The FNA approach (UNDP, 2016 & 2018)

This was followed by desktop review of other documentation relevant to biodiversity conservation and financing, progress in implementation of CBD in Mozambique and review of NBSAP focusing on:

- alignment with the 2020 Aichi Targets;
- the logical placement of actions from creating adequate institutional framework for awareness and knowledge building; assessment of biodiversity and critical ecosystems and habitats, overall establishment of an evidence based state of biodiversity conservation through to implementation of sustainable actions by government, communities and private sector as well as providing incentives to enhance and reward contribution towards delivery of the targets;
- the relative responsibility of MITADER as focal point of the Convention on Biodiversity in leading actions for delivery of the strategic objectives of the NBSAP *vis à vis* the responsibility of sectoral ministries, private sector, NGOs and community based organizations.

Detailed costing was initiated with evaluation of different and least cost options for delivering the expected NBSAP results. The costing followed the FNA logical framework (Figure 2) for identification of costable and non-costable activities, determination of units and quantities.

Significant time was allocated to clarifying strategies and sub-strategies as well as detailing operational activities that could be costed. The associated recurrent and capital investment costs were identified. Recurrent costs included items related to personnel such as defining the type and seniority of specialists, time needed for execution of tasks, remuneration, travel costs among other aspects; production of printed materials and workshops for sharing results. Capital costs included investment in physical infrastructure, vehicles and equipment. The initial structure was presented for inputs and validation in a stakeholder workshop comprising mainly of government agencies, academia and NGOs. This took place in December 2018 and subsequent bilateral meetings during the course of 2019.



Logical Framework to structure NBSAP Costing

After detailing the costs, the unit costs (e.g. salaries, consultancy fees, travel costs, etc), were gathered from relevant government departments mainly at national.

There were two important challenges in conducting the FNA for Mozambique. First, the process started 4 years after the approval of the NBSAP and secondly, there was recent report on progress in its implementation yet

A detailed prioritization process in the context of FNA provides more nuanced ranking of actions for each target under leadership of MITADER and other entities (Tables 1 to 4)[3]. These include other government ministries, academia and research institutions, private sector and NGOs. The implementation of any of the actions is generally planned as a collaborative effort.

The actions considered of low priority in the stakeholder's ranking such as the need for identifying new species for consumption (4.3), all activities related to invasive species (target 9) and climate change (Target 10) related activities are not included in costing.

The DINAB Consultative Council asserted that a comprehensive baseline and regular monitoring of progress as well as periodic (5 to 10 years) overall stock taking are critical for objective and evidence based reporting to the Convention and development of appropriate measures to address emerging threats to biodiversity. The baseline should include systematization of information generated by government and non-government agencies. For example, the information used for designing the 2016-2025 management plans for the National Park of Bazaruto Archipelago and Marromeu Reserve, wildlife surveys, data from the 2018 National Forest Inventory led by FNDS and DINAF. This suggests threats of some high commercial value species - *Pterocarpus tinctorius* (Nkula), *Swartzia madagascariensis* (ironwood) and *Combretum imberbe* (Mondzo) - due to high demand in the international markets fuelling illegal logging. The ongoing update of the IUCN Red List led by DINAB and the World Conservation Society (WCS) is another important source of information.

4. FINANCIAL NEEDS ASSESSMENT RESULTS

4.1 Review of Mozambique NBSAP for determining the cost of its implementation

One of the key steps in the FNA process is reviewing the NBSAP, ascertaining its alignment with the Aichi targets and defining priority actions. The analysis also included assessing the extent to which the implementation schedule is logical and conducive to the achievement of the expected results.

[3] Each table reflects targets and actions for each of the four strategic objectives

There is general alignment between the NBSAP and Aichi targets although the latter are planned to be delivered by 2020 while the strategy runs up to 2035. Notwithstanding this, the NBSAP was inspired by these targets which continue being relevant for the country context. Stakeholders engaged in the FNA process noted some differences that might be considered in a future revision of the NBSAP.

- Aichi Target 3 is explicit on elimination of perverse incentives while the national target is silent in that respect. Inclusion of such provision is relevant, for example, in the context of expanding mechanization of agriculture to increase production and productivity in rural areas. The immediate impact is clearing of forest which might be impacting biodiversity conservation. On the other hand, combining mechanization for restoration of degraded into productive land, could have a positive impact on biodiversity. This would also contribute to Mozambique´s pledge to restore one million ha of degraded land speared by the AFR100 and the Bonn Challenge.
- Aichi Target 5 – Mozambique only commits to reducing 20% of habitat loss and not 50% although the duration of such undertaking extends to 2035 and not 2020. Additionally, not all natural habitats as set in Aichi are included in this goal.
- Aichi Target 6 – the NBSAP does not include marine ecosystems although these face growing pressure due to increased fishing activity, transport of energy and mineral resources including the possibility of negative impacts from spilled hazardous products.
- Aichi Target 10 – the country does not clearly refer to coral reefs but to overall adaptive management for ecosystems affected by climate change.
- Aichi Target 12 and 15 – do not focus on reversing the growing trend of threatened or endangered species in risk of extinction and restoration.
- Aichi Target 19 – the difference on this target is remarkable. It focuses on gender mainstreaming striving towards an inclusive and equitable approach in pursuing the achievement of all the NBSAP targets. The Aichi targets on the other hand, focus on development, dissemination and application of knowledge, science and technologies to enhance biodiversity conservation.

The other important aspect of the NBSAP is the timeframe for implementation of some key activities. The schedule suggests on the one hand, the urgency of the following:

- building programmes of awareness raising on biodiversity extended to different levels of formal education as well as mobilizing sectors to mainstream biodiversity in their plans and budgets;
- assessing the biodiversity status in terrestrial, inland waters and marine ecosystems, valuation of genetic resources constructing a baseline for effective monitoring;
- the need for developing policy on access and benefit sharing, biodiversity offsets and no-net-loss as well ensuring their implementation to stimulate biodiversity conservation in use of natural resources by local communities as well as to ensure that investments causing (or likely) significant negative impacts as indicated by the respective environmental impact assessment, can finance restoration on-site or elsewhere.

4.2 The NBSAP Priority Interventions

According to the PIR, the following targets have the highest priority:

- Target 2 on assessment of the ecological and socio economic value of biodiversity to establish a basis for informed interventions towards its effective *in situ* and *ex situ* protection. Given the timeline of the execution of this target, the status or baseline of biodiversity and forming partnerships are very urgent. The plan was to conclude this by 2020. However, given the fact that a comprehensive assessment is yet to be undertaken, these actions are included in the first five years of the FNA costing period.
- Target 3 on development of policies and legal framework for effective adoption and implementation of prevention, mitigation measures to address causes of biodiversity degradation. Incentive mechanisms to reward positive results can stimulate good biodiversity conservation practices.
- Targets 11A and 11B focusing on re-evaluation of the boundaries of conservation areas taking into the pressures around buffer zones and threat for economic investments such as mining, identification of biodiversity rich Afromontane and marine areas for conservation, evaluation of protected areas effectiveness as well as design interventions to improve management.
- Target 14 ensure that the macroeconomic indicators such as economic growth, also indicate the costs and benefits to biodiversity, that is, integration of natural capital in the system of national accounts. Further, payment for ecosystems services (PES) is an important tool for rewarding and further stimulation good practices. The macroeconomic information can aid decision making on investments, minimization and offsetting negative impacts.
- Target 20 - development and strengthening of national and international partnerships for concerted creation of technical capacity for implementation of the NBSAP.

A detailed prioritisation process in the context of FNA provides more nuanced ranking of actions for each target under leadership of MITADER and other entities (Tables 1 to 4) in Annex 1. These include other government ministries, academia and research institutions and other non-public sector actors. The implementation of any of the actions is generally planned as a collaborative effort.

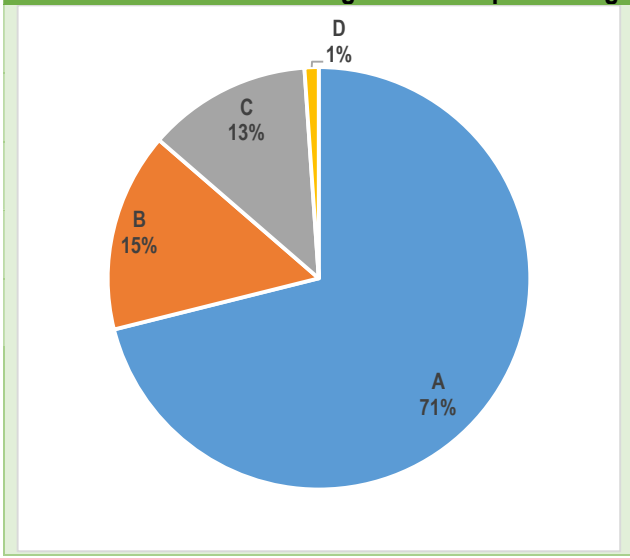
The actions considered of low priority in the stakeholder's ranking such as the need for identifying new food species (4.3), all activities related to invasive species (target 9) and climate change (Target 10) related activities are not included in costing as detailed in Annex ….

4.3 The Financial needs for NBSAP

The implementation of the Biodiversity Action Plan requires at least over MZN 13 Billion (13 263 455 681), equivalent to almost USD 214 million for the 2020 to 2029, (Figure 4).

The Strategic Objective A, reducing the direct and indirect causes of degradation and loss of biodiversity, has the highest finance needs estimated at MTs 9 Billions (MZN 9,429,825,567.74).

Figure 4: Cost per strategic objective



Strategic Objective	Million MZN	%
A	9,429.8	71
B	2,024.3	15
C	1,664.3	13
D	145	1
TOTAL	**13,263.5**	100

The concentration of finance needs lies in strategic objective A is followed in descending order by Strategic Objectives B, aimed at improving the status of biodiversity by preserving the diversity of ecosystems, habitats, species and genes, C, improving the benefits sharing from biodiversity and ecosystem services for all sectors of the Mozambican society, and D, enhancing implementation through participatory planning, knowledge management and training respectively. Figure 1 illustrates this situation.

As such, reducing all direct and indirect causes of degradation and loss is key strategic objective (A) in terms of resources needed to enhance species diversity and conservation of terrestrial and aquatic habitats and ecosystems. Hence this takes up almost 74% of the finances needs for the implementation of the NBSAP.

The strategic objective B shows the resources needed for conservation and protection. Equally the strategic objective C requires nearly similar levels of finance to reward good management practices. The strategic objective D requires engaged planning, monitoring mainstreaming of biodiversity conservation related actions by all sectors. The mobilization of finance seems to have low cost (Figure 3). This is mainly because the main cost is related to human resources. The Government salaries are modest. During the 10 years of costing, only two major events are planned for sharing progress and impacts, hence demonstrating the value for money of financing the strategy. In the first scenario, it is also clear that success in fundraising for investment in 2021 would enable a relatively faster concerted effort towards improving the status of biodiversity conservation (SO B) as well as earlier work on development and operation of benefit sharing mechanisms.

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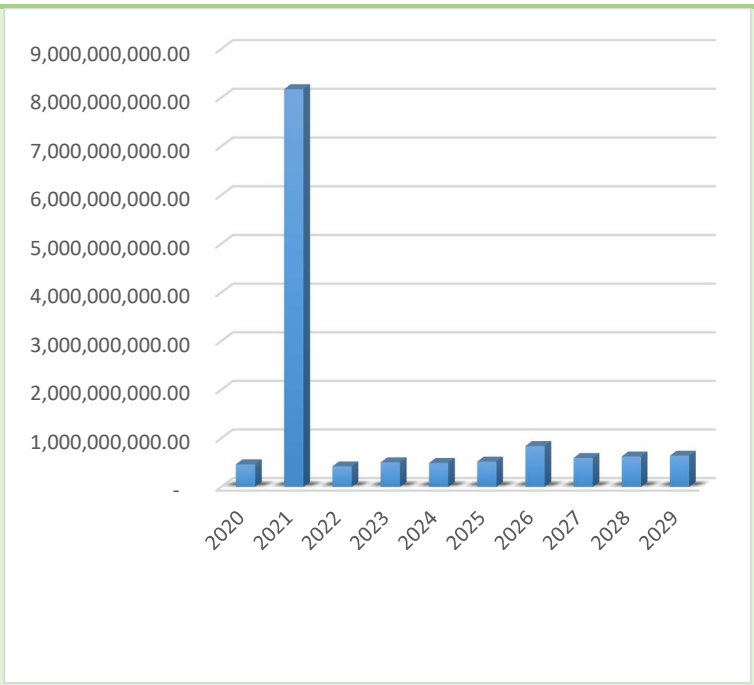
Although the NBSAP being costed was approved in 2015, as stated in the previous section analysing progress, there is still limited knowledge of its content across sectors of government and other stakeholders for deliberate, proactive and adequate mainstreaming.

Taking into consideration 3 scenarios of resource mobilization and NBSAP financing Optimum, Realistic and conservative, the Financial needs are visualized as follows:

Figure 5: Cost Per Annum (MZN) – Scenario 1 (*optimum* resource mobilization and financing from public and private sector with the latter engaging in waste management) – all investment in key infrastructure and equipment for reduction of biodiversity loss in forest reserves and establishing adequate waste management facilities and means in all municipalities and main district towns is made in 2021

2020	462,171,212.35
2021	8171340156
2022	420,646,304.92
2023	503,770,760.08
2024	490,349,204.77
2025	518,760,667.61
2026	839,821,515.44
2027	593,301,576.99
2028	624,395,468.38
2029	638,898,814.46

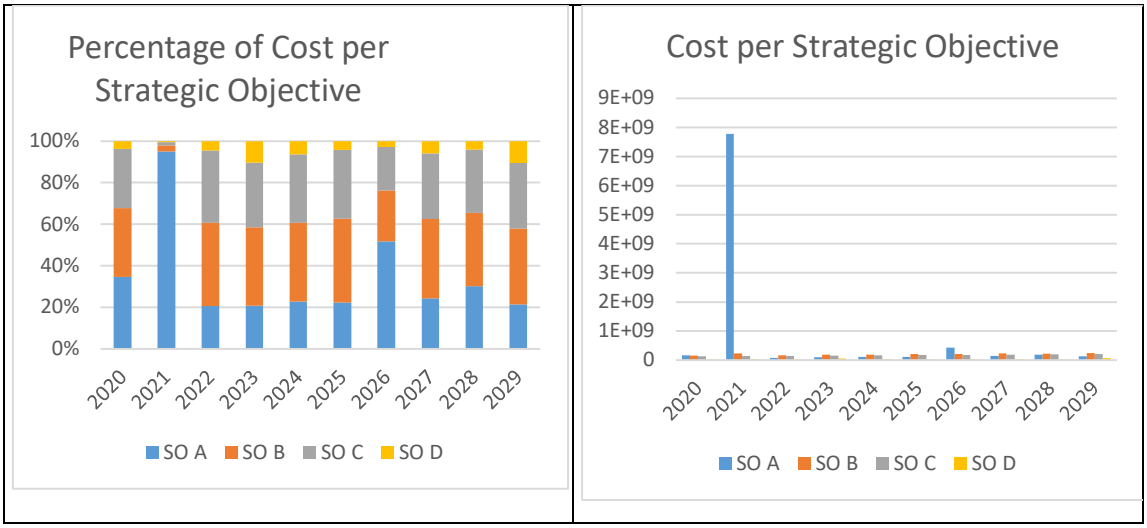


The very high cost in 2021 reflects the assumption that the focus in 2020 should be in mobilizing sectors, public and private financiers and investors to contribute towards biodiversity guided by the 2015 strategy and action plan. The success of this exercise should enable capital investment in key infrastructure needed throughout the country for effective delivery of the targets and strategic objectives (Scenario 1). For example, the investment includes the following: construction of housing and offices in all 13 Forest Reserves in order to reduce degradation and conversion; infrastructure for recycling waste management (dumping places for non-toxic or organic domestic and industrial, hospital and toxic waste) and equipment (vehicles, computers and others) in all municipalities. DINAB´s work with municipalities can stimulate the development of by-laws and other measures to incentivise private sector and citizens to contribute finances for waste collection, treatment and recycling. In addition, some Provincial offices of Lands, Environment and Rural Development (DPTADER) operate in very degraded and unsafe infrastructure. Therefore, providing adequate offices and facilities can improve the working environment and produce expected results. In short, scenario 1 is optimist on effectiveness and readiness in fundraising. The cost for each of the 4 Strategic Objectives is depicted in Table 3 and Figure 6 below.

Table 3: The cost of each Strategic Objective in Optimal Scenario

YEAR	SO A	SO B	SO C	SO D
2020	160584070.6	152686395.9	131885681	17015064.84
2021	7773403737	229915925.1	141308104.8	26712389.71
2022	86650411.7	168238459.2	146816135.4	18941298.59
2023	104437260.5	190617972.6	156448258.9	52267268.02
2024	112032638	185564524.6	161746589.9	31005452.35
2025	116276732.2	209064873.2	171588413	21830649.23
2026	435091986.4	205258718.6	176677044.3	22793766.1
2027	143515595.9	227758899.1	186728567.1	35298514.98
2028	188502523	219565446.7	191607498.8	24719999.86
2029	136581348.2	233007108.9	201868721.1	67441636.16

Figure 6: The cost of each Strategic Objective in Optimal Scenario

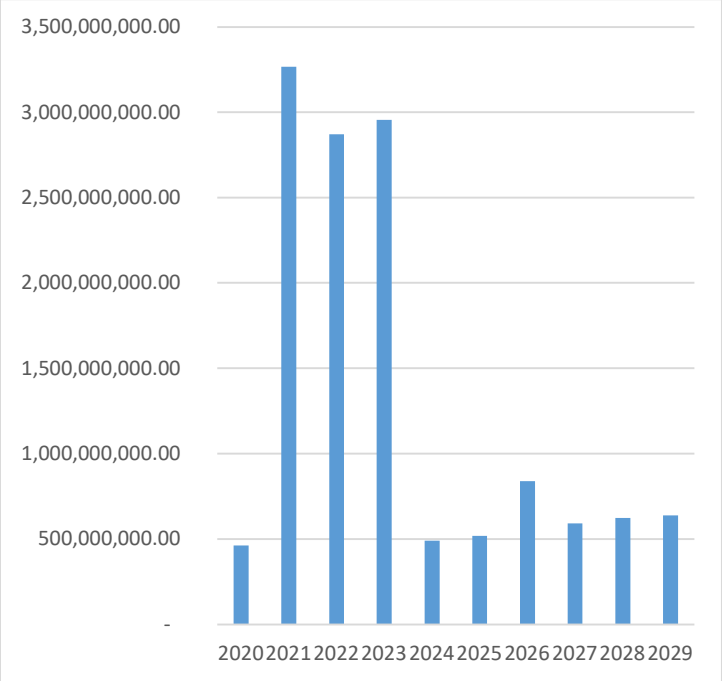


The other scenarios consider that success in fundraising will be gradual. In all cases, the assumption is that a minimum level of fundraising should be possible to ensure investment in infrastructure and equipment during the first five years. This would create a solid basis for focusing on changing behaviour and practices, monitoring, restoring and rehabilitating degraded areas and documenting.

Figure 6: Cost Per Annum (MZN) - Scenario 2 ***(relatively realistic* given the economic environment and uncertainty) - fundraising for investment in infrastructure and equipment is 40%, 30% and 30% for 2021. 2022 and 2023 respectively**

2020	462,171,212.35
2021	3,268,536,062.55
2022	2,872,048,351.83
2023	2,955,172,806.99

2024	490,349,204.77
2025	518,760,667.61
2026	839,821,515.44
2027	593,301,576.99
2028	624,395,468.38
2029	638,898,814.46

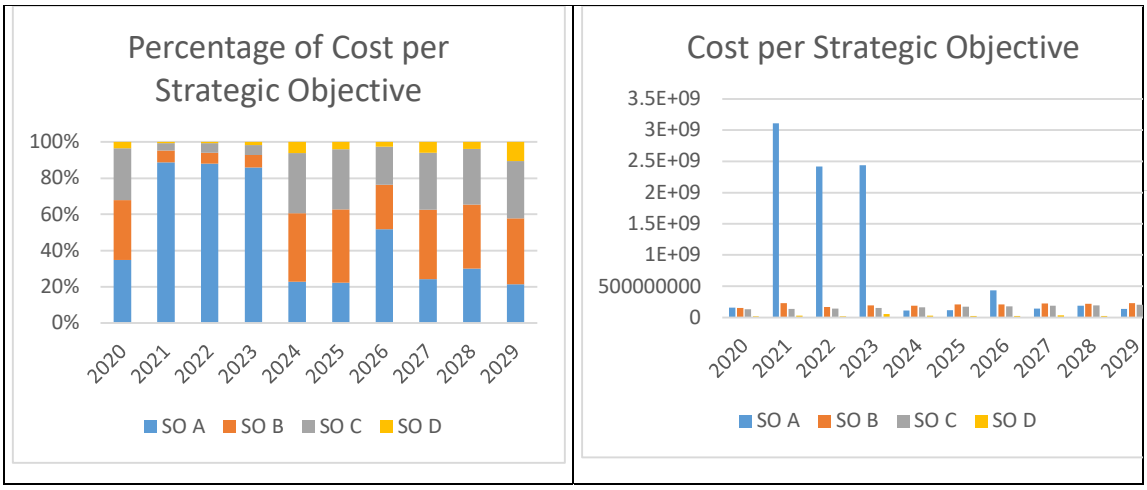


However, the reality is that resources mobilization and execution are complex. So scenario 2 presents a more gradual success in fundraising, that means investment in infrastructure could be undertaken as resources become available. This could occur for at least three years, 2021 to 2023. The cost for each of the 4 Strategic Objectives is depicted in Table 4 and Figure 7 below.

Table 4: The cost of each Strategic Objective in Realistic Scenario

YEAR	SO A	SO B	SO C	SO D
2020	160584070.6	152686395.9	131885681	17015064.84
2021	3109361495	229915925.1	141308104.8	26712389.71
2022	2418671533	168238459.2	146816135.4	18941298.59
2023	2436458382	190617972.6	156448258.9	52267268.02
2024	112032638	185564524.6	161746589.9	31005452.35
2025	116276732.2	209064873.2	171588413	21830649.23
2026	435091986.4	205258718.6	176677044.3	22793766.1
2027	143515595.9	227758899.1	186728567.1	35298514.98
2028	188502523	219565446.7	191607498.8	24719999.86
2029	136581348.2	233007108.9	201868721.1	67441636.16

Figure 7: The cost of each Strategic Objective in Realistic Scenario



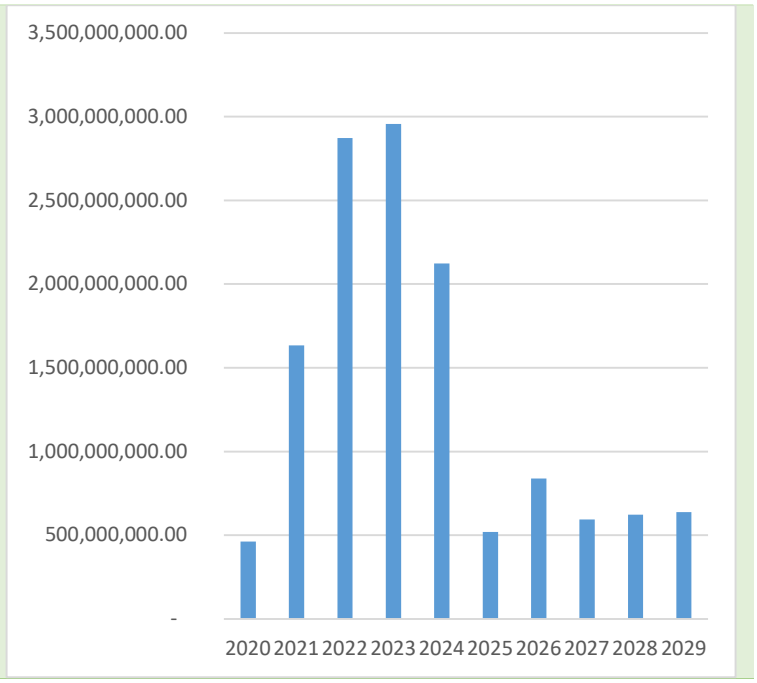
Scenario 3 in the Figure 3, highlights that focus on fundraising for investing in equipment and infrastructure is necessary to address the drivers of biodiversity loss. This builds a strong basis for meeting the second strategic goal which aims at protecting, conserving and restoring species, habitats and ecosystems. It is in the second half of the costing period that more resources allocation towards this goal is relatively higher. Incentives or benefit sharing follows the same trend.

It is clear that allocating resources that contribute to promoting and ensuring implementation of policies and measures such as reform in fiscal and non-fiscal incentives can stimulate greener economic activities. High financial resources are towards the adoption of policy instruments that promote sustainable consumption and production resulting from a combination of environmental awareness and responsible consumer preferences and producer choices of technology and resources base. Again resources should be available for rewarding good practices and knowledge sharing.

Figure 8: Cost Per Annum (MZN) - Scenario 3 **(*conservative,* financiers need to understand the importance of sustainable economic growth and accountability measures) - fundraising for investment in infrastructure and equipment is 20%, 30%, 30% and 20% for 2021, 2022, 2023 and 2024, respectively**

2020	462,171,212.35	

2021	1,634,268,031.27
2022	2,872,048,351.83
2023	2,955,172,806.99
2024	2,124,617,236.04
2025	518,760,667.61
2026	839,821,515.44
2027	593,301,576.99
2028	624,395,468.38
2029	638,898,814.46

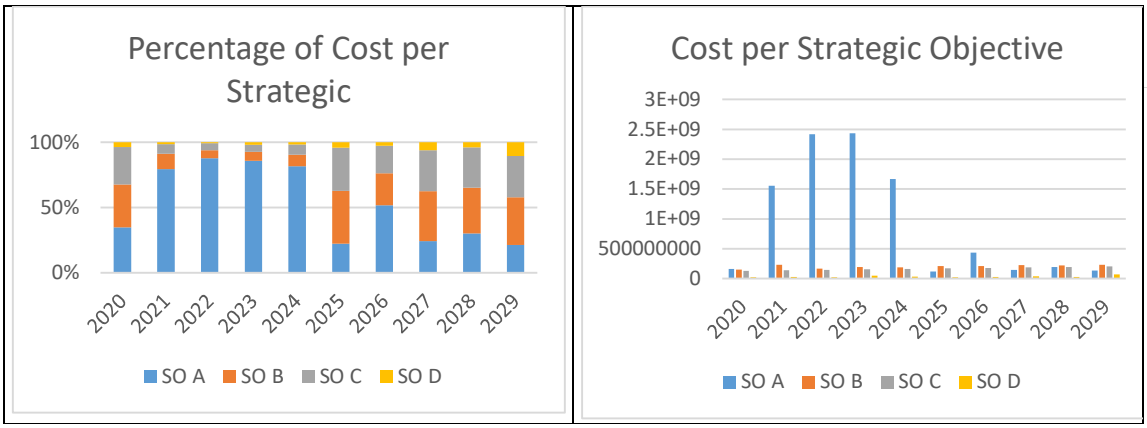


The last scenario (3), starts with the lowest success in fund raising for investments in 2021 and also prolongs investment to 2024. All scenarios, however, highlight the importance of capital investment during the first five years. This would ensure assessment of progress and impact of these investments in the second period. These scenarios give flexibility to DINAB as the leading agency in biodiversity conservation to work with ANAC and MozBio within MITADER as well as other partners towards changing minds and actions. The mobilization of domestic resources through fiscal and non-fiscal instruments, including biodiversity off-sets, corporate social responsibility to reward local communities and other resources users for good stewardship are key to sustainable finance flows. The cost for each of the 4 Strategic Objectives is depicted in Table 5 and Figure 9 below.

Table 5: The cost of each Strategic Objective in Conservative Scenario

YEAR	SO A	SO B	SO C	SO D
2020	160584070.6	152686395.9	131885681	17015064.84
2021	1554680747	229915925.1	141308104.8	26712389.71
2022	2418671533	168238459.2	146816135.4	18941298.59
2023	2436458382	190617972.6	156448258.9	52267268.02
2024	1666713385	185564524.6	161746589.9	31005452.35
2025	116276732.2	209064873.2	171588413	21830649.23
2026	435091986.4	205258718.6	176677044.3	22793766.1
2027	143515595.9	227758899.1	186728567.1	35298514.98
2028	188502523	219565446.7	191607498.8	24719999.86
2029	136581348.2	233007108.9	201868721.1	67441636.16
	9257076303	2021678324	1666675014	318026039.8

Figure 9: The cost of each Strategic Objective in Conservative Scenario



While the annual cost is key to define the fundraising effort needed to provide financial resources for all activities, the costs for meeting each target is equally important. The figure 10 shows that the investment to enable implementation of policies is the highest. This supports the fact that one of the key challenges of sustainability in Mozambique is not lack of policies, but rather the limited resources for cross-sector investment in infrastructure, equipment and human capacity from national to local levels. These is also aligned with the need for implementing measures to reduce habitat and ecosystems loss or degradation, rehabilitation and restoration as well as acknowledging the need for sharing benefits with local communities and actors using their knowledge, culture and actions to conserve biodiversity.

Figure 10 Financial needs per target for the period of 10 years

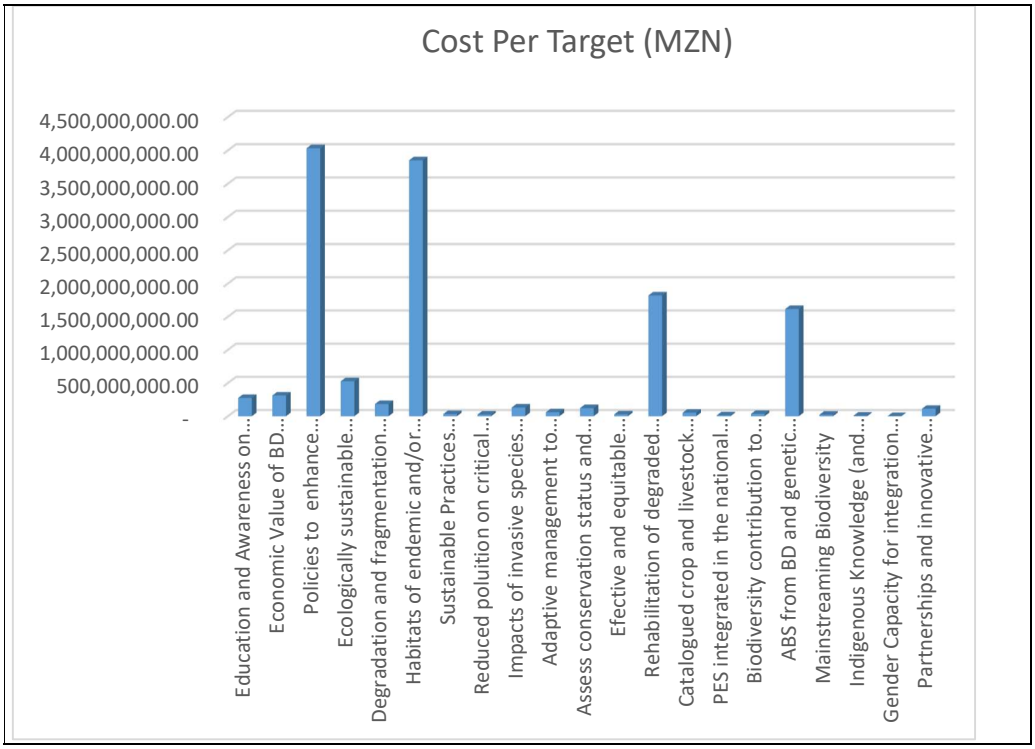
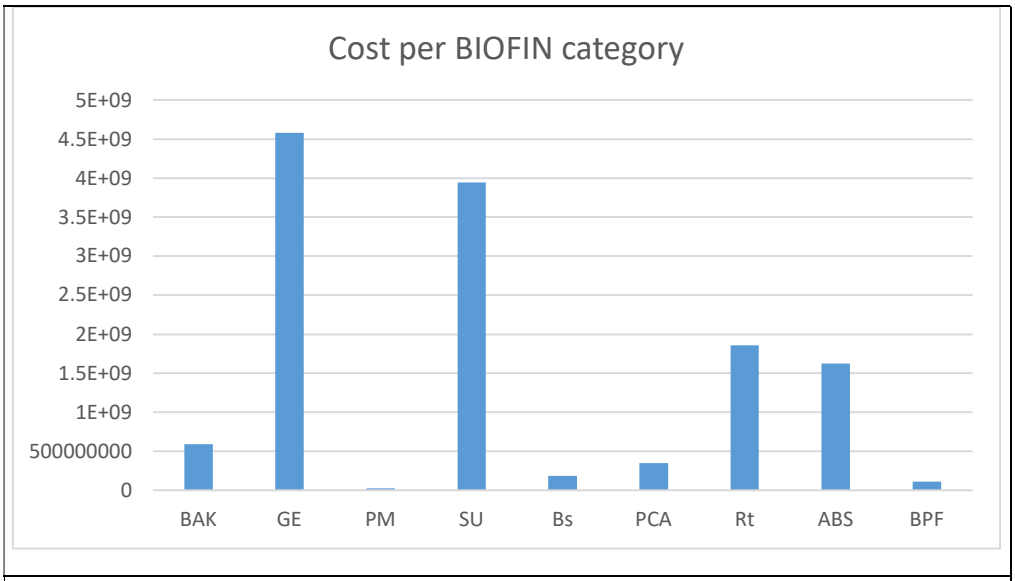


Figure 11 Cost related to BIOFIN categories



BAK - Biodiversity awareness and knowledge; GE- Green economy; PM - Pollution management; SU - Sustainable use; Bs -Biosafety; PCA - Protected areas and other conservation measures; Rt – Restoration; ABS - Access and Benefit Sharing; BPF - Biodiversity and development planning and finance

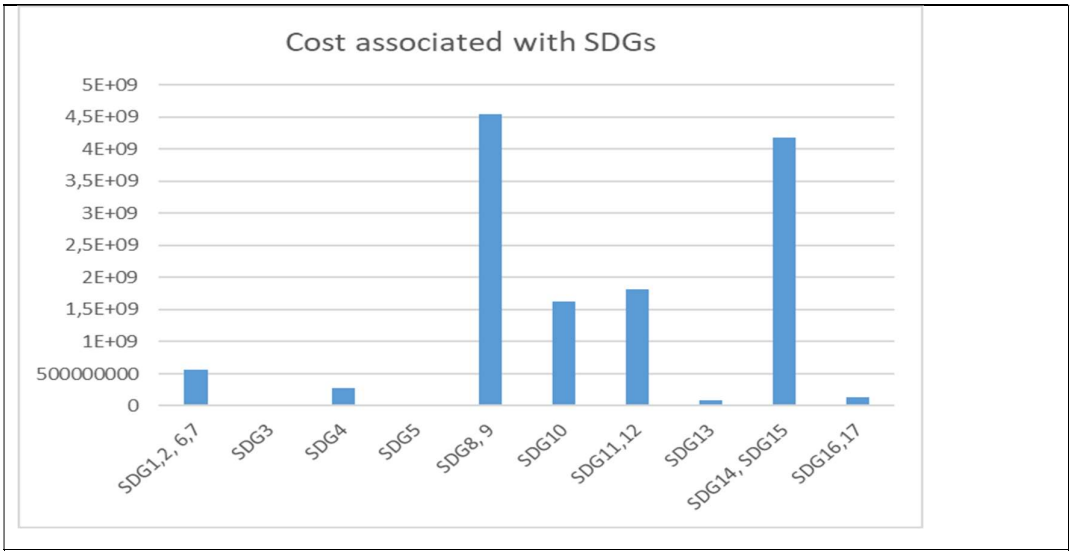
Implementation of the NBSAP will certainly contribute to achieving the universal sustainable development goals. Investment in decent work, green growth including the *triple I - infrastructure, industry and innovation* – rightly have the highest resource needs. Sustainable utilization of terrestrial and aquatic biodiversity in economic activities at household level, communities and businesses is essential in respecting the ecological

limits. Nearly at par, are the costs of protecting resources in gazetted areas and reducing inequalities through benefit sharing and engagement of stakeholders in addressing the drivers of biodiversity loss.

Mozambique has to still introduce robust mechanisms for leveraging domestic resources from tax revenue particularly from the extractive industry such as mining and energy as well as fisheries and forests. The Environmental Regulation has introduced biodiversity offsets in order to stimulate rehabilitation, restoration of degraded seascapes and landscapes besides enhancement of biodiversity. In addition, results based payments for reduced emissions from land use and land use change under REDD+ programme can incentivise the implementation of sustainable activities. The Government of Mozambique and the BioCarbon Fund signed a USD 50 million agreement to pay for proven emissions´ reduction.

Direct costing to address poverty, hunger, clean water and sanitation as well as clean energy seem to be relatively low. Rural communities face constraints in accessing technical and financial resources for employing high productivity and sustainable practices in their production systems. For example, two threats respectively to aquatic and terrestrial biodiversity are respectively the use of inappropriate fishing gear and slash and burn techniques for clearing land aimed at enhancing soil nutrients. The short time (2-3 years) benefits of the latter results in deforestation. Overturning these challenges require technical support, that is, a strong network of extension services. The National Cashew Institute (INCAJU), for example, estimates a cost of USD 136 000/year to establish cloning gardens for cashew trees, establishment and reconstruction of greenhouses for production of improved seedlings, irrigation systems and training nursery and planting personnel in handling agrochemicals and plastic waste. Cloning and replacing the old cashew population is important to avoid land clearing for this important cash crop. Studies of organic fertilization and pest control could further reduce potential impact on soils and water table.

Figure 12 The cost of contribution for the global and national 2030 agenda



SDGs – 1.No poverty; 2.Zero hunger; 3.Health and wellbeing; 4.Quality education; 5.Gender equality and women´s empowerment; 6.Clean water and sanitation; 7. Affordable and clean energy; 8.Decent work and economic growth; 9. Industry, innovation and infrastruture; 10.Reduce inequality; 11. Sustainable cities and communities; 12.Sustainable consumption and production;13.Climate action; 14.Life below water; 15.Life on land; 16. Peace, justice and strong institutions; and, 17. Partnerships

There is a large and concerted donor effort to meet the target on universal access to energy by 2030. Nearly about USD 2 billion for financing sustainable energy on and off-grid are committed by 12 donors including the EU, the World Bank, Norway and GIZ. Improving energy access in urban areas is key to reducing pressure on forest biodiversity, while generation of alternative sources of employment and income in the rural areas are equally necessary.

Good management of biodiversity are therefore key to meeting not only the SDG 14 and 15, but can generate job opportunities improving livelihoods of the local communities besides contribution to various macroeconomic indicators.

One of the FNA[4] objectives besides estimating the cost of implementing priority biodiversity conservation activities is to assess the difference with projected expenditure from BER. However, this will not be done in this instance due to lack of solid plan for financing biodiversity inside and outside protected as well as the channelling of the various tax revenues to such aim. Tax revenue generated from natural resources is currently managed by a diverse range of Funds including Sustainable Development, Mining and Energy, Agriculture, Fisheries among others. It is also allocated to various other rural development needs that might contribute directly or indirectly to conservation of biodiversity.

[4] Mozambique´s estimate of financing needs to implement the strategy and action plan on biodiversity is very modest at about USD 214 million at about USD 62 exchange rate. These are very conservative estimates. Most of the activities planned, however, are to be executed by government through the leadership of MITADER. The conservative estimates also reflect caution as the country improves donor perception on use of financial resources in the country. Countries such as the Philippines and South Africa (Box 1) estimate nearly a billion USD a year to meet their targets. Mozambique has very limited infrastructure and qualified personnel for conducting applied research and implementation of actions to reduce or halt the drivers of biodiversity loss. Significant investment is needed. Fundraising and absorption capacity call for an equally measured financing needs assessment.

FNA estimates for some countries

The Philippines

The country estimated the cost of PBSAP implementation for the period of 2015 to 2028 based on two scenarios. The low cost was USD 7.4 billion while the high cost scenario reached USD 8.6 billion. Using the conservative scenario, a yearly amount of USD 530 million would have to be allocation for conservation of biodiversity.

Prevention of habitat loss and overexploitation, protection of protected areas of both terrestrial and marine ecosystems costs USD2.9 billion (low). Dealing with unsustainable forest exploitation leading to forest habitat loss costs USD1.45 billion. Protecting Inland Wetlands was estimated at USD1.4 billion (low). Protection interventions cost USD3.4. while Restoration cost reached USD3.9 billion.

Kazakhstan - The financing need for achieving the NBSAP goals for a five-year period (2016-2020) was estimated at amount equivalent to 170 million USD per year, or 0,2% of the 2015 GDP. The financing gap was calculated at about 55%. This meant that efforts would need to be made to develop and implement a financing plan that closes that gap

South Africa, 2016 - The implementation of all priority activities in South Africa, amounts to about USD 8 Billion for a 10 years´ period (2015/16 to 2024/25). Nearly USD5 Billion are necessary for restoration and maintenance of ecological infrastructure, especially expanding the networks of protected and conservation areas area through effective management interventions.

CONCLUSIONS AND WAY FORWARD

Overall, the 6th report indicates that the achievement of effective management and monitoring of biodiversity is contingent on increasing finances for recruitment and retention of technically qualified multidisciplinary personnel comprised of researchers, administrators, technicians, law enforcement officers and others as well as capital investment across the different sectors.

The FNA process also indicated that MITADER was not taking consistent and effective lead and steering of other sectors to proactively implement the NBSAP and objectively collect evidence on progress toward the targets. There is also lack of a consolidated and up-to-date data base for compiling information on biodiversity related activities and projects with respective results and assessment of impacts. These challenges were equally highlighted during the production of the 6th Report on Biodiversity. Neither did the multisector Biodiversity Working Group seem to catalyse the sectors towards mainstreaming relevant actions. In the discussion held during the presentation of this issue at the Consultative Council of DINAB, it was acknowledged that embedding biodiversity and other relevant cross cutting issues within the annual planning and reporting instruments was fundamental going forward. The members of the Working Group could be explicitly encouraged to be proactive in the sector annual planning process to ensure that activities related to biodiversity are clearly aligned with the national targets and sector interventions.

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ANNEXES

ANNEX 1: PRIORITIZATION

Table 12 Stakeholder prioritisation[5] of actions and implications for FNA - SO A: Reduce the direct and indirect causes of degradation and loss of biodiversity

Action		MITADER leading			Other sectors[6] leading			Sixth report – progress assessment	Costing
Number	Summary content	H	M	L	H	M	L		
Target 1 By 2020 increase by 30% the Mozambican´s population awareness on biodiversity conservation									
1.1	Strengthening of the national programme on environmental education (PECODA)	X						Actions undertaken so far have been isolated and not informed by a strategic implementation of communication and education programme. There is need of strengthening financial, technical and scientific capacity to ensure effectiveness and positive impact of improved knowledge.	
1.2	Include biodiversity in school curricula					X			
1.3	Strengthen role of private sector in awareness raising on biodiversity	X							
1.4	Printed materials for awareness raising			X					
1.5	Raising awareness of communities on biodiversity			X					
Target 2 By 2020 better knowledge on economic, social and ecological value of biodiversity and its use to improve decision making and management									
2.1	Research on biodiversity status and value				X			Training on taxonomy undertaken; more specimen collected; Mozambique BD Network created; increased availability and sharing of data including use of the Global BD Information Facility. However, there is still a significant gap on knowledge of and application of economic valuation tools in biodiversity.	
2.2	Strengthen knowledge on biodiversity taxonomy				X				
2.3	Science forum on biodiversity	X							
2.4	Implementation of biodiversity valuation tools	X							
2.5	Design and implementation of biodiversity information system		X						
Target 3 By 2025, adopt and effectively implement policies and legal instruments for preventing and mitigating the impacts of human activities likely to cause degradation of biodiversity									
3.1	Voluntary compensation on biodiversity loss		X					Regulation of EIA includes new category of projects (A^+) requiring high level expertise to assess and plan management of environmental and climate impacts. The new regulation includes provisions for *no-net-loss* and biodiversity offsets. There are two challenges, however: EIA is conducted by Consultants as indicated in the NBSAP. Developing capacity for analysis of A+ projects is of high priority. Further, there need to improve implementation and monitoring of the environmental management plans and compensation for observed biodiversity loss.	
3.2	Implementation of environmental impact assessment ensuring no-net-loss	X							
3.3	Unbiased and peer reviewed EIA	X							
3.4	Training of EIA consultants on biodiversity loss related assessment	X							
3.5	Update decree on environmental quality	X							
3.6	Enforcement of norms on pollution and use of chemicals	X							
3.7	Increase capacity of municipalities on waste management	X							

[5] H- High; M – Medium; L- Low. The latter category and not costed

[6] Other ministries – economy and finance; agriculture; sea, fisheries and inland waters; mineral resources and energy; education and human development; science, technology and higher and professional education; culture and tourism; public works, housing and water resources – academia and research institutions

3.8	Effective waste management	X							
3.9	Inspection of public and private waste treatment infrastructure	X							
Target 4: By 2025, define ecologically sustainable systems for the production and consumption based on sustainable practices and adequate investment									
4.1	Define ecological limits of main ecosystems	X						There are wood technology laboratories in academic and research institutions such as UEM and IIAM – analysis of secondary timber species, that is, with limited access to markets, has been collected. Defining ecological limits of the various resources (forests, water and arable land) should also be costed for adequate technical and financial resources.	
4.2	Sustainable thresholds for products and services of ecosystems	X							
4.3	Identify new species for consumption						X		Not to cost
4.4	Promotion of sustainable small and medium enterprises					X			
4.5	Promotion of alternative sources of energy				X				
4.6	Sustainable use of biodiversity in productive sectors	X							
Target 5: By 2035, reduce by at least 20% the area of critical ecosystems, or that provide essential goods and services under degradation and fragmentation									
5.1	Assessment of level of degradation of critical and essential ecosystems for provision of goods and services				X			2016-2025 management plans designed for the National Park of Bazaruto Archipelago, the National Reserves of Marromeu and Pomene. 9 and 5 marine protected areas under community management established respectively in Inhambane and Cabo Delgado. Assessments of Afromontane centres of endemism such as in the mounts Namuli, Mabu, Chiperone, Ribaue and Inago; critical ecosystems mapped include mangrove, wetlands, coastal forests and other critical habitat areas. However, the threat level is still high and a comprehensive BD baseline is necessary for effective monitoring.	
5.2	Design management plans of critical and essential ecosystems services	X							
5.3	Monitoring biodiversity outside protected areas				X				
5.4	Implement incentive mechanisms for biodiversity conservation	X							
Target 6: By 2025, have at least 30% of habitats of endemic and/or threatened flora and fauna species with strategies and action plans for their conservation in place.									
6.1	Coordinated systematic evaluation of state of conservation of endemic and threatened biodiversity				X			Some important birdlife areas (IBA) have been identified; Red Data Book reviewed; forest reserves of Zomba, Moribane, Maronga, Ribaue, M´palue, Matibane and Mecuburi were evaluated; some increase in *in-situ* conservation. Conservation of threatened species is so far limited to elephants and lions and sharks for example are not yet included in these priority actions. Approved CITES Regulation and Conservation Law. Despite this, attention is still needed to improve *ex-situ* conservation, collection of high quality seed of high commercial value timber species for silviculture and for enriching genetic resources, restoration of endemic and threatened species and reduction of illegal trade.	
6.2	Identify and characterize important birdlife areas (IBAs)				X				
6.3	Disseminate the Red Data List/book	X							
6.4	Effective implementation of *in-situ* and *ex-situ* conservation of endemic and threatened species	X							
6.5	Restoration of endemic and threatened species	X							
6.6	Design and implementation of coordinated strategy to combat trade of illegally exploited products				X				
6.7	Evaluation of the state of forest reserves and implementation of sustainable management plans	X							
6.8	Implementation of management plans for marine and fisheries resources				X				

Target 7: By 2020, catalogue/systematize, disseminate and encourage sustainable management practices in agriculture, livestock, aquaculture, forestry and wildlife									
7.1	Integration of biodiversity conservation in land use planning	X						This is the area in which transformative interventions need to be implemented by a cross-sector of stakeholders. Yet there are isolated activities requiring substantial technical and financial resources including investment in adequate technology for sustainable production and innovative management practices.	
7.2	Implementation of fire management plans to reduce threat or loss of biodiversity	X							
7.3	Implementation of conservation or sustainable agriculture				X				
7.4	Zoning of high value biodiversity conservation areas within agriculture production, forest logging or planting, mining and other economic activity development sites	X							
7.5	Development of training packages on soil and water conservation				X				
7.6	Review procedures of licensing charcoal production		X						
7.7	Sustainable artisanal mining					X			
Target 8: By 2025, reduce the pollution levels at critical locations and ecosystems by 20%, pollution									
8.1	Assessment of pollution in critical, threatened or essential ecosystems for supply of goods and services					X		Environmental Management Plans are not implemented and there is limited inspection of impacts caused by economic activities across scales and sectors. Mozambique being downstream of many international rivers receives polluted water from upstream production areas particularly using agrochemicals. The development of Climate Change Mitigation and Adaptation Strategy, the REDD+ Strategy and other actions aiming to reduce emissions from industry and land use have not yet been effectively implemented. Evidence based results are yet to be generated in order to claim payment for such results from REDD+ for example	
8.2	Pollution management plans	X							
8.3	Monitor source, level and impact of pollution on critical, threatened or essential ecosystems for supply of goods and services	X							
8.4	Implement measures for reducing pollution of critical, threatened or essential ecosystems for supply of goods and services		X						
Target 9: By 2025, reduce in at least 10% the area of occurrence of invasive species and establish/implement strategies for managing the impacts									
9.1	Assessment of routes and impact of invasive species						X	Regulation on invasive species is not being effectively implemented. There is need for a multidisciplinary team including botanists, ecologists, biologists, hydrologists and engineers as well as regional and international collaboration between scientists and practitioners to share information on routes, behaviour and efficient control practices.	Not to cost
9.2	Design and implement legal instrument for monitoring and control of invasive species			X					Not to cost
9.3	Intensify research on invasive species						X		Not to cost
9.4	Develop a plan for eradication and control of invasive species			X					Not to cost
Target 10: By 2035, put at least 20% critically affect ecosystems by climate changes under adaptive ecosystem management									
10.1	Research on impact of climate change on critical ecosystems including agroecosystems.					X		Monitoring of climate change impact on critical ecosystems are ongoing in the Quirimbas NP, mangroves and the Gile NR. Monitoring activities undertaken include wildlife survey, interaction between vegetation-fire and elephant population in Niassa NR and marine turtles in the Ponta do	
10.2	Implement actions on the national strategy for climate change			X					Not to cost

	mitigation and adaptation							Ouro Partial Reserve. However, more applied research focusing on analysis of the impact of climate change on biodiversity is needed to aid decision making and inform adaptive management.	
10.3	Identify and replicate lessons on adaptation and conservation of climate change			X					Not to cost

For the second strategic objective, actions related to the establishment of the TFCA ZIMOZA, research to support evidence-based conservation of protected areas, improve licensing of biomass energy production and promotion of sustainable agriculture. There seems to be some incongruence in the latter two, as a paradigm shift in behaviour and practices towards sustainability is key to reaching a transformative approach to conservation of biodiversity.

Table 13: Stakeholder prioritisation of actions and implications for FNA SO B: Improve the status of biodiversity by preserving the diversity of ecosystems, habitats, species and genes

Action		**MITADER leading Priority**			**Other sectors[7] Leading - Priority**			**Sixth report – progress assessment**	**Costing**
Number	**Summary content**	**H**	**M**	**L**	**H**	**M**	**L**		
Target 11A: By 2025, evaluate and redefine 75% of current conservation areas, and include, formally, 100% of the Afromontane centres of endemism (altitude > 1.500m) and up to 5% of marine ecosystems and mountain in conservation areas									
11A.1	Evaluation of ecological and socioeconomic conditions of conservation areas		X					Rehabilitation of the Bazaruto Archipelago NP, NR of Gile; revised boundaries of the Maputo Elephant Reserve, Banhine, Bazaruto, Zinave and Gorongoza NP as well as Chimanimani NR; corridor connecting Limpopo NP to Banhine NP established; a zoning of Niassa NR is underway; Management Plan of Pomene NP will extend to adjacent coastal and marine ecosystem. However, there are remaining priorities that should be afforded financial and technical resources: assessment and conservation of biodiversity outside protected areas, address underlying anthropogenic causes of pressure on resources and ensure better representation of marine and coastal resources in the network of protected areas.	
11A.2	Revise boundaries of conservation areas	X							
11A.3	Evaluation of the status of the forest reserves	X							
11A.4	Establish corridors for connectivity and ecological integration between the Limpopo, Banhine and Zinave NPs and, between the Gorongoza NP and the Marromeu National Reserve	X							
11A.5	Establish conservation areas in non-represented ecosystems and biodiversity hotspots		X						
11A.6	Establish Transfrontier Conservation Areas of ZIMOZA and between Mozambique and Tanzania			X					Not to cost
11A.7	Review the categorization and management objectives to align with the new Conservation Law		X						
11A.8	Restoration of degraded conservation areas and value of biodiversity	X							
T a r g e t 11B: By 2030, manage effectively and equitably, 50% of the protected areas									

[7] Other ministries – economy and finance; agriculture; sea, fisheries and inland waters; mineral resources and energy; education and human development; science, technology and higher and professional education; culture and tourism; public works, housing and water resources – academia and research institutions

11B.1	Develop and update management plans for all PAs (including FRs) to follow an adaptive approach	X						Resources allocation to conservation areas has increased over the past five years; an endowment fund resourced with USD 32.5 million since 2017, has generated about USD 3 million allocated to conservation areas; an assessment of protected area management effectiveness indicates that 54% of conservation areas reached above 50%; Chimanimani and Marromeu with low effectiveness are given priority under MozBio II, while the Gile NR receives funding from EU and AFD, Profin supports Marromeu and Pomene; co-management agreements were signed with private sector for management of Limpopo, Bazaruto and Zinave NP, the Maputo Elephant Reserve and Niassa NR; established community conservation areas are managed in partnership with the private sector.	
11B.2	Promote the participation of local communities in the decision making process on PAs management		X						
11B.3	Establish and implement a research program that support planning and management of PAs			X					Not to cost
11B.4	Diversify the livelihood sources in the buffer areas		X						
11B.5	Diversify and marketing the tourism products from Pas	X							
11B.6	Capacity building at higher education level in relevant scientific areas				X				
11B.7	enhance the capacity in PAs in terms of equipment, infrastructure, etc	X							
11B.8	Issue licenses/ concessions to partnerships between the private sector and local communities in construction and management of tourism facilities in PAs			X					Not to cost
11B.9	Intensify agriculture in buffer areas with minimum conversion of natural habitats and ecosystems			X					Not to cost
11B.10	Enhance the benefit sharing from revenues from PAs (Ministerial Diploma 66/2010 on 20%)	X							
Target 12: By 2035, rehabilitate at least 15% of the degraded ecosystems /habitats, restoring their biodiversity and ensuring its sustainability, with a view to mitigating the effects of climate change and combating desertification									
12.1	Map and characterize degradations of critical habitats	X						Mangrove restoration with involvement of communities in Sofala, Cabo Delgado, Zambézia and Maputo; Reforestation is also being undertaken to restore degraded lands and for commercial purposes (introduced species for pulp and paper). Strategies for protection of Cheetah and Wild Dog, for reduction of human-wildlife conflict have been developed; Translocation of wildlife to restore animal population in different conservation areas is no longer only relying on neighbouring countries, stocks have grown internally, reducing the costs of translocation; Number of scientific expeditions increased over the years; Data base of terrestrial species grown from 10 thousand in 2015 to over 217 thousand in 2018, but monitoring of	
12.2	Develop and implement rehabilitation programs for critical habitats		X						
12.3	Promote expeditions and collections of specimens in order to improve the database of flora and fauna species in herbarium (IIAM and DCB-UEM), Natural History Museum,			X					Not to cost
12.4	Catalogue the distribution and abundance of endangered species								
12.5	Include turtle nesting sites outside PAs in the monitoring				X				
12.6	Enhance the reintroduction of		X						

	endangered fauna species in the PAs							aquatic species has not been as significant;	
12.7	Enhance the monitoring of endangered marine fauna species					X		About 100 thousand large mammals were surveyed in 2018, nevertheless, the results are not yet commensurate with information needed for restoration of ecosystems and species. The report calls for mapping of degraded ecosystems to prioritize and assess progress towards restoration of ecological functions. For that, there is need for financial and technical resources.	
12.8	Elaborate and implement the strategies for conservation of endangered species (lion, elephant, turtle, dugong, shark, etc.)	X							
12.9	Update and Implement the strategy on mitigation of the human-wildlife conflict	X							
Target 13: By 2030, complete the characterization and cataloguing the genetic diversity of cultivated plants and domestic animals and their threatened ancestors in natural habitats, including species of socio-economic and/or cultural value and defining strategies for their conservation									
13.1	Carry out genetic inventories of endangered species (crop, fisheries, wood and those with market potential)				X			Genetic material of crops and livestock have been developed and several crop varieties resistant to drought and diseases were released; Improved conservation of collected genetic materials; Issued Decree of the Subcommittee for regulating and releasing new varieties; Medicinal plants garden established in the Namaacha Ethnobotanical Centre. This research area requires incentives and human capacity to develop a dedicated research on genetic diversity of plants, fauna and fisheries.	
13.2	Develop and implement management and conservations plans of genetically endangered species				X				
13.3	To develop crop varieties and animal races that are resistant to drought and diseases				X				
13.4	Develop varieties of fish species				X				

The low priority for REDD+ related interventions (15.1-15.3) result from advances made in relation to the activities planned in the NBSAP: approval of the REDD+ strategy, development of the reference level and the establishment of the monitoring, reporting and verification system. FNDS is implementing two landscape programmes for reducing emissions from land use and land use change in Cabo Delgado and Zambezia to generate performance based payments.

Table 14 Stakeholder prioritisation of actions and implications for FNA - SO C: Improve the benefits sharing from biodiversity and ecosystem services for all sectors of the Mozambican society

Action		**MITADER leading**			**Other sectors[8] leading**			**Sixth report – progress assessment**	**Costing**
Number	**Summary content**	**H**	**M**	**L**	**H**	**M**	**L**		

[8] Other ministries – economy and finance; agriculture; sea, fisheries and inland waters; mineral resources and energy; education and human development; science, technology and higher and professional education; culture and tourism; public works, housing and water resources – academia and research institutions

Target 14: By 2030, create and integrate the national accounts a payment mechanism for environmental goods and services to promote fair, equitable and sustainable use of biological diversity									
14.1	Develop a system for payment for environmental services					X		Training on no-net-loss undertaken for all key stakeholders; Payment for ecosystems services progressing with the development of guidelines on hierarchical mitigation and biodiversity offsets; the forest policy to be approved later this year also includes PES. Determining the real value of environmental goods and services is paramount to inform sustainable use practices	
14.2	Enhance the institutional capacity on accounting tools and mainstreaming of the biodiversity value				X				
Target 15: By 2025, knowing and strengthen the contribution of biodiversity to increase the stock of carbon in order to mitigate and adapt to climate change									
15.1	Finalize the process of approval of the National Strategy on REDD+			X				Assessment of carbon stocks conducted in dense mountain forests, not disturbed miombo, mangrove and mopane; REDD+ Decree approved and several initiatives are being implemented, particularly in Cabo Delgado and Zambézia landscapes including protected areas such as Quirimbas NP and Gilé NR; An agreement of USD 50 million for results based payment by 2024 was signed with the BioCarbon Fund of the Forest Carbon Partnership Facility (FCPF); Sustainable energy is key to reduction of emissions. Electricity from natural gas and solar energy is produced at large scale for meeting demand in large urban areas while the wind energy is propelling small scale rural businesses. But efforts are still dwarfed by the large demand for biomass energy causing deforestation and forest degradation; Compensation for lost biodiversity is embedded in the Conservation Law, but biodiversity offsets metrics are still under development. Viability studies on carbon markets and for other PES are urgent.	Not to cost
15.2	Develop and implement national carbon accounting methodologies						X		Not to cost
15.3	Assess the carbon stock in the critical or fragile ecosystems						X		Not to cost
15.4	Promote and implement REDD+ programs in critical or fragile ecosystems	X							
15.5	Promote the implementation of reduce emissions energy systems				X				
15.6	Promote the involvement of the private sector in voluntary initiatives for biodiversity conservation		X						
15.7	Develop legislation on environmental taxation for compensation on lost biodiversity and ecosystem services due to different economic activities	X							
Target 16: By 2020, implement national legislation on access and benefit sharing arising from the use of biodiversity and genetic resources									
16.1	Establish a mechanism to register transference of materials, according to the National Regulation on ABS		X					Preliminary collection of information for introduction of the Nagoya Protocol in national legislation; Data base of marine research – taxonomy and biotechnology; Law on Practice of Traditional and Alternative Medicine is under development; Law on indigenous knowledge is necessary for recording, patenting and for guardians to decide on the terms for use of such knowledge. It is equally urgent to monitor benefit sharing between parties involved.	
16.2	Establish a Program for the dissemination of ABS related legislation	X							
16.3	Create a database on the traditional knowledge and make it publicly available in the internet			X					Not to cost
16.4	Establish a program for capacity building on ABS		X						
16.5	Develop the Legal Framework on the ABS		X						

It seems a paradox that sector mainstreaming (17.2) is given low priority in a context of poor awareness of the NBSAP which hinders informed sector-planning. Equally, the importance of dissemination of indigenous knowledge is down plaid (18.2-18.3). Further proactive actions to seek and build new partnerships for financing biodiversity is not

considered of high priority. However, the limited availability of finance for DINAB to effectively lead or steer implementation and monitoring impact of biodiversity conservation, suggests that increased awareness on the role of national and international private sector and promoting local philanthropy could boost NBSAP´s financing.

Table 15 Stakeholder prioritisation of actions and implications for FNA - SO D: Enhance implementation through participatory planning, knowledge management and training

Action		MITADER leading			Other sectors[9] leading			Sixth report – progress assessment	Costing
Number	**Summary content**	**H**	**M**	**L**	**H**	**M**	**L**		
Target 17: By 2020, the sectors involved in biodiversity issues must develop, based on national targets, sectoral goals, integrate them into sectoral plans, and start implement it									
17.1	Develop sectoral targets for biodiversity conservation	X						Mainstreaming biodiversity in the plans and budget through the simplified matrix of cross-cutting issues; The annual economic and social plans (PES) include fragmented and sporadic actions on biodiversity due to limited institutional coordination. DINAB needs to do more to mobilize concerted effort to protect biodiversity in sector investment policies and plans.	
17.2	Develop and implement sectoral actions plans for the conservation of biodiversity			X					Not to cost
17.3	Plan and budget biodiversity actions in key sectors	X							
Target 18: By 2035, value and respect the knowledge and traditional uses of on biodiversity, in accordance with national legislation									
18.1	Establish, enhance and operationalize the community biodiversity management committees at all levels		X					Capacity building of Natural Resources Management Committees; MozBio II is supporting community based conservation; implements an initiative on transparency and monitoring of natural resources; One critical aspect is that research protocols and results should also be produced in local languages to enable the guardian of the local knowledge to decide on how to share it.	
18.2	Assess and catalogue the traditional knowledge from local communities						X		Not to cost
18.3	Organize seminars for dissemination of impact and importance of traditional knowledge on management and conservation of biodiversity			X					Not to cost
18.4	Disseminate information about the traditional knowledge using audiovisual material (radio, TV), leaflets, brochures, T-shirts, c*apulana*s, etc.			X					Not to cost
Target 19: By 2035, strengthen the capacity of key stakeholders and improve the integration of gender issues, to enable the effective implementation of national targets									
19.1	Develop biodiversity modules for training for key stakeholders			X				Developed training materials on gender and environment; publications were produced; Strategy on gender, environment and climate change was developed and focal points were appointed in relevant	Not costed
19.2	Disseminate the NBSAP			X					Not costed
19.3	Assess biodiversity and gender linkages				X				

[9] Other ministries – economy and finance; agriculture; sea, fisheries and inland waters; mineral resources and energy; education and human development; science, technology and higher and professional education; culture and tourism; public works, housing and water resources – academia and research institutions

19.4	Enhance gender units at local level		X					ministries as is gender equity in the NRM committees. Nevertheless, this target is wide ranging, aiming to ensure that gender is reflected across all targets.	
19.5	Promote gender equity in Natural Resources Management Committees (NRMC)		X						
19.6	Build capacity of NRMC on gender	X							
Target 20: By 2020, strengthen national and international partnerships and establish innovative mechanisms for financing and support biodiversity program									
20.1	Carry out actions to mobilize and enhance national, regional and international partnerships		X					Partnerships between COMBO, BIOFUND and UNDP (BIOFIN) to improve understanding of financial resources for biodiversity conservation. Capital financing is mainly from the World Bank, KfW, EU and AFD while BIOFUND is expected to generate at least a million annualy to finance operational costs of conservation areas. There is still a significant shortfall considering that CA require about 18 Million USD per year for conservation. Currently 80% is from external sources	
20.2	Organize bi-annual conferences about partnerships for NBSAP implementation			X					Not costed
20.3	Elaborate a business plan to financing the NBSAP	X							

ANNEX 2: Information gathering for FNA

Institution	Department or subsector	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Observations
Ministry of Lands, Environment and Rural Development (MITADER) (Directorates of Environment, Planning, Impact Assessment, Education, land use planning, conservation, Law Enforcement, Fund	DINAB/DA (1) DINAB/MC (3) DINAB/AIA (3) DPC (3) FNDS (1) AQUA (5) DINAF(1) DNPA (2) DINOTER (1) ANAC (DPC and HR) (1) MozBio (proj) (1) Connect (1) (proj) 23 members of staff	√	√ √ √ √ √ √ √	 √ √ √ √ √ √ 	 √ √ 	 √ 		
Ministry of Education and Human Development (MINEDH) (Directorates of Primary, Secondary, Technical-Professional, Crosscutting issues, Planning)	Reception DNEP (2) DNES (1) DNET (1) DNAT (2) DIPLAC (1) 7 members of staff		√	√	√ √ √ √ √ √	 √ √ √	 √ 	
Ministry of Mineral Resources and Energy (MIREME) (Planning, Energy, Regulatory body)	DPC (0) DNE (1) FUNAE (3) ARENE (1) 5 people		√ √	√	√ √ √			No meeting was held with DPC despite many attempts, including agreed meeting time and indication that they would liaise with INAM (mining) and INAP (oil). FUNAE was proactive in organising the meeting. ARENE wanted to engage with DINAB as they are in the process of developing norms and felt it was good opportunity to integrate environment and biodiversity. They suggested a meeting with heads of the different departments to present the NBSAP and identify their role. A note was written to BIOFIN team leader and DINAB requesting confirmation of availability but there was no response.
Ministry of Public Housing and Water Resources (MOPHRH) (Planning and Water Resources)	DPC DNRH (1) 1 person		√ √					
Ministry of Agriculture and Food Security (MASA) (Planning, Extension, Silviculture, Veterinary, Irrigation, Cashew, Research and Fund)	DPCI (3+1) DNEA (1) DNAS (1) DNAV (1) INIR (1) FDA (1) INCAJU (1) IIAM (1) 11 people			√ √	√ √	√ √ √ √ √ √ √ √		Many attempts, phone calls and finally a joint meeting help. This was endorsed by the Director of DPCI who was very enthusiastic about the alignment of MASA activities with NBSAP implementation and suggested a seminar to help staff understand the content of MNBSAP and the role of MASA. Only INCaju followed up with information.
Ministry of Sea, Inland Waters and Fisheries (MIMAIP) (Research, Policies, Studies and Planning)	IIP (1) DNAP DNEPI (1)		√	√	√ √			Lots of time invested here, with many phone calls, e-mails sent up on request by contacted people, finally had a meeting with the Director of DNEPI

Ministry of Culture and Tourism (MICULTUR)	DPC (4)		√	√	√			
Ministry of State Administration and Public Affairs (MAEFP) (Disaster management – drylands programme)	INGC (3)		√	√				
Ministry of Health (Traditional Medicine)	IMT				√	√		No meeting
Ministry of Science, Technology and High Education (MCTES)			√	√	√			No meeting held. It was alleged that the letter was not received. When submitting the letter signed in November, the receptionist asked of a letter with new date.
Global Green Growth Institute	Energy				√			GGGI has an energy supply project and is currently housed at MITADER.
Biofund	Conservation and sustainable Financing		√					An endowment and innovative fund for biodiversity conservation
WCS	Conservation		√	√				International NGOs with prominent role in policy development, its implementation and monitoring impacts.
IUCN	Conservation							
WWF	Conservation			√				
AFD	Conservation			√				Main donor agencies financing biodiversity conservation in and outside protected areas. Some also contribute indirectly through finance to the energy sector to achieve the universal access to energy by 2030. In the context of Mozambique this is very important as biomass is still the main source of energy.
Belgium	Energy				√			
EU	Natural Resources Energy		√	√	√			
World Bank	Energy			√				
GIZ	Energy				√			
AfDB	Energy				√			
Eleqtra, private company	Energy				√			
UEM	CEAGRE Biology Economics Geography		√ √ √	√				Public University that has played significant role in development of NBSAPs over the years and also in assessing its progress.
CTA	Private Sector		√	√				It was not possible to secure a meeting despite several requests

ANNEX 3: FNA Spreadshet