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The Biodiversity Finance Initiative

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BIOFIN Workbook 2024

Finance for Nature

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WORKBOOK

2024

Finance for Nature

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Foreword



Photo credit: Mariam Soliman

In an era of accelerating biodiversity loss, global cooperation is more critical than ever; the adoption of the Kunming-Montreal Global Biodiversity Framework (GBF) under the Convention on Biological Diversity (CBD) in 2022 marked a pivotal moment in this effort. The Framework sets ambitious targets aimed at halting and reversing biodiversity loss by 2030. Supporting these targets, the Global Biodiversity Fund and the Kunming Biodiversity Fund provide essential financial resources to help nations protect their natural environments. These global initiatives highlight our shared responsibility to preserve the planet's biodiversity and present a vital opportunity for countries to collaborate in achieving these urgent targets and goals.

At the regional level, countries in the Middle East and North Africa have taken significant steps to align with these global targets and goals. In a region where biodiversity is both a treasure and a challenge, governments are focusing on integrating biodiversity conservation into broader environmental and economic strategies. Regional cooperation is driving shared progress in combating biodiversity loss, addressing climate change, and tackling desertification while also taking into consideration the unique vulnerabilities of ecosystems in this part of the world. For example, Egypt, with its unique location, is bordered by the Mediterranean Sea to the north with a 1,000 km coastline, and the Red Sea to the east, with a 1,941 km coastline, which includes the Gulf of Suez and the Gulf of Aqaba.

The Red Sea's underwater ecosystem is home to over 300 species of hard and soft coral, and 2,100 species of fish, some of which are found nowhere else in the world. This has prompted the Government to exert great efforts to conserve biodiversity in these seas.

At the national level, Egypt has made substantial progress in prioritizing environmental sustainability through strategies such as the National Biodiversity Strategy and Action Plan (NBSAP) and the National Climate Change Strategy (NCCS), which serve as cornerstone initiatives. Egypt's leadership in biodiversity conservation and climate action has been further underscored by its role in hosting pivotal international conferences, including the Fourteenth meeting of the Conference of the Parties to the CBD (COP14) and the Twenty-Seventh meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27). These high-profile events have spurred landmark initiatives such as the Egyptian Initiative for a Coherent Approach to Addressing Biodiversity Loss, Climate Change, and Land Degradation, and the Enhancing Nature-based Solutions for Accelerated Climate Transformation (ENACT) Initiative.

Building on this leadership, Egypt has made significant strides in financing biodiversity, achieving a remarkable 100 percent increase in revenue from natural reserves in the 2022/2023 fiscal year compared to the 2017/2018 fiscal year. Collaborating with the Ministry of Finance and the Ministry of Planning and Economic Development, Egypt issued its first green bonds in the amount of $750 million and mobilized $834 million for various environmental projects. In its renewable energy strategy, Egypt aims to generate 42 percent of electricity from renewable sources by 2035. To address biodiversity concerns such as the impact of wind farms on migratory birds, Egypt has implemented the radar-assisted shutdown on-demand system, which temporarily halts wind turbines to protect migratory birds. This initiative not only advances bird conservation, but has also contributed $12 million over the past five years toward biodiversity projects and created green jobs, with a focus on women's inclusion.



In addition to renewable energy, Egypt has employed innovative financial tools such as debt-for-nature swaps, to support biodiversity conservation. The Italy-Egypt debt swap programme has funded key projects like the Support to Egyptian Protected Areas project, with notable achievements such as the Wadi El Hitan Fossil and Climate Change Museum, which promotes eco-tourism and community engagement. Most recently, the Ministry of Environment, in partnership with the United Nations Development Programme (UNDP), and the Global Fund for Coral Reefs signed the Egyptian Red Sea Initiative, funded by the United States Agency for International Development. This significant partnership aims to conserve and protect the Red Sea's coral reefs, which are among the most resilient and biodiverse in the world. These reefs are not only a vital part of the marine ecosystem, but also serve as the cornerstone of Egypt's economy, supporting industries such as tourism and fishing. Egypt has further cemented its leadership in biodiversity finance by becoming the first Arab nation to join the UNDP Biodiversity Finance Initiative (BIOFIN). BIOFIN plays a crucial role in helping countries close their biodiversity financing gaps by developing customized financial solutions. Through its participation in BIOFIN, Egypt not only seeks to enhance its biodiversity finance efforts, but also to share its experiences with other nations. This edition of the BIOFIN Workbook is particularly significant because 91 countries joined the existing 41 BIOFIN countries and this year have begun to develop their Biodiversity Finance Plans. This reflects the growing global commitment to addressing the biodiversity finance gap. Egypt's involvement aligns with GBF Target 19, which calls for the design and implementation of national biodiversity finance plans.

As we collectively work towards closing the biodiversity financing gap, I encourage countries to adopt the BIOFIN methodology and utilize this Workbook to design tailored financial solutions that support biodiversity conservation.

By embracing these tools, nations can mobilize the resources needed to achieve their biodiversity goals, aligning with global frameworks like the Global Biodiversity Framework. Together, we can turn ambition into action and ensure a sustainable future for all.



Yasmine Fouad
Minister of Environment of the Arabic Republic of Egypt



Photo credit: Mahtab Haider

Executive Summary

Nature and human life on earth are interdependent. Indeed, nature is the foundation of human well-being and prosperity. As António Guterres, United Nations Secretary-General simply stated at the 2022 United Nations Biodiversity Conference at the Conference of the Parties (COP) 15, "*Without nature, we have nothing. Without nature, we are nothing.*" Leading global institutions from the United Nations General Assembly to the International Federation for Human Rights, the European Parliament and the New York Stock Exchange are recognizing the inextricable interdependence of nature and humankind.

In December 2022, more than 190 nations adopted a landmark agreement on biodiversity known as the Kunming-Montreal Global Biodiversity Framework (GBF). The GBF includes four ambitious goals and 23 global targets to guide country-level stewardship of biodiversity. These goals and targets call for an economic policy and financial shift where nature is placed at the heart of sustainable development and where its value is properly taken into consideration, nurtured and invested in.

Biodiversity finance is the practice of raising and managing capital and using economic tools to support sustainable biodiversity management. There is a global funding gap of around US$700 billion per year, about seven times larger than estimates of what we are currently investing. Target 19 aims to mobilize at least $200 billion per year from public and private sources. Not only are we facing a funding shortfall, but we are also spending substantially more on harming nature. Agricultural, fisheries and forestry subsidies harmful to biodiversity in the Organisation for Economic Co-operation and Development reporting countries is two to four times more than the total amount currently invested in conserving biodiversity.

The aim is to reduce the current global biodiversity funding gap by not only increasing public and private funds for biodiversity, but also reducing the need for funds by addressing harmful economic activities and using existing resources more effectively. Five out of the GBF's 23 targets (14, 15, 16, 18, and 19) are strongly focused on biodiversity finance, but none can be implemented without adequate investment.

Since the inception of the Biodiversity Finance Initiative (BIOFIN) in 2012, the national Biodiversity Finance Plans (BFPs) have matured into a globally recognized vehicle to mobilize and realign finance flows for nature. Based on lessons learned in the first 41 countries to implement the BIOFIN methodology, BIOFIN donors and the Global Environmental Facility (GEF) pledged support to design and implement BFPs in 133 participating countries pursuant to the ambitious 2030 goals of the GBF.

The first cohort of BIOFIN countries implementing their BFPs achieved considerable results, such as: a $86 million budget increase for protected areas in the Philippines and $70 million in Kazakhstan; $108 million green credits in Ecuador; allocations of $120 million through Ecological Fiscal Transfers in Malaysia; and the issuance of the first-ever green bond in Zambia valued at $200 million. Also, Botswana increased the revenue from its protected areas by $3.6 million per year, Mongolian local governments realized a revenue increase of ove $10 million per year, and Seychelles created the first-ever biodiversity finance unit to institutionalize the BIOFIN Process.

The BIOFIN Workbook 2024 provides detailed guidance to design and implement national BFPs. BFPs set out a process to engage a coalition of actors in addressing the issue of biodiversity finance for an extended time. This process is anchored in the finance sector, which involves ministries of finance, central banks, regulators and development banks. Capacity development of this coalition in every country is a centrepiece at the heart of the BIOFIN Process.

The BIOFIN methodology calls for the completion of five key steps with the ultimate aim of substantially increasing and improving the delivery of biodiversity finance flows during the implementation stage to enhance biodiversity stewardship and achieve desirable biodiversity outcomes.

Diagnostics stage (1-2 years)

Step 1 - Identify the drivers of loss and gain, main actors and policies, and existing financing mechanisms: the Policy and Institutional Review

This step is a linear process that begins by determining a country's major factors that cause biodiversity loss or gains. It then maps the policies and institutions that are responsible for addressing these factors. These institutions are involved in the next step (Step 2). Finally a comprehensive analysis of all financing mechanisms already in place in the country is conducted, and an initial inventory of harmful subsidies created.

Step 2 - Examine major expenditures to establish which are nature-positive: the Biodiversity Expenditure Review

For all major expenditure programmes that are potentially impacting nature, the formal objective is being reviewed to determine if it is aligned with national biodiversity conservation goals. This programme-by-programme review enables countries to determine their expenditures for nature. These numbers can inform public budget tagging and serve as indicators of policy coherence.

Step 3 - Calculate how much finance is needed to achieve all national biodiversity goals: the Financial Needs Assessment

The National BFP and other biodiversity policies are analysed. The amount of finance required for each national goal or action programme is calculated.

Development stage (1 year)

Step 4 - Design the Biodiversity Finance Plan including priority financing solutions

A vision for the country is developed in order to identify priority areas for financing (e.g. protected areas, agriculture, marine, main drivers of loss). The catalogue of finance solutions and the diagnostic studies (PIR, BER and FNA) are reviewed, and a national consultation is organized to identify the most promising financing solutions. These solutions can either help generate additional funding, realign expenditures away from harmful impacts or improve the performance of existing mechanisms. Over 150 financing mechanisms are already identified globally for countries to choose from: taxes, subsidies, fees, fines, bonds, offsets, public budgets, disclosure frameworks, taxonomies, fintech, payments for ecosystem services, Islamic finance, lotteries, green credits, crowdfunding, impact investment and many others. Over 400 financing solutions were developed by BIOFIN countries to date.

Implementation stage (5-15 years)

Step 5 - Implement the solutions from the finance plan

Implementation can start during the diagnostic stage, when the first opportunities for financing solutions are identified (described as 'early implementation'). Once the national BFP is approved, then the financing solutions can be fully implemented. Countries either design new financing mechanisms or improve existing ones.

This Workbook comprehensively guides countries through each of these steps. It is based on over ten years of learning from more than 40 countries, thus representing a global process of co-creation.



Photo credit: UNDP Peru.
Peru is boosting investments in nature through innovative public finance mechanisms. BIOFIN and GIZ have contributed by integrating biodiversity criteria into these tools, paving the way for more sustainable investments.

Acronyms

- **ABS:** Access and benefit sharing
- **BER:** Biodiversity Expenditure Review
- **BFP:** Biodiversity Finance Plan
- **BIOFIN:** Biodiversity Finance Initiative
- **BMB:** Biodiversity Management Bureau
- **CBD:** Convention on Biological Diversity
- **CEA:** Classification of Environmental Activities
- **COFOG:** (UN) Classification of the Functions of Government
- **COP:** Conference of the Parties
- **CSR:** Corporate social responsibility
- **DENR:** Department of Environment and Natural Resources
- **DPSIR:** Driver Pressure State Impact Response
- **E-NIPAS:** Extended National Integrated Protected Areas System
- **EFT:** Ecological Fiscal Transfers
- **FNA:** Financial Needs Assessment
- **FUG:** Forest user group
- **GBF:** Global Biodiversity Framework
- **GDP:** Gross domestic product
- **GIZ:** Gesellschaft für Internationale Zusammenarbeit GmbH
- **GLOBE:** Global Biodiversity Expenditure
- **INEGI:** National Institute of Statistics and Geography
- **IMF:** International Monetary Fund
- **INFF:** Integrated National Financing Framework
- **IPLC:** Indigenous Peoples and local communities
- **IPBES:** Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
- **M&E:** Monitoring and evaluation
- **MTEF:** Medium-term Expenditure Framework
- **NBS:** Nature-based solution
- **NBSAP:** National Biodiversity Strategy and Action Plan
- **NGO:** Non-governmental organization
- **ODA:** Official development assistance
- **OECD:** Organisation for Economic Co-operation and Development
- **PA:** Protected Area
- **PEA:** Political economy analysis
- **PES:** Payments for ecosystem services
- **PIR:** Policy and Institutional Review
- **RBB:** Results-based budgeting
- **RBC:** Results-based costing
- **SEC:** Securities and Exchange Commission
- **SDG:** Sustainable Development Goal
- **SEEA:** UN System of Environmental-Economic Accounts
- **SME:** Small and medium-sized enterprise
- **TNC:** The Nature Conservancy



Photo credit: UNDP Costa Rica.
Raices and BIOFIN in Costa Rica support Indigenous communities in launching sustainable tourism businesses.
As of August 2024, 28 start-ups have been successfully launched.



Photo credit: Nguyễn Ngọc Thiện, UNDP Viet Nam.
Raising ducks in Đà Rằng River.



Photo credit: Department of Wildlife and National Parks of Botswana
In 2022, Botswana introduced new fees for protected areas, generating $7.8 million by 2024.



CHAPTER 1

Introduction to Biodiversity Finance

1.1. Biodiversity in the global economy

Nature sustains our life on earth. It is fundamental to functioning economies and a healthy society. Global recognition of the importance of biodiversity to society and our economies has been steadily increasing over the last few decades. In 2015, for the first time in history, biodiversity officially entered the global development agenda, prominently in Sustainable Development Goals (SDG) 14, 'Life below water' and 15, 'Life on land' while also contributing to a wide range of other SDGs.

A healthy planet is a necessity for a thriving economy. Biodiversity forms the foundation of ecological processes that result in goods and services for human benefits across all ecosystems (Box 1.1). Global economies cannot afford the risk of ecological collapse, especially those of low-income countries, where vulnerabilities are significantly higher.

Nature has declined more extensively over the past 50 years than at any other time in human history,[1] driven by unsustainable economic growth that does not take biodiversity into account.

The perception of nature as a free, unused and unlimited resource results in the loss of our shared natural capital. Biodiversity and ecosystem services suffer because markets and politics reflect their values poorly. The 'invisibility of nature' in our decisions results in economic inefficiencies, lost growth opportunities, and the misallocation of resources. We under-invest in nature and thus reduce the wealth of nations.

The World Economic Forum considers nature loss and climate change to be two of the most profound threats facing humanity,[2] and the World Bank has determined that a loss of ecosystem services could cause a decline of global GDP by $2.7 trillion by 2030, with a higher intensity of impact in low-income and lower-middle-income countries.[3] And yet, none of the global biodiversity targets to protect nature were met in the last decade.[4]



Box 1.1: The values of nature and the cost of loss

- We all depend on biodiversity to live. Over half of the global GDP, namely $44 trillion of economic value generation, is moderately or highly dependent on nature.[a]
- For every $1 spent on nature restoration, at least $9 of economic benefits are expected. [b]
- Investing in nature can unlock up to $10 trillion in business value by 2030 only within the economic systems most responsible for nature loss (food, infrastructure, energy and extractives).[c]
- Over half of securities held by financial institutions are highly or very highly dependent on nature.[d]
- Restoring 350 million hectares of forests and other landscapes will generate about $170 billion per year in net benefits from watershed protection, improved crop yields and forest products, and could sequester up to 1.7 gigatons of carbon dioxide equivalent annually.[e]
- Around 350 million people who live within or close to dense forests depend on them for their subsistence and livelihoods; households derive as much as 22 percent of their income from forest sources. Forests produce more than 5,000 types of wood-based products, and generate an annual gross value of just over $600 billion, around 1 percent of global GDP.[f]
- Mangroves provide flood protection benefits exceeding $65 billion per year. If they were lost, 15 million more people would be flooded annually across the world.[g]
- Investments that harm nature keep growing, at $500 billion per year in 2020.[h] The International Monetary Fund globally estimates that fossil fuel subsidies were $7 trillion, or 7.1 percent of GDP in 2022, reflecting a $2 trillion increase since 2020 due to government support from surging energy prices.[i]

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Photo credit: Gaurav Gupta
Approximately one million animal and plant species are threatened with extinction due to human activities (IPBES, 2019)

- Investments that harm nature keep growing, at $500 billion per year in 2020.[h] The International Monetary Fund globally estimates that fossil fuel subsidies were $7 trillion, or 7.1 percent of GDP in 2022, reflecting a $2 trillion increase since 2020 due to government support from surging energy prices).[i]
- The total global cost of subsidies are $4 to $6 trillion per year.[j]
- Fertilizers entering coastal ecosystems have produced more than 400 ocean 'dead zones,' totalling over 245,000km^2 – a combined area greater than the United Kingdom.[k]

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1.2. Biodiversity finance in the global context

In the years prior to 2010, the field of biodiversity finance focused predominantly on awareness-raising on the 'invisibility of nature' in government and business accounts, and on decision-making by valuing nature. Around 2010, in the lead-up to the Conference of the Parties (COP) 10 to the CBD, this focus began to broaden to include gaining a better understanding of investment levels and needs, and ultimately move towards policy solutions to address these needs. There began a growing awareness that increasing resources alone was not enough. The concept of closing the funding gap 'from both directions' grew, based on the idea that new resources need to be combined with reducing activities that are harmful to nature.[5]

Today, biodiversity finance is the practice of raising and managing capital, and using financial and economic tools to support sustainable biodiversity management.[6] It seeks to influence the enabling environment in order to benefit nature and shift trends that harm it in the aim of improving the lives of people and nature, using tools in the market, legislation, public policy and financial systems.

Biodiversity finance focuses on the development of strategies, mechanisms and tools to shape biodiversity-positive behaviour, and reduce biodiversity-negative behaviour. This is achieved through:

- market-based instruments, such as certification schemes and voluntary offsets;
- fiscal mechanisms, such as tax incentives and penalties;
- an improved flow of public budgets towards nature, such as through results-based budgeting and ecological fiscal transfers;
- the creation of products and pipelines for private sector investment; and
- the reform of perverse incentives, including subsidies that are harmful to nature.

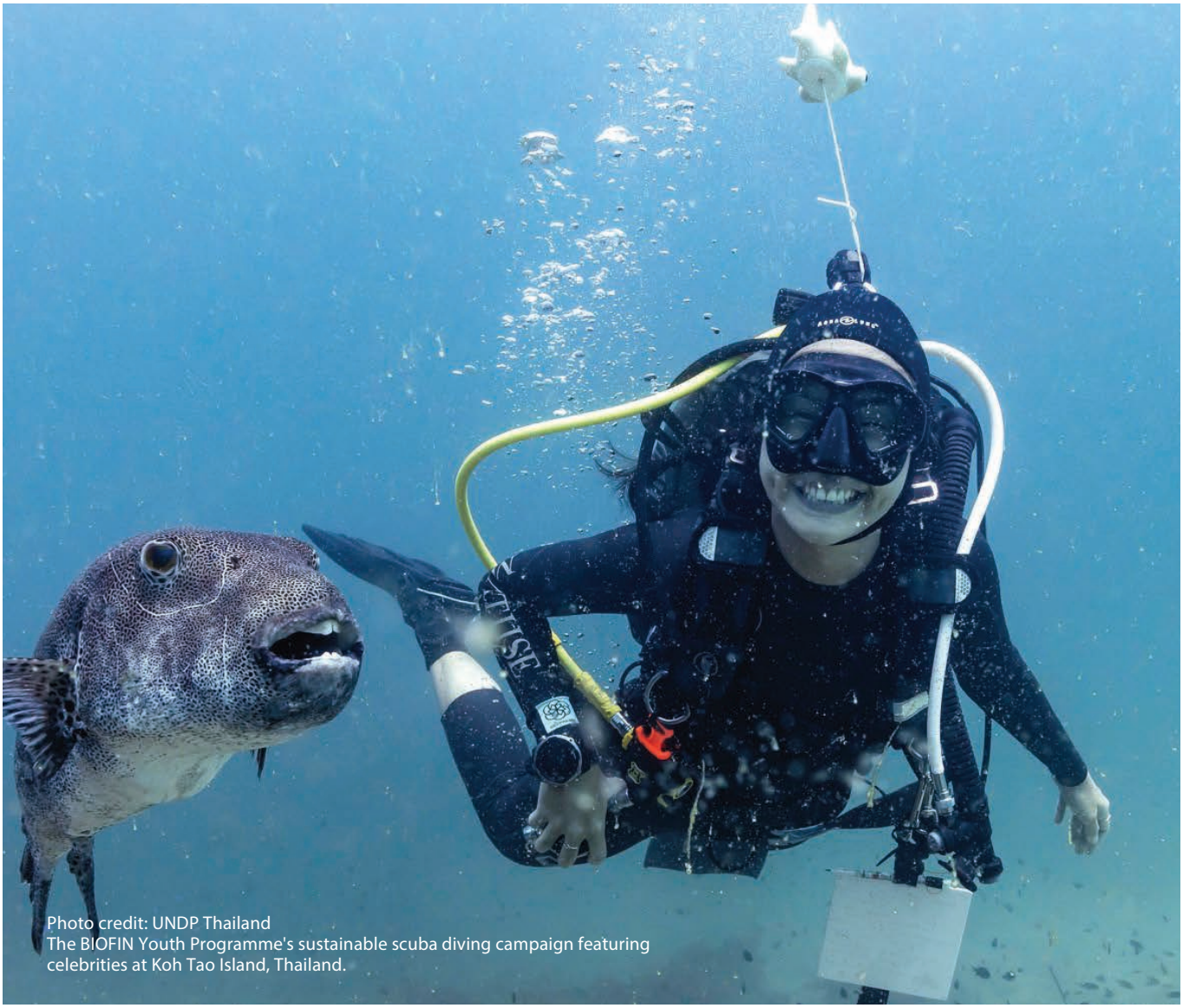


Photo credit: UNDP Thailand
The BIOFIN Youth Programme's sustainable scuba diving campaign featuring celebrities at Koh Tao Island, Thailand.

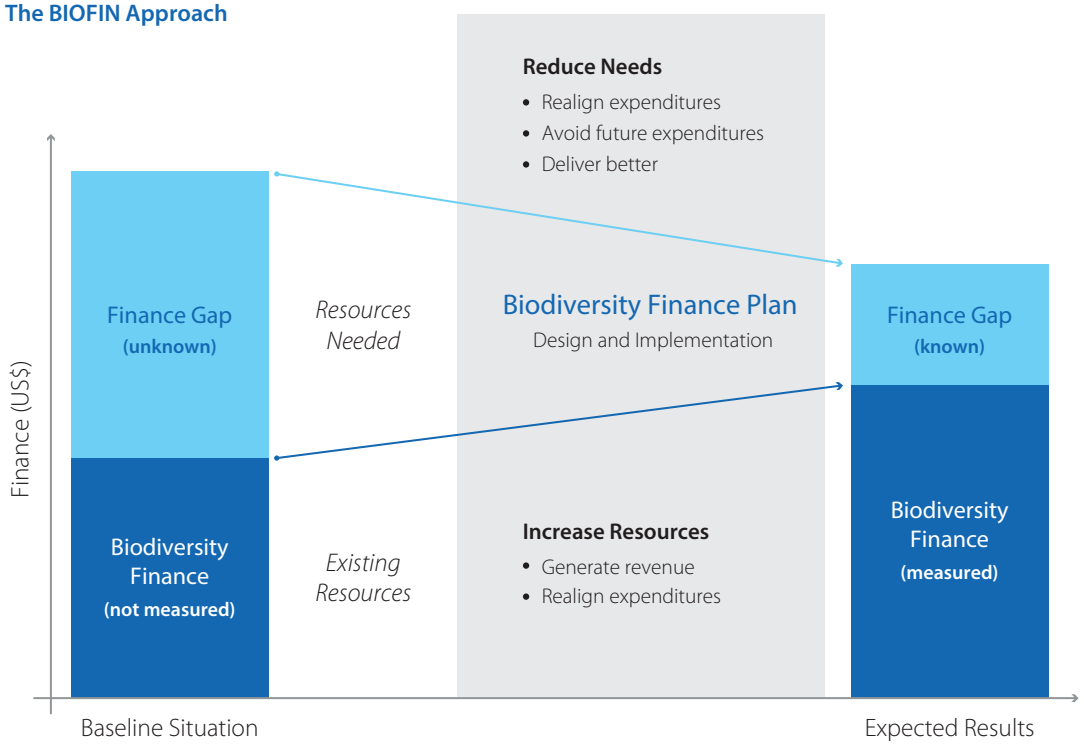
[5] Seidl, A., Cumming, T., Arlaud, M., Crosset, C. and van den Heuvel, O. 2024. Investing in the wealth of nature through biodiversity and ecosystem service finance solutions. Ecosystem Services. Vol. 66.

[6] Clark, S. (2012). A field guide to conservation finance. Island Press.

1.3. The biodiversity finance gap

The biodiversity 'finance gap' refers to the difference between how much is currently being spent on biodiversity, and how much is needed to meet our goals. Reducing the finance gap requires not only increasing public and private funds for biodiversity, but also reducing the need for financing by reducing the amount of harm caused to the environment by certain economic activities, which results in substantial costs such as ecosystems restoration costs, and by using existing resources more effectively (Figure 1.1).

Figure 1.1: The BIOFIN Approach



1.4. Biodiversity finance in the Convention on Biological Diversity's Kunming-Montreal Global Biodiversity Framework

Reversing the loss of biodiversity globally will be a complex task, requiring all parts of governments to act, and all segments of society to participate. Recognizing this, the parties to the CBD adopted the Kunming-Montreal Global Biodiversity Framework (GBF) in December 2022, setting out four goals and 23 ambitious targets to be met by 2030,[7] calling for transformational change in order to achieve the vision of 'living in harmony with nature' by 2050.

Some of the GBF targets focus on biodiversity outcomes, such as effectively conserving 30 percent of terrestrial and inland waters by 2030 (Target 3). Others aim to address the social and economic environment that enables biodiversity-positive outcomes. Of the 23 GBF targets, five reference the work of biodiversity finance, summarized below: [8]

Target 14: Integrate biodiversity and its multiple values into policies, strategies, regulations, planning and development processes, and national accounting, progressively aligning all relevant public and private activities, fiscal and financial flows with the goals and targets of the GBF.

Target 15: Take legal, administrative or policy measures to enable financial institutions and businesses to reduce negative impacts and increase positive impacts on biodiversity, through monitoring and disclosing risks and dependencies on nature, providing information to consumers, and reporting on compliance with access and benefit sharing.

[7] Secretariat of the Convention on Biological Diversity. (n.d.). Kunming-Montreal Global Biodiversity Framework. www.cbd.int/gbf

[8] Secretariat of the Convention on Biological Diversity. (n.d.-a). 2030 Targets (with Guidance Notes). www.cbd.int/gbf/targets

Target 16: Empower consumers to make better decisions through policy, legislation, education and access to information.

Target 18: Scale up positive incentives for the conservation and sustainable use of biodiversity, and eliminate, phase out or reform incentives, including subsidies, harmful to biodiversity, in a proportionate, just, fair, effective and equitable way, by at least $500 billion per year by 2030.

Target 19: Mobilize at least $200 billion per year from international and domestic public and private sources, including at least $20 billion per year in international financial resources from developed countries, by 2025 and $30 billion by 2030, enhancing collective actions (including Indigenous Peoples and local communities), stimulating innovative schemes, enhancing effectiveness, efficiency and transparency.

Target 19 of the GBF also states that resource mobilization should be facilitated by national biodiversity finance plans, recognized by the CBD as an important planning tool used to guide the approach to biodiversity finance in support of achieving all of the targets and goals of the GBF.[9]

BIOFIN produced the first methodology for developing a BFP over ten years ago, and has been supporting countries in its implementation while learning from and improving it over the years.

This Workbook is the fourth version outlining the most recent lessons learned from over 40 countries as of 2024.

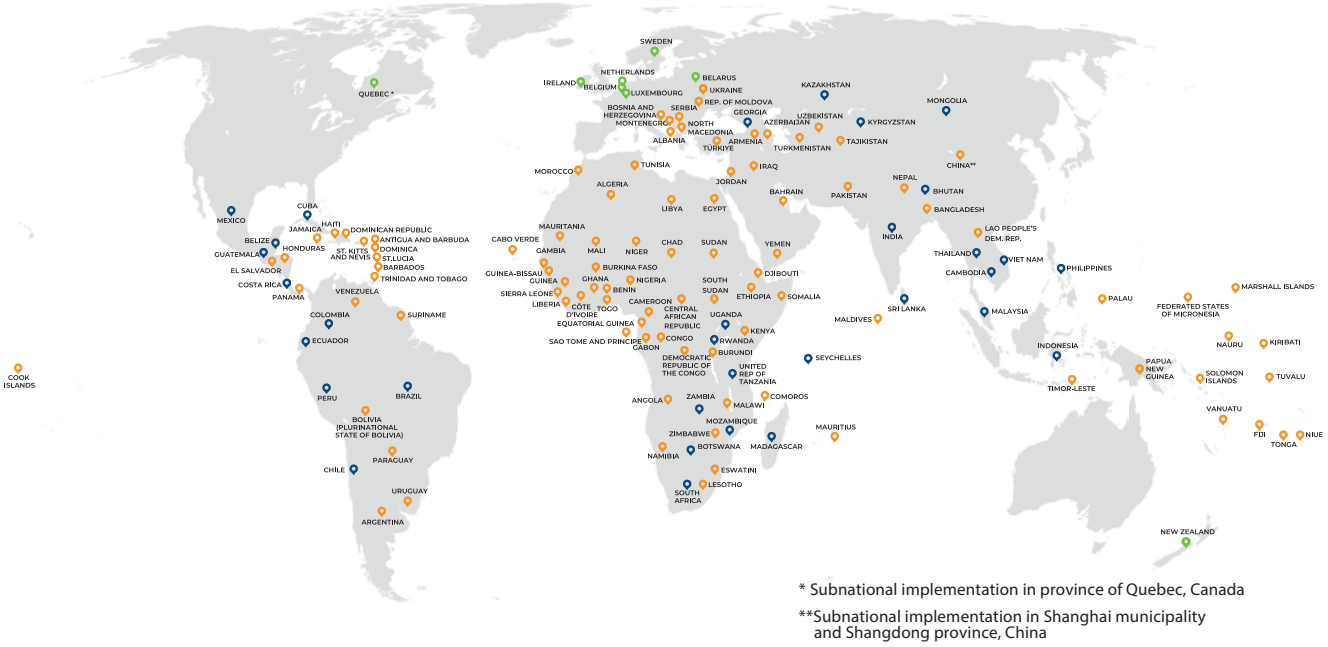
The BIOFIN methodology follows a step-wise approach consisting of five components – four analytical components, i.e. a Policy and Institutional Review (PIR), a Biodiversity Expenditure Review (BER), a Financial Needs Assessment (FNA) and a BFP, followed by the fifth component, i.e. implementation of the BFP.



Photo credit: Dolapo Adejumo
In partnership with the Global Environment Facility, BIOFIN expanded its support in 2024, helping an additional 91 countries design biodiversity finance plans.

[9] Secretariat of the Convention on Biological Diversity. (2022). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its fifteenth meeting: Decision 15/7. Convention on Biological Diversity. www.cbd.int/doc/decisions/cop-15/cop-15-dec-07-en.pdf

1.5. BIOFIN and Biodiversity Finance Plans



Map No. 4651 | October 2022
The boundaries and names shown, and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Figure 1.2: Status of biodiversity finance plans

UNDP's Biodiversity Finance Initiative (BIOFIN) has been assisting countries since 2012 to address the challenges of biodiversity loss resulting from nature-blind financial and economic systems. More than 130 countries are implementing and/or developing their Biodiversity Finance Plans (BFPs).

BIOFIN works with country partners to develop and implement context-driven BFP.

These BFPs map out a pathway for a country to develop a nature-positive biodiversity finance approach, which supports the achievement of national and global biodiversity goals. The process allows countries to identify and develop *finance solutions* (Box 1.2) that result in long-lasting positive changes to the environmental, social and economic systems that are dependent on nature.

Box 1.2: The definition of a finance solution

A finance solution is the collection of activities to address a specific biodiversity finance need or challenge that will result in financial, policy and institutional results to solve a driver of biodiversity loss.

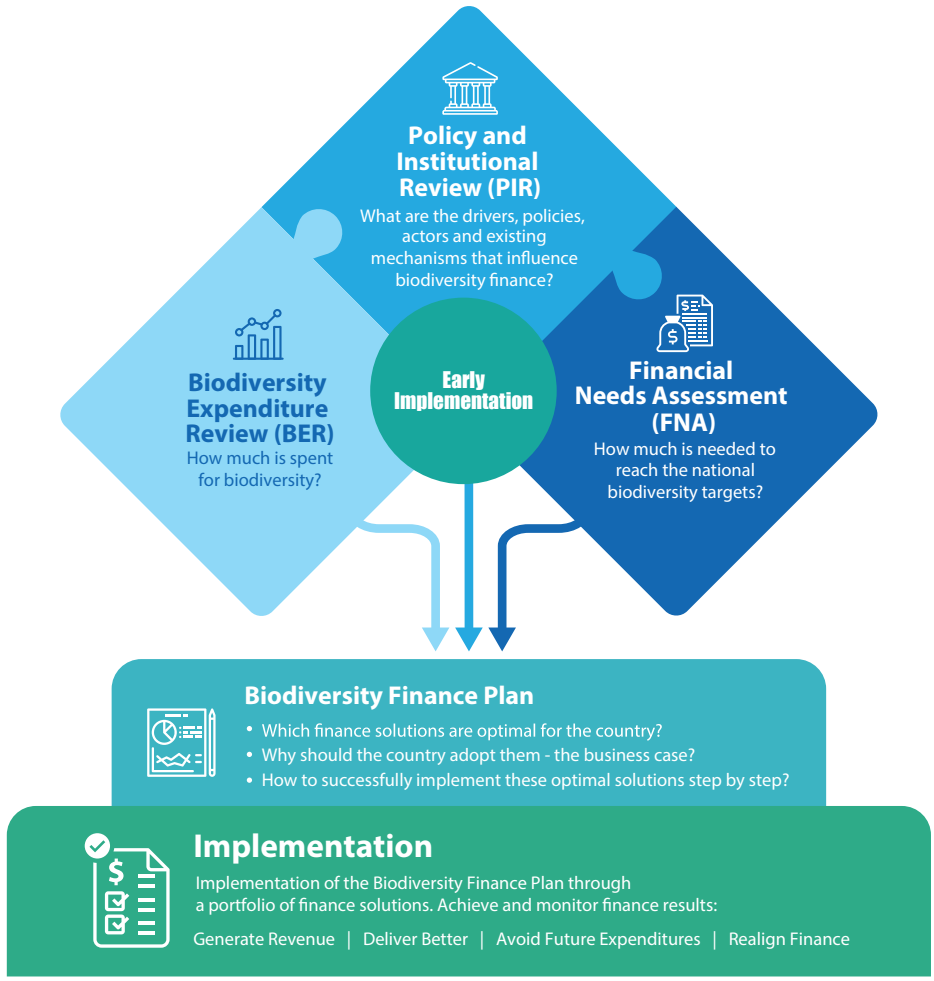
One finance solution can integrate multiple mechanisms to solve a specific challenge, and could have a private or public sector lead agent.

These mechanisms may be:

- policy-focused, such as developing an offsets policy framework for a country;
- market-based, such as creating an eco-certification scheme;
- fiscal, such as tax incentives for communal and privately protected areas;
- grants;
- debt or equity, such as nature-positive green bonds;
- risk-related, such as having the state of ecological infrastructure (e.g. mangroves) reflected in insurance premiums.

The BIOFIN Catalogue of Finance Solutions provides information on over 140 finance solutions.

Figure 1.3: The BIOFIN Steps



1. The Biodiversity Finance Policy and Institutional Review analyses the policy and institutional context for biodiversity finance in the country in order to establish the baseline for the BIOFIN approach. This analysis examines the relationship between the state of nature and a country's fiscal, economic, legal, policy and institutional framework. This helps to: identify how biodiversity and ecosystem services support national SDGs, the key policy and institutional drivers of biodiversity change (e.g. subsidies that are harmful to biodiversity); and catalogue existing biodiversity finance mechanisms and identify possible opportunities stemming from this work to improve biodiversity finance.

2. The Biodiversity Expenditure Review uses detailed data on public, private and civil society budgets, allocations and expenditures to inform and promote improved biodiversity policies, financing and outcomes. The assessment accounts for 'direct' expenditures where biodiversity considerations are the principal concern, and examines and estimates the value of 'indirect' expenditures where biodiversity considerations are a secondary concern.

3. The Financial Needs Assessment makes a comprehensive estimate of the financial resources needed to achieve the national and subnational biodiversity targets articulated in national biodiversity plans and other key national planning instruments. The assessment clarifies the 'costable actions' in these instruments and links them to biodiversity results; generates budgetary data that can be used to advocate for biodiversity investments; helps prioritize biodiversity strategies and actions based on biodiversity and cost criteria; and estimates unmet biodiversity financing needs.

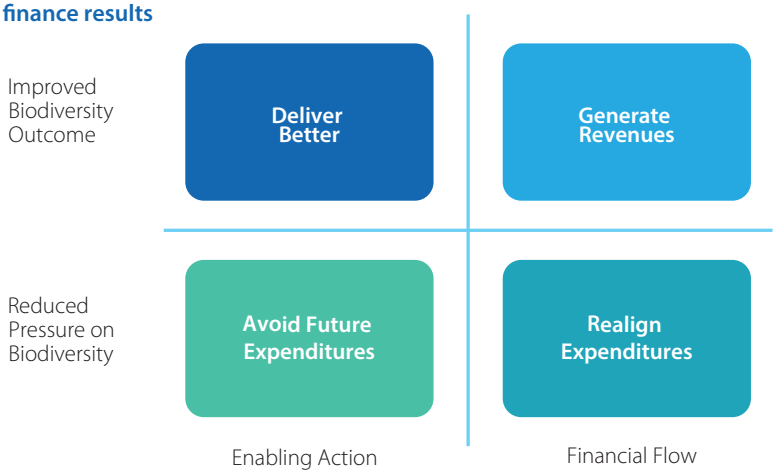
4. The Biodiversity Finance Plan is the guiding document for implementing the optimal finance solutions to reach national biodiversity targets. It uses the evidence gathered throughout the entire BIOFIN Process to prioritize the most feasible and impactful finance solutions. The Plan is a national document engaging the public sector, the private sector and civil society. It goes beyond the mobilization of additional resources to address all four finance results: deliver better, realign expenditures, generate revenues and avoid future expenditures.

5. Implementation operationalizes the finance solutions identified in the BFP. Each finance solution becomes a 'project', with targets, activities and outputs. Unlike projects with a definite completion date, the continuity of implementation is emphasized and assured through policy formulation and the establishment of permanent biodiversity finance units. This can take an extended time (5–20 years) during which the BFP is periodically updated.

Early implementation: The four analytical steps aim to culminate in a portfolio of the most appropriate and effective finance solutions for a country and finance solutions can be identified throughout the BIOFIN Process. Early implementation of select finance solutions is encouraged, with some guidance provided towards the conclusion of the PIR, BER, and FNA chapters.

The BIOFIN approach to addressing the challenges of biodiversity finance should aim to achieve at least one of these finance results which represents an improved state of awareness, capacities, and processes (enabling actions) to ensure finance flows either improve biodiversity outcomes or reduce pressure on biodiversity (Figure 1.4):

Figure 1.4: The four finance results



- **Deliver Better** means improving the effective and efficient use of available resources such as results-based budgeting
- **Generate Revenues** for biodiversity such as protected area fees or nature-positive green bonds;
- **Avoid Future Expenditures** by investing in preventative actions and discouraging damaging actions such as avoiding the integration of invasive alien species or improving nature related risk reporting; and
- **Realign Expenditures** by mainstreaming biodiversity into budgets, plans and policies such as greening subsidies or implementing biodiversity-positive fiscal incentives.

The process of developing a BFP and implementing the finance solutions should lead to transformative change in the following three areas: policy, institutions and finance:

- **Policy:** Nature-positive regulatory or policy change
- **Institutions:** Institutional strengthening to support nature-positive financial and economic planning, policy, implementation and leadership
- **Finance** supporting nature-positive outcomes.

This transformative change aims to achieve overarching vision of a biodiversity-positive economy that supports people living in harmony with nature. This process is outlined in Figure 1.5.



Photo credit: UNDP Costa Rica
Costa Rica's crowdfunding campaign has led to the planting of over 250,000 trees and the restoration of 1,800 hectares of forests.



Photo credit: Gaurav Gupta
Antarctica plays a vital role in Earth's balance, but melting glaciers and shrinking ice shelves threaten its delicate ecosystem - and ours. Protecting Antarctica is protecting our future.

Figure 1.5: The BIOFIN Process

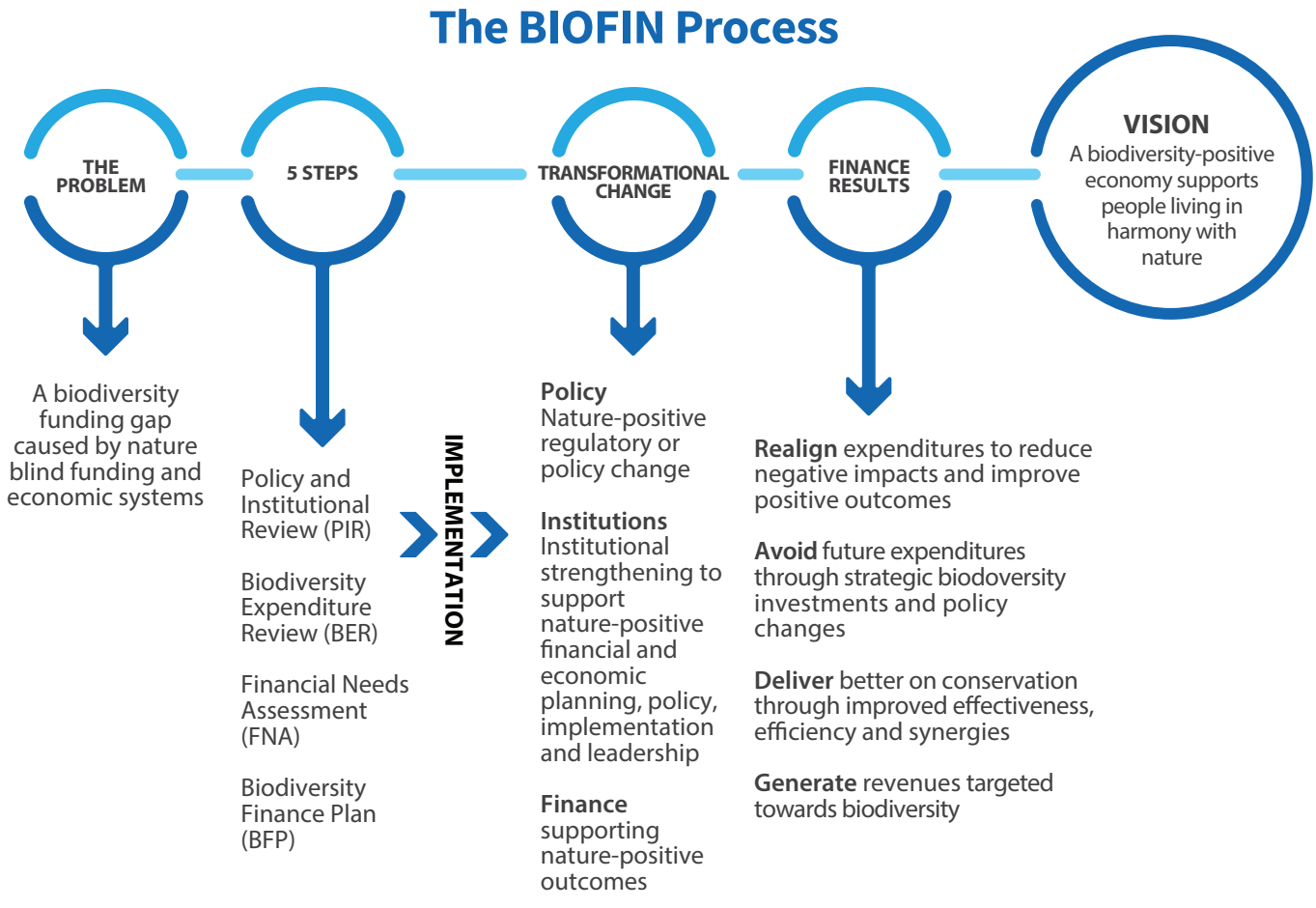
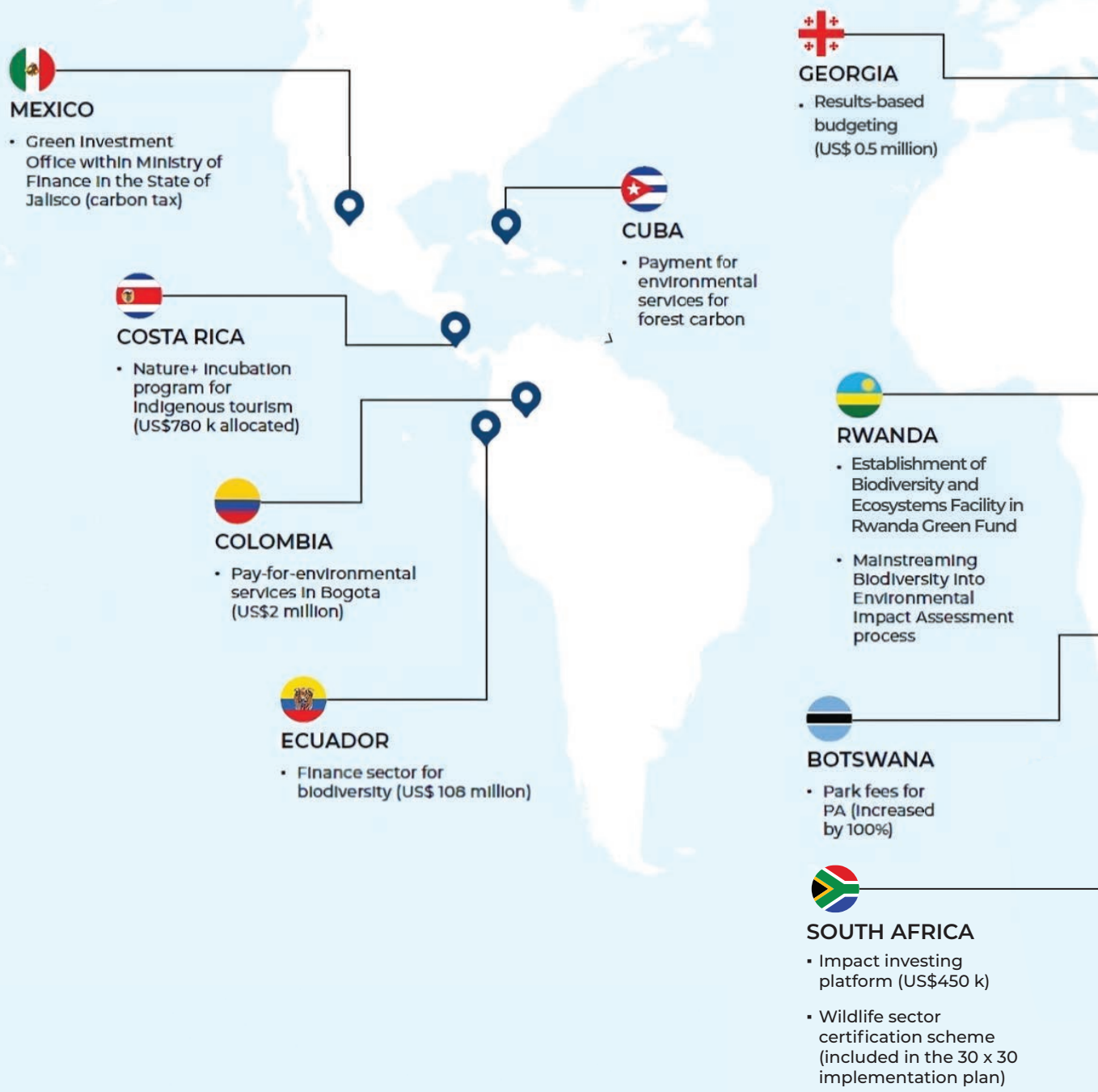


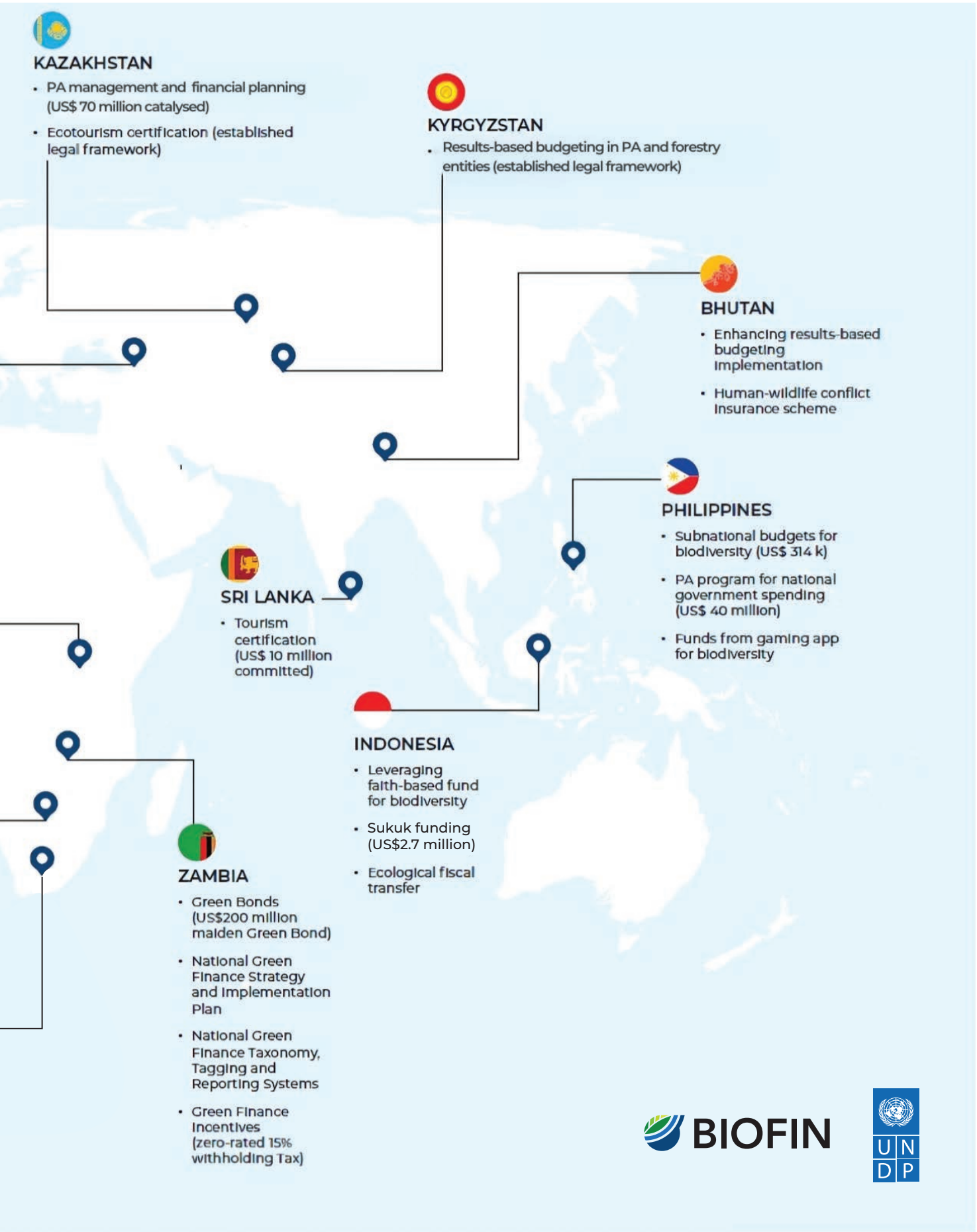


Photo credit: Marco Arlaud

BIOFIN Focus

Mapping a portion of biodiversity finance solutions




KAZAKHSTAN
• PA management and financial planning (US$ 70 million catalysed)
• Ecotourism certification (established legal framework)
KYRGYZSTAN
• Results-based budgeting in PA and forestry entities (established legal framework)
BHUTAN
• Enhancing results-based budgeting implementation
• Human-wildlife conflict insurance scheme
PHILIPPINES
• Subnational budgets for biodiversity (US$ 314 k)
• PA program for national government spending (US$ 40 million)
• Funds from gaming app for biodiversity
SRI LANKA
• Tourism certification (US$ 10 million committed)
INDONESIA
• Leveraging faith-based fund for biodiversity
• Sukuk funding (US$2.7 million)
• Ecological fiscal transfer
ZAMBIA
• Green Bonds (US$200 million maiden Green Bond)
• National Green Finance Strategy and Implementation Plan
• National Green Finance Taxonomy, Tagging and Reporting Systems
• Green Finance Incentives (zero-rated 15% withholding Tax)
BIOFIN
UNDP

BOX 1.3: Evolution of the BIOFIN methodology

More than ten years ago, UNDP BIOFIN set out to pilot a methodology for developing and implementing biodiversity finance plans in a small number of countries. A global programme has grown out of this work, with over 40 countries having completed or developing Biodiversity Finance Plans (BFPs). The BIOFIN BFP methodology, consisting of four components, has been tested, refined and developed in depth over this time. This Workbook is the fourth iteration of the BIOFIN methodology, building on experience from across the BIOFIN community.

2010

BIOFIN was developed in response to the 10th CBD Conference of the Parties (COP-10) of the Convention on Biological Diversity (CBD), which identified the need for better information on past expenditures and future financing needs, and for a comprehensive methodology to develop sound finance strategies to significantly reduce financial needs in the future.

BIOFIN

2012

BIOFIN (Phase 1) was launched at CBD COP-11 in India as a bottom-up approach. The initiative started with an initial grant from the EU, and to date has received additional financial support from Germany, Sweden, Norway, Switzerland and Flanders.

This project is co-funded by the European Union

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Norwegian Ministry of Foreign Affairs

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation
Federal Office for the Environment FOEN

Flanders
State of the Art

2014

BIOFIN launched the first fully developed version of the Workbook to start implementation in 12 countries. The initiative grew exponentially to reach 30 countries by 2015 and 35 in 2018.



2016

Based on lessons from implementation, BIOFIN launched the 2016 Workbook at CBD COP 13 (Mexico). It outlined for the first time the theoretical framework, articulating 4 types of finance results and providing a new method to identify and prioritize finance solutions in the Biodiversity Finance Plan. Launch of the CBD BIOFIN Regional Nodes Platform.



2018

Marks the end of BIOFIN Phase I and the start of BIOFIN Phase II, shifting the focus from methodology development to implementation of national Biodiversity Finance Plans and individual finance solutions while additional countries can also start the process from the beginning.

Phase 2

2018 BIOFIN Workbook was launched



2024

BIOFIN continues to be implemented in 41 countries and starts a new phase of expansion where UNDP, funded by the GEF, supports 91 additional countries to develop national biodiversity finance plans. BIOFIN has also received additional support from Canada, the UK, France, Belgium, and GEF

In partnership with Canada

Department for Environment Food & Rural Affairs

Ministère de l'Europe et des Affaires étrangères
Liberté
Égalité
Fraternité

Belgium
partner in development

gef global environment facility
INVESTING IN OUR PLANET

BIOFIN resources are available on the BIOFIN website: **www.biofin.org**

1.6. How to use this Workbook

The BIOFIN Workbook provides technical guidance, describing all steps of the BIOFIN Process in a country. Although it was designed primarily to support countries that have embarked on a complete implementation of the BIOFIN Process with outside financing and technical support from UNDP, any country can implement some or all the suggested steps. The methodology can be and has been effectively replicated at the subnational level.

Chapter 2 outlines how best to set up a BIOFIN programme at the country level. Chapter 3 describes the steps for developing the Policy and Institutional BER. Chapter 4 describes the steps for developing the BER. Chapter 5 describes the steps for developing the Financial Needs Assessment. Chapter 6 describes the steps for developing a BFP. Finally, Chapter 7 sets out a pathway for guideline implementation of the BFP.

This chapter shifts the focus to the implementation of individual finance solutions, to help promote institutionalisation of biodiversity finance functions in countries, and ensure adequate safeguards and sound M&E frameworks.

BIOFIN countries have begun implementing a vast range of finance solutions, from legislative change to fintech to crowdfunding, and many lessons have already been learned. These are shared in this Workbook, with examples of county experiences and achievements throughout the publication.

Figure 1.6: BIOFIN Journey: Costa Rica

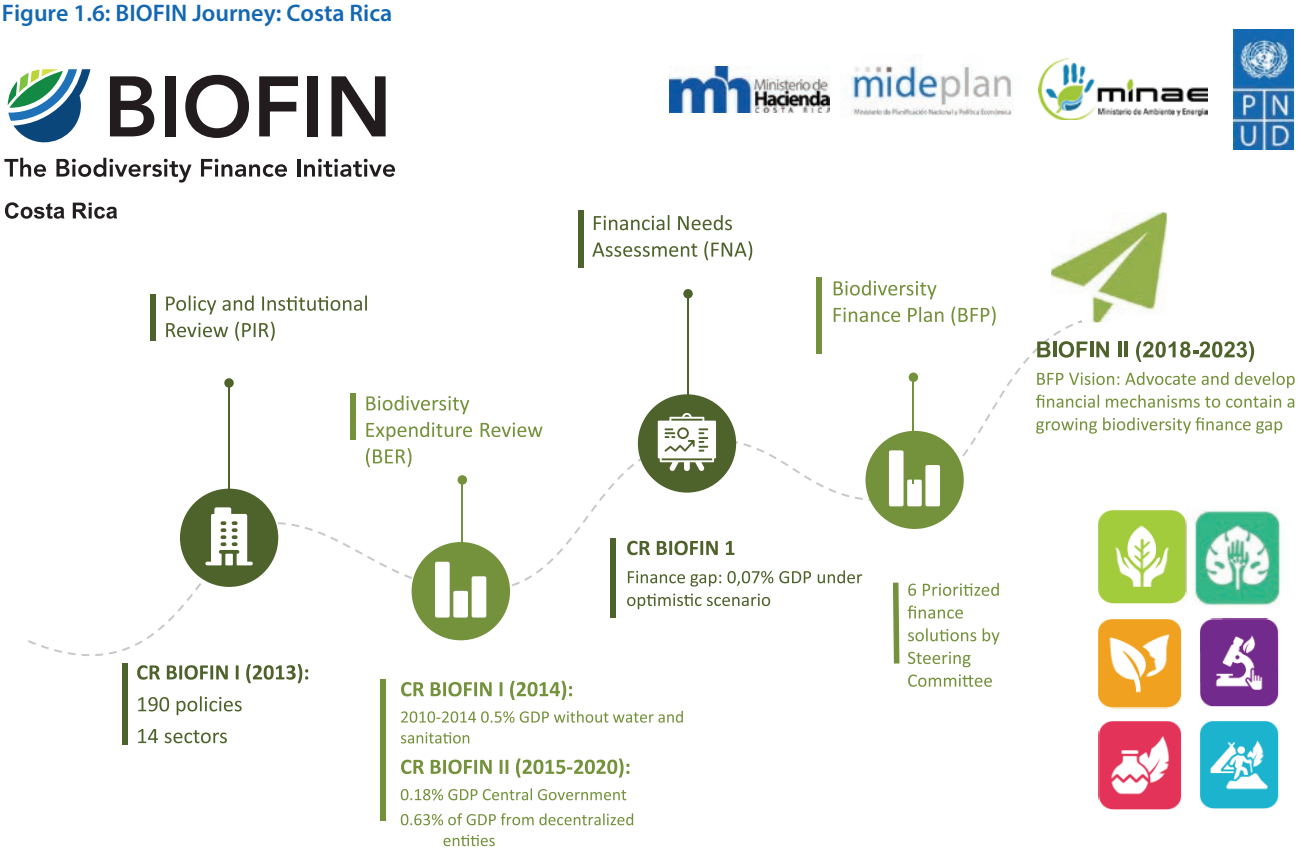
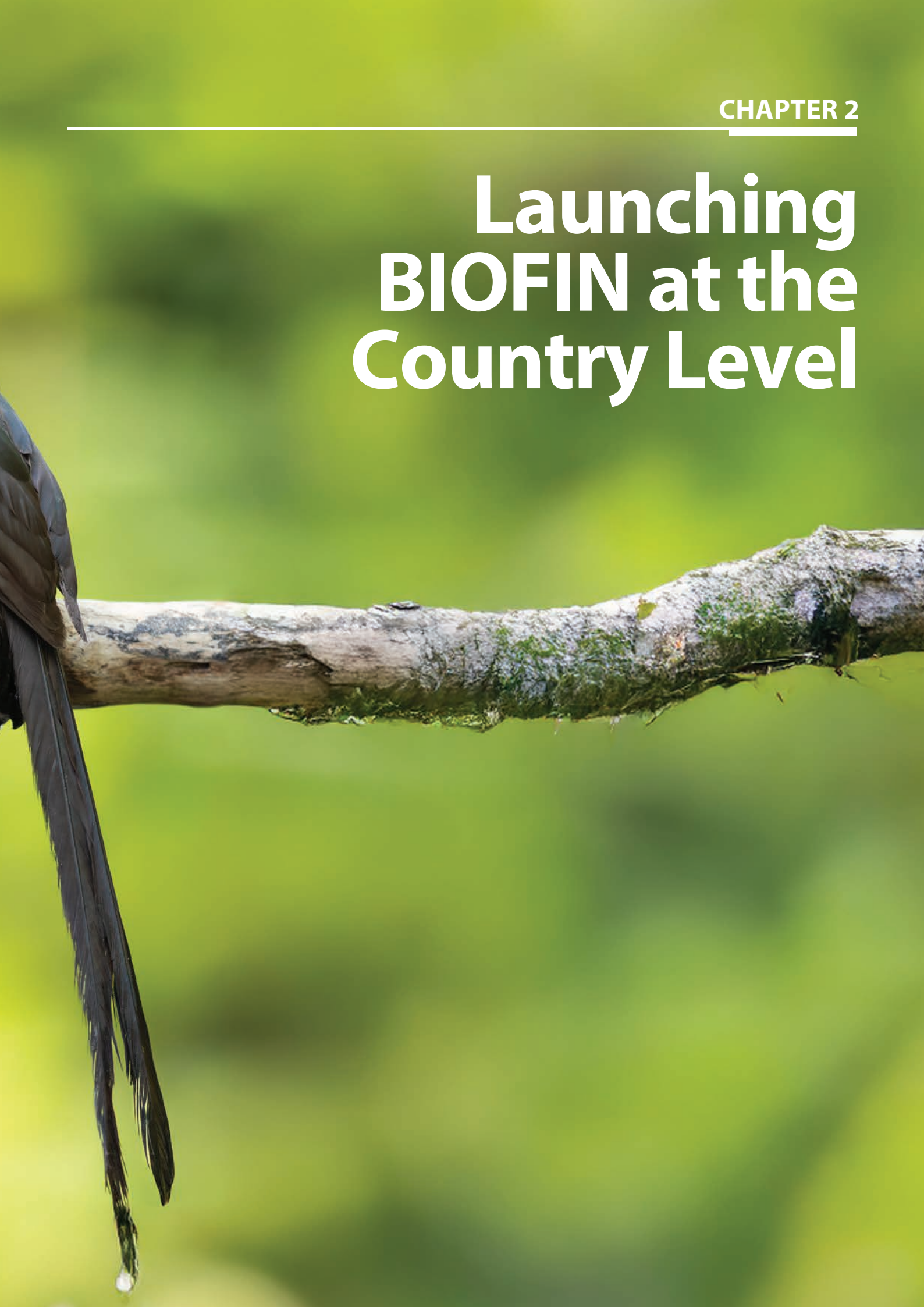




Photo credit: Mahtab Haider
The Racket-tailed Treepie is endemic to East Asia and is an open lowlands species. Thailand - where this photo was taken - is a BIOFIN member that's pioneering financial solutions such as payment for ecosystem services and repurposing harmful subsidies.

CHAPTER 2

Launching BIOFIN at the Country Level



2.1. Introduction



Photo credit: Gaurav Gupta
Since 2012, BIOFIN has helped 41 countries unlock $1 billion in public and private financing for nature conservation and biodiversity.

BIOFIN offers a comprehensive and stepwise methodology to design and implement context driven and ambitious BFPs. The methodology has been tested in more than 40 countries as of 2024 and was improved regularly since 2014. BIOFIN is typically implemented at a country level as a national programme, although some countries have developed sub-national biodiversity finance plans.

This chapter focuses on applying the BIOFIN approach in a national context, engaging with different stakeholders, setting up the national BIOFIN team, establishing the BIOFIN coordination and management framework, initiating the inception phase of the programme, and scoping for gender and biodiversity finance.

2.1.1 Objectives

This chapter seeks to:

1. Explain the BIOFIN Process.
2. Describe how to establish it in a country.
3. Provide guidance on stakeholder engagement and advocacy.

The BIOFIN journey requires enabling conditions at a country level:

POLITICAL WILL
Confirmed support from the highest governmental levels.

COLLABORATION
Evidence of willingness across agencies, ministries, and sectors to start a collaborative journey.

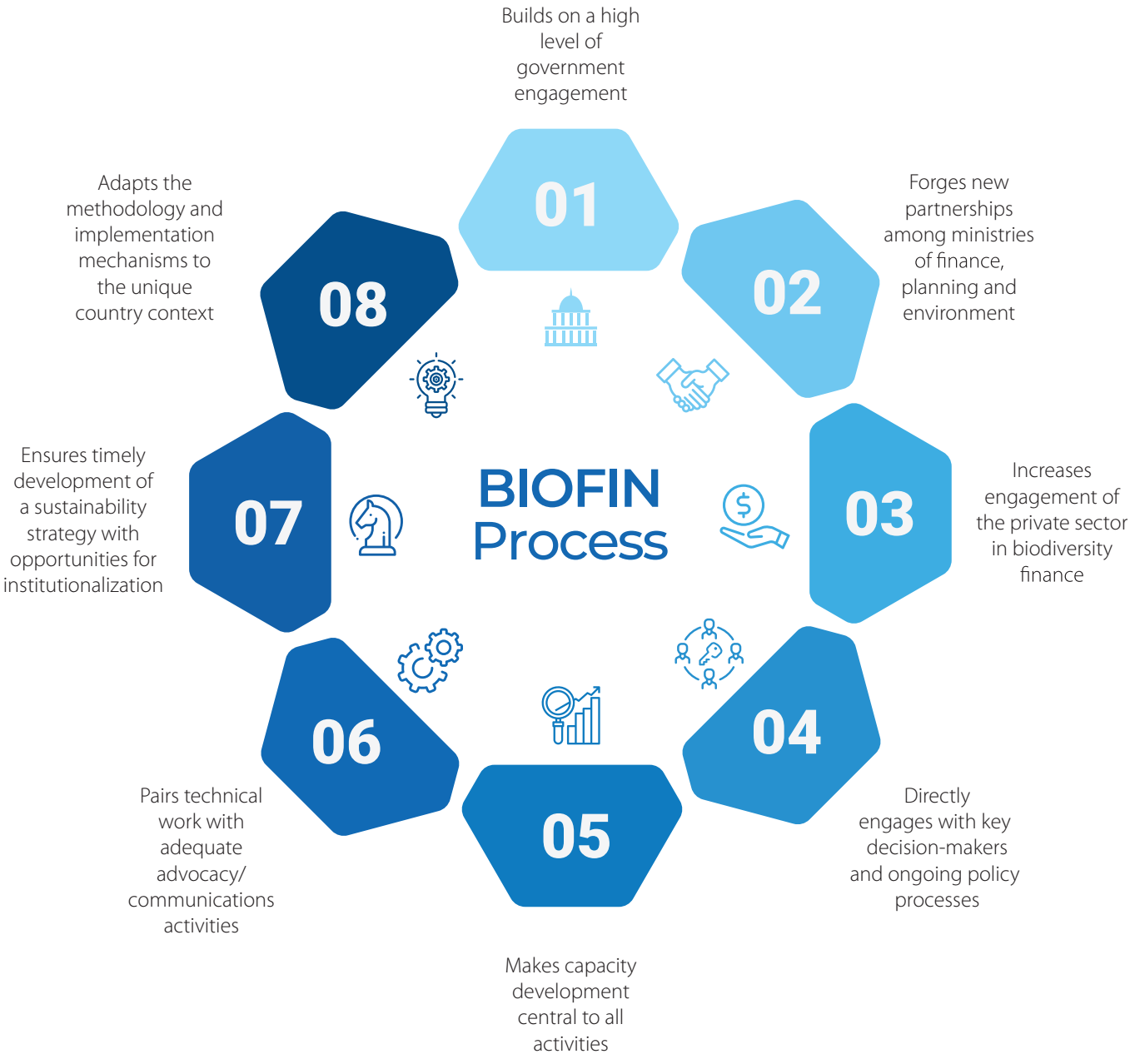
OPENNESS TO THE APPROACH
Willingness to consider budgetary and management changes and to make financial data accessible during the BIOFIN journey, which must in turn respect sensitivities.

CAPACITY
Availability of essential capacity to undertake the technical work.

Additional principles drawn from lessons learned in applying the BIOFIN Process and implementation of finance solutions are as follows:

- **Flexible:** The BIOFIN methodology and results are intended to be flexible to the needs and objectives of national stakeholders and the country's context.
- **Evidence-driven:** The selection, design and implementation of finance solutions are based on sound evidence.
- **Inclusiveness:** Prioritization and decision-making are informed by in-depth consultation with a wide group of stakeholders and facilitated by a strong focus on capacity building.
- **Leaving no one behind:** The needs of the poorest and most vulnerable members of society are carefully taken into consideration, by providing solutions that help to alleviate poverty, providing biodiversity-related opportunities for local and indigenous communities.
- **Gender-sensitive:** Gender-positive processes and impacts should be promoted, and the potential impacts should be considered from a gender perspective and mitigated.
- **Openness and transparency of data:** Disclosure of expenditure and investment data leads to efficiency and effectiveness gains, and can enhance citizens' participation. It should be pointed out that BIOFIN and UNDP fully respect the rights of privacy, confidentiality clauses and the sovereignty of public data.

Figure 2.1: Eight pillars of a transformational BIOFIN Process



2.1.2 Engagement with national stakeholders

Biodiversity finance relates to a large universe of stakeholders, ranging from international development banks and organizations, to national and subnational governments, central banks and other national enterprises, as well as local communities, Indigenous Peoples, women and youth in key biodiversity areas.

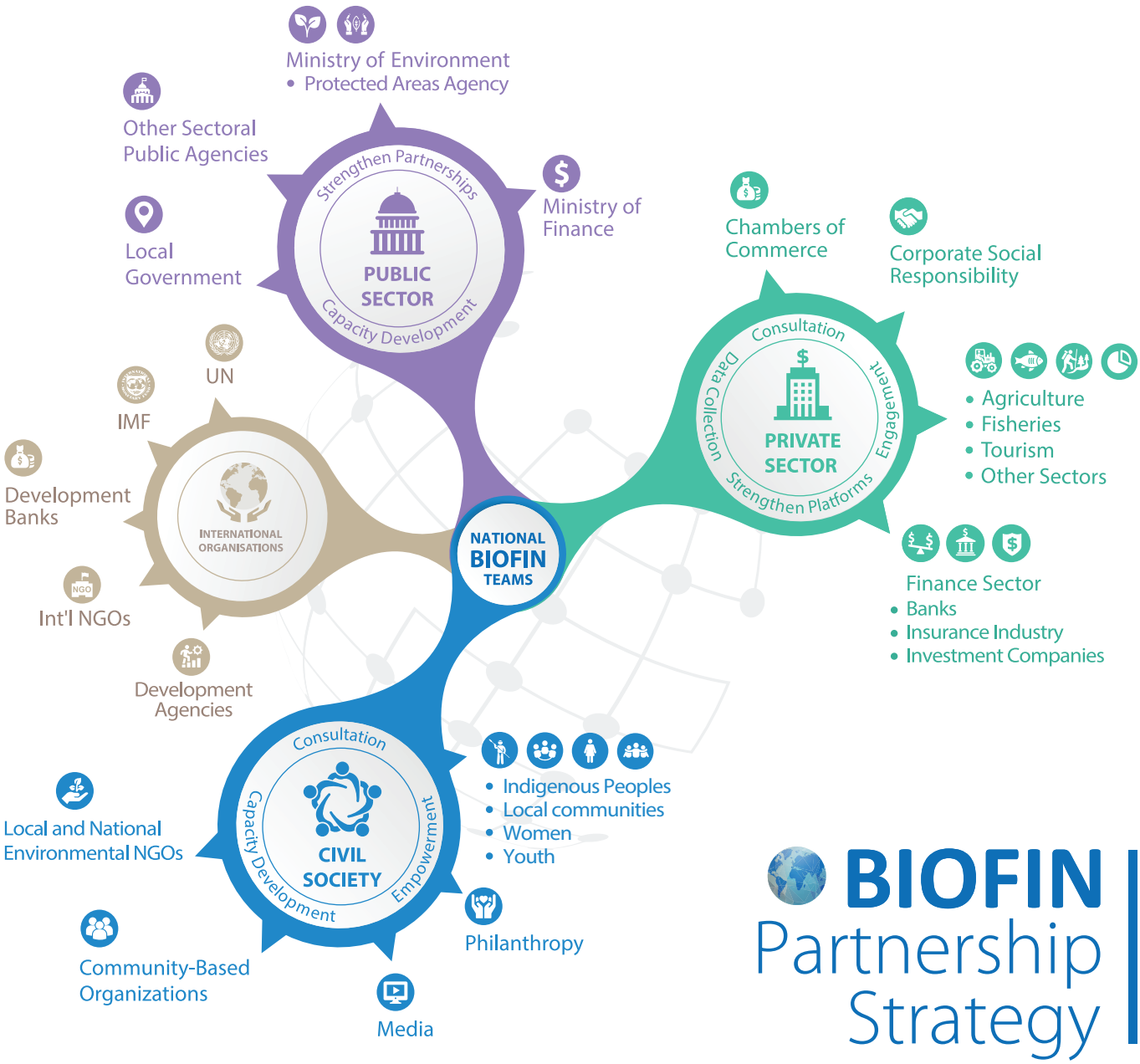
Engaging these actors helps to:

- Build a **shared understanding and vision** among all these key stakeholders;
- Understand **capacity** gaps and respond accordingly;
- **Coordinate** all related initiatives and lead technical debates.

BIOFIN country programmes build on four primary engagement axes (Figure 2.2). The first axis connects environmental, finance ministries and other relevant public entities to improve institutional cooperation.

The second engages the private sector to identify opportunities for investments with positive conservation benefits and the reduction of harmful practices. The third axis represents civil society to provide community level perspectives in the biodiversity finance process and who may play vital roles therein. The fourth axis represents international organizations including conservation non-governmental organizations (NGOs), development banks, the United Nations and philantrophic organizations. The following section discusses how to engage the stakeholders in the process. The Policy and Institutional Review in Chapter 3 provides more detailed guidance on scanning a country's biodiversity institutional landscape.

Figure 2.2 The BIOFIN partnerships strategy at the national level



BOX 2.1: Navigating the political economy

BIOFIN teams need to be highly aware of issues pertaining to the political economy of each finance solution, especially concerning areas related to vested interests, such as reforming harmful subsidies or introducing new taxes. The Organisation of Economic Co-operation and Development (OECD) analysis highlights the importance of exploiting time-bound windows of opportunity, for example, in relation to popular news or a national crisis, or when a new government takes office. Other strategies to engage with a country's political economy include:

- Carrying out initial impact analysis of any proposed changes;
- Holding validation meetings with relevant stakeholders;
- Assessing political opportunities for action;
- Designing programmes to support vulnerable groups during a transition period;
- Forging alliances between parliaments, government members, non-governmental organisations and biodiversity groups to form a broad coalition;
- Developing an advocacy and communication strategy, and basing campaigns on robust data and evidence;
- Developing a strategy to address vested interests; and
- Building broad and durable support.

Source: The Political Economy of Biodiversity Policy Reform (OECD, 2017) and The Nature of Subsidies (UNDP-BIOFIN, 2024)

2.1.3 **The public sector:** Promotion of partnerships between conservation and finance actors

Many ministries and government agencies play a role in either harming or protecting biodiversity, and yet conservation is often seen as a sectoral issue, i.e. under the responsibility of the ministry of the environment alone. This situation needs to be overcome through a better understanding of the role of biodiversity across government and identifying options for closer cooperation; the direct engagement of the respective ministry of finance is critical to achieve this. The following possible actions may be:

- Establishing joint leadership of BIOFIN between ministries of finance and the environment;
- Strengthening the capacity of ministries of finance and the environment on matters related to financing instruments and biodiversity, respectively; and
- Improving coordination frameworks by expanding mandates to work on biodiversity finance.

Countries have demonstrated that multiple public agencies can effectively lead the BIOFIN Process, for example, the Ministry of Finance in Indonesia, the Gross National Happiness Commission in Bhutan, Ministry of Sustainable Development, Climate Change, and Disaster Risk Management (MSDCCDRM) in Belize, and the Economic Planning Unit in Malaysia.



Photo credit: Gaurav Gupta
Rhinos are poached for their horns, used in traditional medicine. Conservation efforts include supporting wildlife rangers, employing advanced technology to combat poaching, and reintroducing rhinos to their former habitats.

Champions of change

Specific individuals can play a catalytic role in policy processes, acting as true agents of change. They are often senior government or visionary entrepreneurs, but they can also be influential media personalities, civil society leaders or scientists. Decision-makers such as these champions of change should be involved in the BIOFIN Process from an early stage. Only decision-makers can push for draft laws to be approved, budget proposals to be presented to the ministry of finance, or a company's investment to be made. Decision-makers' engagement also enables better alignment of ideas with current priorities and builds political and societal support required for reforms and innovations.



Congresswoman Josephine Ramirez-Sato facilitated the approval of the Expanded National Protected Areas System (E-NIPAS) law for the Philippines, which increased the number of legislated protected areas from 13 to 107. As a result, new protected areas will be eligible to access public funding in an amount that has been estimated at between $1 million and $10 million per year. As a BIOFIN Champion, Congresswoman Sato continues to support tamaraw conservation within congressional fora as well as site-level work in the province of Occidental Mindoro through the Together for Tamaraws crowdfunding campaign.



Doris Ríos Ríos, Vice-President of the National Indigenous Board of Costa Rica (MNICR), is a Cabécar community leader from the China Kichá indigenous territory and was recognized in 2023 with the International Women of Courage Award by the United Stated Department of State.

Ms. Ríos and the MNICR have been pivotal strategic partners in initiatives supported by BIOFIN in Costa Rica, aimed at consolidating sustainable tourism with indigenous identity. The MNICR involvement in the creation and piloting of the RAICES Program has facilitated the adaptation of innovative tools and the development of business models that align with the indigenous vision and community principles of well-being for both people and Mother Earth.



Sergio Graf Montero, former Minister of Environment in the State of Jalisco in Mexico, emerged as a visionary pioneer by working with UNDP to implement the BIOFIN methodology at the subnational level. During his tenure, he oversaw the meticulous design of Jalisco's Biodiversity Finance Plan and established the first-ever Green Investment Office within the Ministry of Finance. He led the formulation of mainstreaming strategies that seamlessly integrated biodiversity into the State's tourism and agriculture sectors, including a zero-deforestation strategy for livestock in priority conservation areas. Mr. Graf Montero has also played a pivotal role in establishing inter-municipal councils, a transformative governance mechanism revitalizing environmental territorial planning in Jalisco. Through tireless efforts, he has facilitated the integration of policy and financial instruments at the local government level, paving the way for a more sustainable future.



Mutumboi Mundia is a pivotal figure in Zambia's biodiversity finance landscape and capital market development. She served as Director of Market Supervision and Development at the Securities and Exchange Commission (SEC), where she led transformative initiatives to enhance Zambia's capital markets.

Ms. Mutumboi was crucial in drafting, finalizing and gazetting Zambia's green bond guidelines supported by BIOFIN within a record one year. She also successfully lobbied for incentives for green bonds and continues to be a key ally and leader in the Mainstreaming Green Finance Working Group. Her contributions make her a true champion of change in Zambia's biodiversity finance and broader capital markets, which align with the country's aspirations as outlined in the Eighth National Development Plan.

2.1.4 Businesses and financial institutions: Innovate and build new alliances

There is increasing recognition that our economies and financial systems are deeply embedded in nature. The World Economic Forum estimates that over half of the world global GDP, namely $44 trillion of economic value generation, is moderately or highly dependent on nature.[1]

It is becoming clear that investing in nature could unlock economic opportunities – up to $10 trillion in business value by 2030 only within the economic systems most responsible for nature loss (food, infrastructure, energy and extractives).[2] Momentum is increasing across businesses and financial institutions, which are starting to realize that their activities and investments are dependent on nature.

A report by Deloitte based on a target survey and select interviews of 20 global institutions and services showed that they agree on their industry's central role in reducing biodiversity loss and creating natural capital markets.[3] The participation of businesses and financial institutions also grew in international negotiations on biodiversity, with more than 330 companies and investors actively present at the negotiations of Conference of the Parties (COP) 15 in December 2022.

Engagement of businesses and finance institutions in the BIOFIN Process is important to fully consider the nature-related risks to and opportunities for the private sector, as well as what institutional barriers that need to be addressed to unlock private sector financing for biodiversity.

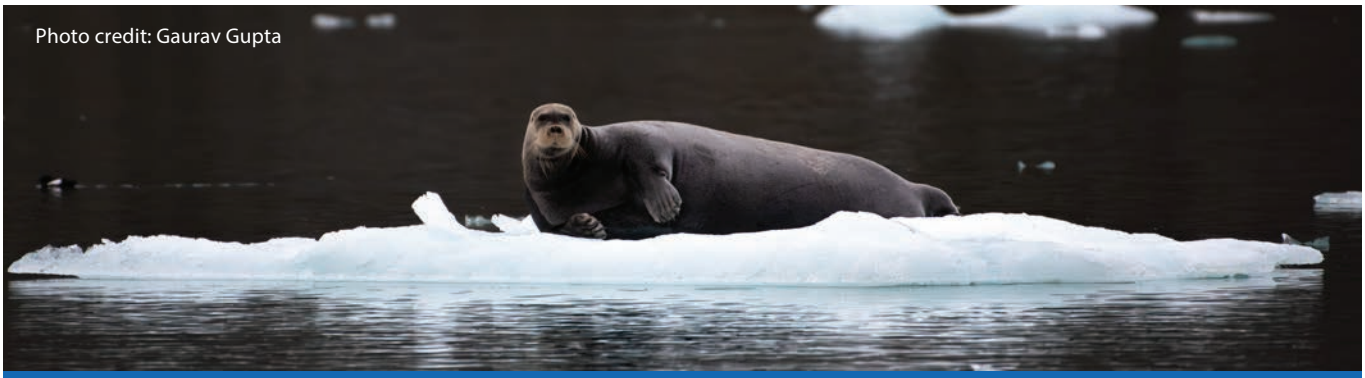


Photo credit: Gaurav Gupta

Box 2.2: Who are businesses and financial institutions?

This Workbook uses the term 'businesses and financial institutions' to define a wide range of market participants and market enablers, both public and private, as follows:

- **Corporations** including multinational companies and large domestic companies impacting biodiversity in agriculture, fisheries, tourism, forestry, etc.;
- **Micro, small and medium enterprises (MSMEs)** and farmers or groups of farmers in agriculture, fisheries, tourism, forestry etc.;
- **Private financial institutions** that provide loans, investments and insurance products, including both asset owners (banks, investment funds, pension plans, insurance companies, foundations, endowments, family offices and individual investors) and asset managers (mutual fund managers, investment advisors, alternative investment managers, financial advisors, wealth managers, and stockbrokers);[a]
- **International finance institutions (IFIs),** including multilateral development banks, regional development banks and bilateral development banks;
- **Financial regulators and supervisory agencies,** including central banks, Securities and Exchange Commissions, Financial Supervision Authorities, etc., which have the role of overseeing financial markets and companies in their respective jurisdictions;
- **Business alliances and other organizations** representing the business sector such as Chambers of Commerce and Industry, and their working groups, business associations, etc.;
- **Market service providers,** as consulting firms and data providers;
- **State-owned enterprises,** i.e. either wholly or partially owned by a government and that engage in commercial activities as part of an open market system; and
- **Private landowners** who own conservation areas or other areas of relevance.

[a] NEP FI, & UNDP BIOFIN. (2023). Engaging private finance in the NBSAP review and implementation: Sign-posts for policy-makers. www.biofin.org/sites/default/files/content/publications/Engaging-private-finance-in-the-NBSAP-review-1.pdf

[1] World Economic Forum. (2020). New Nature Economy Report 2020. www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf

[2] World Economic Forum. (2020). New nature economy report II: The future of nature and business. www.weforum.org/reports/new-nature-economy-report-ii-the-future-of-nature-and-business

[3] Deloitte. (2022). Banking on natural capital. www2.deloitte.com/content/dam/Deloitte/nz/Documents/about-deloitte/deloitte-nz-about-banking-natural-capital-report.pdf

The Kunming-Montreal GBF now explicitly incorporates actions that focus on business and financial institutions. In particular, Target 15 calls for:

"Taking legal, administrative or policy measures to enable business and financial institutions to: a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity; b) Provide information needed to consumers to promote sustainable consumption patterns; c) Report on compliance with access and benefit-sharing regulations and measures, as applicable; in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of producztion".[4]

In addition, Target 19 also calls for increasing the level of financial resources from all sources, including by *"leveraging private finance, promoting blended finance, implementing strategies for raising new and additional resources, and encouraging the private sector to invest in biodiversity, including through impact funds and other instruments"*.

Disclosure of biodiversity-related risks and impacts

The increased awareness across business and financial institutions led to the development of new frameworks and data tools to evaluate biodiversity risks and impacts. In 2023, the Taskforce for Nature Financial Disclosure (TNFD) released its final framework in order to identify, assess, respond to and disclose -related risks, impacts, dependencies and opportunities of businesses and financial institutions. The aim was to support a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes.[3] During its development, the framework has been piloted by numerous financial institutions, which showed that with concrete guidance and capacity building, it is possible to start taking concrete steps on nature-related disclosures.[5]

Other standards, frameworks and assessments for nature continue to emerge, including but not limited to the Science-Based Target Network (SBTN) Guidance, the Partnership for Biodiversity Accounting Financials for the Financial Industry, the International Sustainability Standards Board IFRS S1 and IFRS S2 sustainability-related disclosures standards, the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) Task Force "Biodiversity Loss and Nature-related Risks" Framework, and the Natural Capital Coalition Protocol.

Some BIOFIN countries have already investigated the current capacities and institutional processes related to nature financial disclosure at the country level.[6] Findings highlighted the need to build national capacities of financial institutions and regulators to be able to define risks in the national context; put in place institutional protocols for collecting and collating data; and integrate biodiversity into existing climate disclosure frameworks. In some countries, central banks are pioneering the change by starting to develop assessments of their assets' dependencies on nature, similarly to a pioneering study by the Banque de France,x as well as similarly by the central banks of Netherlands, Malaysia, Mexico, Brazil, South Africaxv and Philippines. On the regulatory side, at the European level, regulations and tools for biodiversity expenditure reporting, harmonization and standards, and data availability are being developed (e.g. EU Taxonomy, the Non-Financial Reporting Directive, and the Sustainable Finance Disclosure Regulation), and could be leveraged as models to scale across new geographies.



Photo credit: Gaurav Gupta
Between 1970 and 2020, wildlife populations declined by 73%, according to WWF's Living Planet Report.

[4] Secretariat of the Convention on Biological Diversity. (n.d.-b). 2030 Targets (with Guidance Notes). www.cbd.int/gbf/targets

[5] Taskforce on Nature-related Financial Disclosures. (2023). Recommendations of the Taskforce on Nature-related Financial Disclosures. https://tnfd.global/publication/recommendations-of-the-taskforce-on-nature-related-financial-disclosures

[6] Goedicke, R. et al. (2023). Unboxing Nature-related Risks Insights from the UNEP FI-led TNFD Piloting Programme. UNEP FI. www.unepfi.org/wordpress/wp-content/uploads/2023/04/Unboxing-Nature-related-Risks.pdf

Box 2.3: Assessment of the institutional, policy, market and regulatory readiness for disclosure of nature-related finance and risks: A case study prepared by the Philippines

The Philippines was one of the countries that completed an assessment of the institutional, policy, market and regulatory readiness for the disclosure of nature-related finance and risks.[a] The study shows that the Philippine Financial System holds substantial assets amounting to 125 percent of GDP, where a large part (94 percent) is controlled by banks. The larger banks lend more to the capital-intensive sectors, whereas the smaller banks lend to agriculture and retail consumers, mostly micro, small and medium-sized enterprises (MSMEs). Regardless of size, bank portfolios are exposed to climate and nature risks. A materiality assessment of lending to bank-relevant sectors shows that 47 percent of outstanding loans depend on nature and are vulnerable to nature-related risks. These are in the sectors of agriculture, real estate, construction and infrastructure, water and power (see table below).

Regulatory disclosures on sustainability reporting and environmental and social risk management systems are found in Securities and Exchange Commission (SEC) issuances for publicly listed companies (PLCs) (SEC MC 2016-19) and Bangko Sentral ng Pilipinas *(Central Bank of the Philippines)* issuances for banks (BSP MC 1085, 1128, 1149).

The SEC 2019-4 was released in 2019, which explicitly references existing disclosure standards and frameworks such as International Sustainability Standards Board (ISSB) and the Task Force on Climate-related *Financial Disclosures*. Sustainability reporting is regulatory-driven, as shown by a high 90–95 percent compliance rate, a year after the SEC reporting guidelines were developed. However, few companies report on physical and transition risks from nature and climate change. This points to the need for a policy mandating reporting on material indicators, otherwise publicly listed companies will likely cherry-pick what to report. Some entry points identified include the use of digital information to track nature risks and elaborate on existing Central Bank policies by having banks review the environmental impact assessment reports submitted by borrowers to assess nature impacts and dependencies. Ensuring the market-adoption of nature-related financial disclosures will entail capacity building of corporates, financial institutions and financial regulators on assessing nature-related risks, dependencies, impacts and opportunities. Raising awareness and conduct training among businesses associations' members regarding financial and non-financial reporting of climate and biodiversity topics will be essential. The institutional arrangement for nature-related disclosure will likely build on the present ecosystem for sustainability reporting, with the SEC and BSP circulars providing an enabling framework to jumpstart the process.

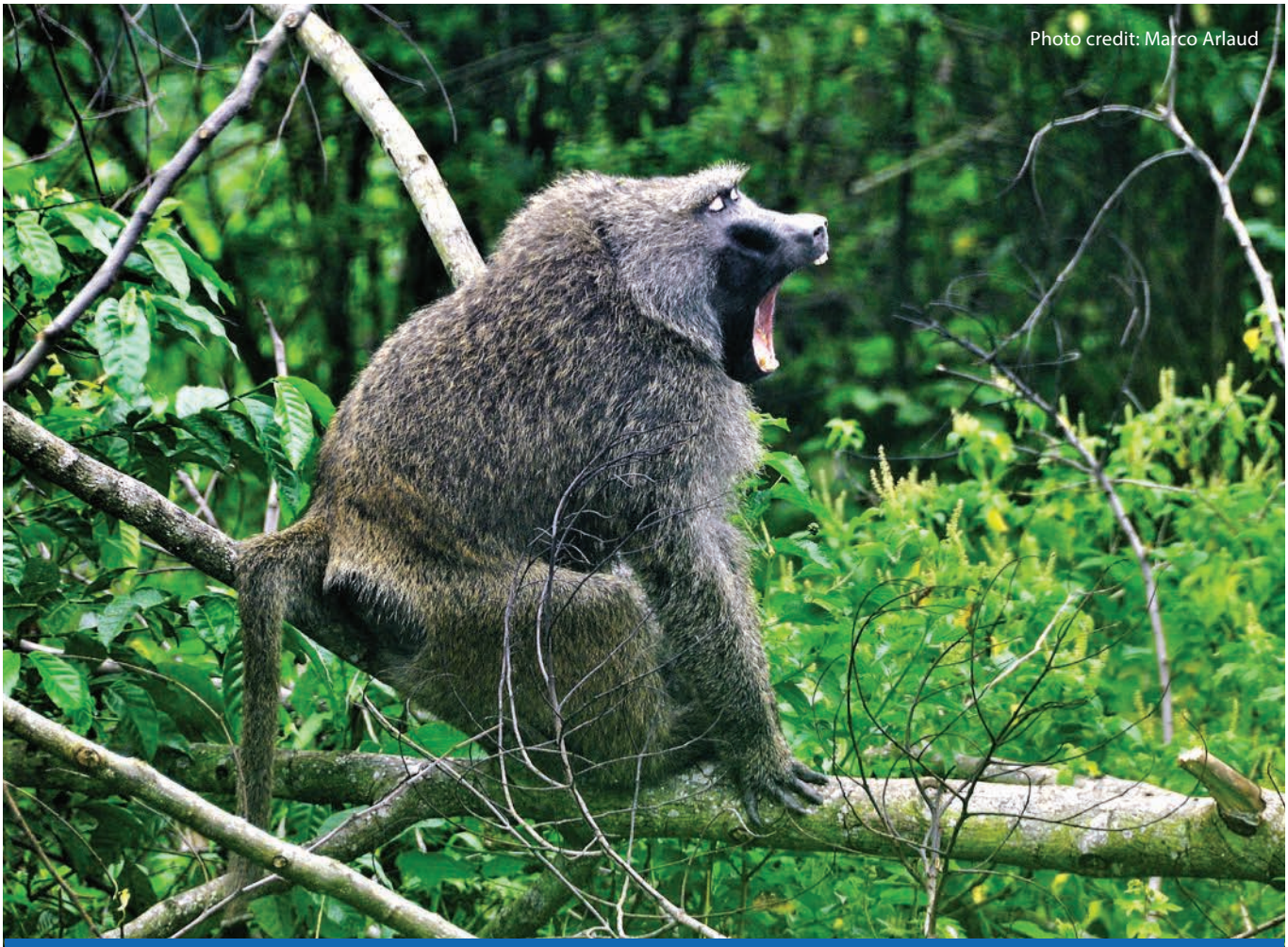
Table 2.1: Impacts and dependencies of bank-relevant sectors in the Philippines

LEGEND: HIGHLY MATERIAL MODERATELY MATERIAL

		DIRECT IMPACTS				
Total Loans Outstanding by SECTOR, Aug 2022	%SHARE	LAND / SEA USE CHANGE	RESOURCE EXPLOITATION	CLIMATE CHANGE	POLLUTION	INVASIVE SPECIES / OTHERS
Real Estate Activities	19.7%					
Wholesale and Retail Trade, Repair of Motor Vehicles	11.3%					
Manufacturing	10.6%					
Electricity, Gas, Steam and Air-Conditioning Supply	9.9%					
Construction	3.9%					
Agriculture, Forestry and Fishing	2.2%					
Water Supply, Sewerage, Waste Management and Renovation	1.2%					
Mining and Quarrying	0.4%					

		DIRECT DEPENDENCIES			
Total Loans Outstanding by SECTOR, Aug 2022	%SHARE	PHYSICAL INPUT	ENABLING PRODUCTION	MITIGATING DIRECT IMPACT	PROTECTING FROM DISRUPTION
Real Estate Activities	19.7%				
Wholesale and Retail Trade, Repair of Motor Vehicles	11.3%				
Manufacturing	10.6%				
Electricity, Gas, Steam and Air-Conditioning Supply	9.9%				
Construction	3.9%				
Agriculture, Forestry and Fishing	2.2%				
Water Supply, Sewerage, Waste Management and Renovation	1.2%				
Mining and Quarrying	0.4%				
Total Share Total TLO = Php 11.8 trillion as of August 2022	59%				

[a] BIOFIN. (2024). Technical brief: 2024. Retrieved from https://www.biofin.org/sites/default/files/content/knowledge_products/Technical-Brief-2024.pdf


Photo credit: Marco Arlaud

Box 2.4: Assessing nature-related financial risks and opportunities in Mexico

The Central Bank of Mexico (BANXICO), the national bank of one of the most biodiverse countries in the world, has started to analyse the dependencies and impacts of the Mexican banking sector on ecosystem services. Thus, it first explored the relationship between natural capital and the financial system, then the concrete exposure and possible economic risks related to biodiversity loss. The Figure 2.3 shows some of the results of the first study: the left part of the plot displays the type of exposure of bond holdings and loans to the different economic sectors (displayed in the middle), while the right side of the plot shows the different ecosystem services. The links among sectors and ecosystem services represent the dependence of the economic sector on such ecosystem services, thus demonstrating how an important share of the credit portfolio of Mexican banks is highly or very highly dependent on nature and its ecosystems, in particular on ground and surface water provision.[a]

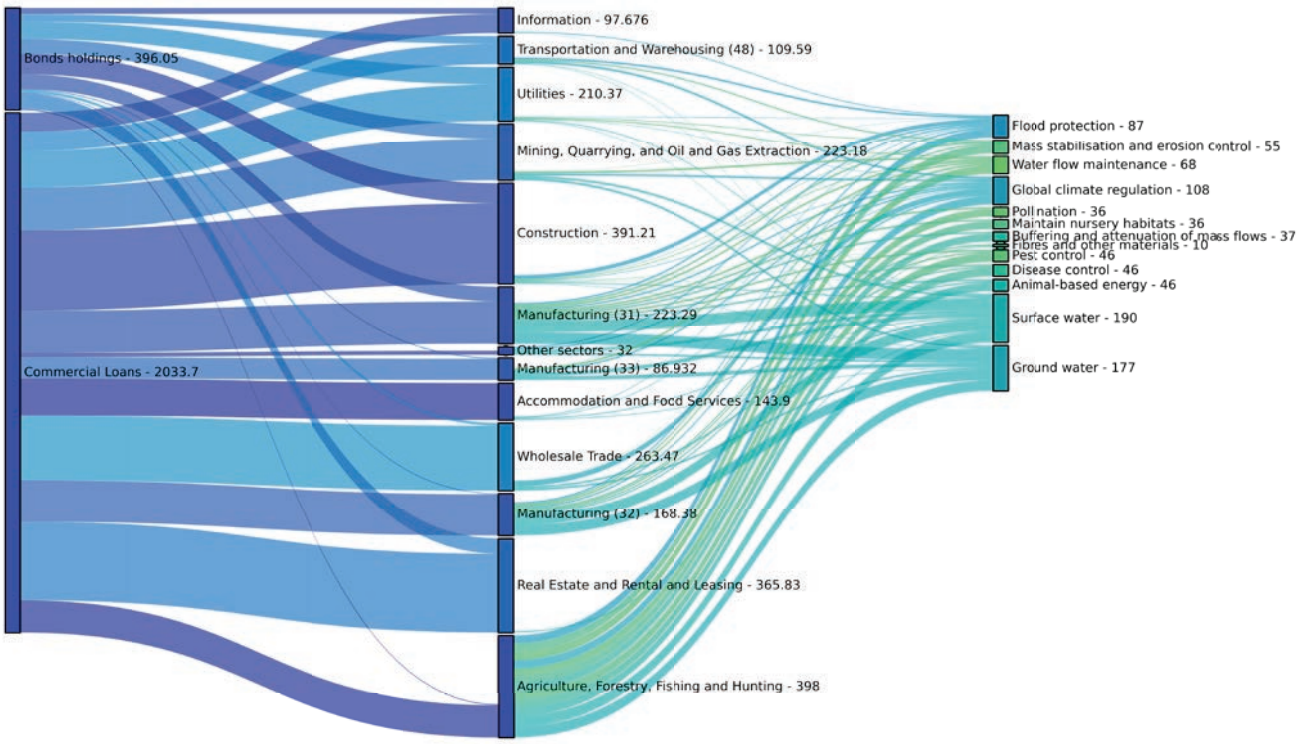
Currently, BANXICO is working with the support of the national BIOFIN team and the World Bank to expand its research to build new economic models that incorporate the possible indirect dependence and effects of the financial system on nature-loss (or nature-gain) scenarios.

Additionally, BIOFIN Mexico published a report on nature-related disclosure and its opportunities in Mexico. The report delves into the process of developing disclosures standards and relates them to how the Mexican financial sector is structured and the potential enabling conditions that could led to strengthen its position in the context of biodiversity degradation and climate change.[b]

[a] Banco de México. (2023). Sistema financiero: Informe anual. Retrieved from www.banxico.org.mx/sistema-financiero/d/%7BC0066818-3826-DF36-5673-E8009795ACD4%7D.pdf

[b] www.biofin.org/es/knowledge-product/la-divulgacion-de-la-informacion-relacionada-con-la-naturaleza-y-sus

Figure 2.4: Exposures and eco-systemic dependences of the Mexican banking sector



Mobilizing private investment in biodiversity and ecosystems

What is private investment in biodiversity and ecosystems?

According to BIOFIN,[7] private investment in biodiversity and ecosystems is: "for-profit investments aiming to result (intent) in a measurable positive impact on biodiversity and ecosystems". The achievement of a conservation impact should occur at the time of making the investment along with a commitment to measure that achievement and any other results. This definition is consistent with similar definitions by the Global Impact Investing Network (GIIN) for impact investing and Forest Trends for investments in conservation.

According to BIOFIN, the following investors are involved in unlocking specifically private capital for biodiversity and ecosystems: institutional investors, banks, multinationals, domestic firms and small and medium-sized enterprises, large endowments and faith-based organizations (see also Chapter 4).

As market and regulatory pressures for biodiversity-positive action increase, so will the demand from private sector investment in nature. Latest estimates of private and hybrid financial flows directed to biodiversity conservation range between $18.1 billion and $28.6 billion,[8] a limited amount compared to the current GBF needs. This highlights the need for BIOFIN to provide increasing support for countries across regions to structure innovative finance solutions that involve the private sector in nature-positive investments. Many of these financing instruments have historically neglected biodiversity and focused only on climate-related aspects. There will be, for example, increasing opportunities to incorporate biodiversity into debt instruments as green bonds, as recommended by World Bank guidance.[9] Blended finance instruments will also need to be expanded to de-risk investments and meet biodiversity financial needs, as is being developed in the Global Fund for Coral Reef.[10] Innovative instruments to further engage the private sector are also gaining increasing attention, such as voluntary biodiversity credits,[11] which can play a role in enabling businesses to contribute to a nature-positive economic system.[12] Increasing attention should be brought also to leverage digitalization to scale the impact of investments and develop new products involving digital innovation, such as the Fintech app for forest restoration[13] and a gaming app called Animal Town developed by BIOFIN Philippines.[14]

[7] www.biofin.org/knowledge-product/moving-mountains-unlocking-private-capital-biodiversity-and-ecosystems

[8] Morgera, E., & Razzaque, J. (2022). Biodiversity finance and transformative governance: The limitations of innovative financial instruments. In R. D. Kelemen, K. Backstrand, & E. Morgera (Eds.), Transforming biodiversity governance (pp. 255-278). Cambridge University Press. https://doi.org/10.1017/9781108914851.012

[9] International Finance Corporation. (2023). Biodiversity finance reference guide. International Finance Corporation. https://www.ifc.org/wps/wcm/connect/74307fa1-4e33-42f1-b7e4-5f0b2f240f97/biodiversity-finance-reference-guide.pdf?MOD=AJPERES&CVID=oy.Yh15

[10] Global Fund for Coral Reefs. (n.d.). Global Fund for Coral Reefs. https://globalfundcoralreefs.org

[11] Ducros, A., & Steele, P. (2022). Biocredits to finance nature and people: Emerging lessons. International Institute for Environment and Development. https://iied.org/sites/default/files/pdfs/2022-11/21216IIED.pdf

[12] In this context, UNDP has been supporting the Biodiversity Credit Alliance to provide guidance for the establishment of a credible and scalable market.

[13] Tang, M. C. (2020, December 3). Reforesting the Earth, one digital transaction at a time. Global Landscapes Forum. https://news.globallandscapesforum.org/48645/reforesting-the-earth-one-digital-transaction-at-a-time/

[14] BIOFIN. (2024, March 11). UNDP-BIOFIN launched a gaming app "Animal Town" to support biodiversity conservation. Biodiversity Finance Initiative. www.biofin.org/news-and-media/undp-biofin-launched-gaming-app-animal-town-support-biodiversity-conservation



Photo credit: UNDP Mongolia
In Mongolia, better enforcement of the law on natural resource use fees has tripled the country's environmental budget.
BIOFIN contributed to this increase by enhancing budget transparency and strengthening local capacities in environmental management.

Table 2.2: How to involve businesses and financial institutions

Policy and Institutional Review	Carry out a Nature-related Financial Disclosure Readiness Study, including the assessment of institutional, policy and regulatory readiness for the disclosure of nature-related risks and opportunities, and existing capacities of national associations of economic agents and large national businesses and financial institutions. Map the main sectors impacting biodiversity and the main stakeholders relevant for these sectors (financial institutions, corporations, and small and medium-sized enterprises, etc.). Map current finance solutions that focus on business and the finance sector. Ensure that relevant regulations are reviewed, such as any tax incentives for green businesses.
Biodiversity Expenditure Review	Collect data on how much major business and financial institutions invest in biodiversity-positive activities or spend on Corporate Social Responsibility. (see also Chapter 4).
Financial Needs Assessment	Identify actions within the National Biodiversity Strategy and Action Plan (NBSAP) that can be made investible for the private sector.
Biodiversity Finance plan	Partner with specific actors to co-design finance solutions and validate the Biodiversity Finance Plan.
Finance solutions implementation	Select a partner for the implementation of a finance solution, such as impact investment and corporate social responsibility.

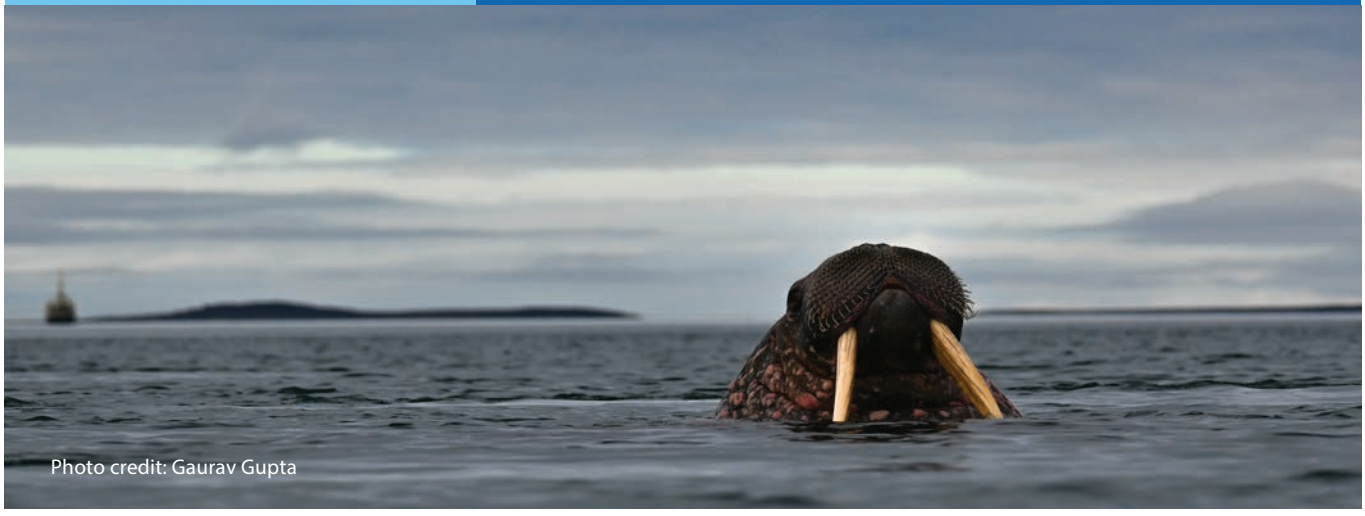


Photo credit: Gaurav Gupta

Pathways to influence change in private sector action for biodiversity and ecosystems

There are a number of approaches to creating positive change in private sector action for biodiversity and ecosystems. Finance solutions can be designed at the 'enabling level', essentially seeking to develop public policy and legislation to incentivize or mandate change in the private sector, such as implementing mandatory disclosure on nature impacts or reforming harmful subsidies. Finance solutions can be designed to directly build or grow a market, such as developing a voluntary certification scheme, building an investment platform to showcase nature-positive projects, or designing an incubator mechanism. And lastly, 'one-off' individual deals or mechanisms can be designed, such as a debt swap, a nature-positive green bond, or developing a concession deal for a public protected area (PA). Once-off mechanisms might benefit from, or first require, changes in the enabling environment. For example, developing a biodiversity taxonomy for green bonds would enable all future green bond issuances to better define and support biodiversity focusses initiatives. Similarly, a more comprehensive approach might include developing enabling conditions, supporting the market, and piloting one or two direct deals.

Broadly, three approaches to unlocking financing from the private sector could be deployed:

Legislation requiring the private sector to comply with minimum conditions: This legislation may include, for instance, zero conversion of high-conservation value areas, mandatory disclosure of nature-related impact and dependencies, fines on private sectors (possibly deployed into a conservation trust fund), corporate social responsibility (CSR) requirements, and reform of harmful subsidies.

Legislation and policies enabling market-based or voluntary incentives for biodiversity: This legislation creates financial incentives or penalties for the private sector to conserve and restore biodiversity. Examples include guarantees or interest rate subsidies (e.g. administered through a national development bank) for businesses complying with nature-positive criteria, taxes linked to dependency and impact on nature, an investment match-making platform for investors and local nature-positive businesses, and nature credits.

Other financing mechanisms: There are three other financing mechanisms that are difficult to classify into either of the two mentioned above: Debt-for-nature swaps, thematic bonds, and public-private partnerships for PA management. UNDP role in such work is often catalytic such as developing the framework for the thematic bonds. This work requires significant upfront efforts however, the benefits are reaped over the long term in terms of resources for biodiversity conservation. For example, developing a biodiversity taxonomy for green bonds would enable all future green bond issuances to better define and support biodiversi-ty-focused initiatives.



Photo credit: UNDP Costa Rica.
Raices and BIOFIN in Costa Rica support indigenous communities in launching sustainable tourism businesses. The launched start-up helped manage 800 hectares of forests



2.1.5 Civil society: Partner and empower

Many of the world's key biodiversity areas overlap with the ancestral lands of indigenous groups, while NGOs and community-based organizations manage a good number of PAs. Most of the debt-for-nature swaps were facilitated by NGOs.

Nevertheless, civil society is often and incorrectly overlooked as a key actor in biodiversity finance. Lack of participation is at times due to a lack of capacity to interact or opportunities to participate. BIOFIN should try to bridge the gaps, where possible.

Table 2.3: How to involve civil society

Policy and Institutional Review	Map key organizations at the national level.
Biodiversity Expenditure Review	Request conservation non-governmental organizations (NGOs) to provide expenditure data. Track investment with attention to double counting from funding sources and the implementing agency.
Financial Needs Assessment	Share information on planned budgets, involving NGOs/community-based organizations (CBOs) in capacity development. Involve civil society organizations in the costing of the National Biodiversity Strategy and Action Plan (NBSAP).
Biodiversity Finance Plan	Consult key civil society organizations in the development of the Biodiversity Finance Plan and selected finance solutions.
Finance solutions implementation	Carefully analyse the interest and perspectives of local communities, indigenous groups and relevant NGOs in areas where prioritized finance solutions are implemented. Empower local organizations and apply safeguards. Countries can consider capacity development for financing CBOs and NGOs as a finance solution.

2.1.6 Development partners: Find synergies

A country may have a variety of active programmes financed by development partners, from natural capital accounting to the implementation of finance solutions such as payments for ecosystem services. Particularly relevant programmes and activities to investigate are related to national development planning, public finance reform, including funding the SDGs, international conservation organizations, climate finance, economic valuation and natural capital accounting, and organizations that collect and host large amounts of data, such as Organisation of Economic Co-operation and Development (OECD) and the United Nations Statistics Division.[15]

The BIOFIN team must build synergies and formulate joint actions or even establish joint programming and implementation structures. In Kyrgyzstan, BIOFIN worked with the UN Poverty and Environment Initiative to align biodiversity and environmental expenditure review analysis.

In Namibia, BIOFIN was implemented directly by Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ).[16] Development partners, including bilateral donors, multilateral organizations and conservation NGOs, are among the most influential actors in conservation; they can provide significant financing for biodiversity in developing countries.

Moreover, BIOFIN is expected to play a lead coordination and technical role in biodiversity finance in the country. After mapping the initiatives, it may be necessary to organize periodic coordination meetings (or other coordination infrastructure) and involve all interested development partners in the finance plan formulation and implementation.

[15] www.oecd.org; https://unstats.un.org/home

[16] Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). (n.d.). Homepage. GIZ. www.giz.de/en/html/index.html

Table 2.4: How to involve development partners

Policy and Institutional Review	Gather data on biodiversity-related official development assistance (ODA) and other projects working on biodiversity finance.
Biodiversity Expenditure Review	Request data on biodiversity expenditures/investments.
Financial Needs Assessment	Request plans for future programming/investments.
Biodiversity Finance Plan	Closely involve primary investors in the design of the Biodiversity Finance Plan; this could lead and finance specific finance solutions if appropriate.
Finance solutions implementation	Encourage development partners to lead one or more finance solutions.

Key questions to screen related initiatives

1. What has been the role of development partners in the NBSAP process?
2. What activities have been undertaken, are undertaken and will be undertaken on biodiversity finance and finance solutions?
3. Which reports produced may contain useful information on the BIOFIN studies?
4. Who should be invited to the inception workshop and to other technical workshops?
5. Which organizations are suitable partners for policy and advocacy work?

Box 2.5: Biodiversity finance solution: Philanthropy

Philanthropy is derived from Greek meaning 'love for humanity', but in this context it refers to donations by private individuals for specific development goals, often through foundations that function as endowment funds (also leveraging further funds). According to an Organisation of Economic Co-operation and Development (OECD) study with over 200 organizations, private philanthropy for development was estimated $42.5 billion over 2016–2019, of which 4 percent is dedicated to the environment.[a] The actual philanthropic contributions will be significantly higher. At BIOFIN's Financial Resources (FIRE) platform,[b] a one-stop shop with different types of biodiversity funding opportunities, 71 percent of the funding opportunities are grants provided by foundations. Foundations include global players such as Oak Foundation, Goldman Environmental Prize and Mac Arthur Foundation, as well as those dedicated to certain geographies or topics, such as the Leventis Foundation for Nigeria, the Carpathians Biodiversity Conservation Foundation and the International Tree Foundation.

The essence of philanthropy is well captured in the crowdfunding campaigns launched by BIOFIN in 2020–2021 to allay the impacts of COVID-19 restrictions on tourism activities, and thereby on community livelihoods in the Philippines, Thailand, Ecuador and Costa Rica. The loss of livelihoods was considered a grave threat to biodiversity in the protected areas due to increased poaching and overexploitation of resources.

[a] Organisation for Economic Co-operation and Development (OECD). (2021). Private philanthropy for development: Data for action dashboard. OECD Publishing. https://oecd-main.shinyapps.io/philanthropy4development

[b] BIOFIN. (n.d.). Finance resources for biodiversity (FIRE). https://fire.biofin.org

Crowdfunding is a form of philanthropy where the donors are individuals, and the platforms are mainly digital. Factors influencing successful campaigns include awareness of need, solicitation, costs and benefits, altruism, reputation, psychological benefits and values.

During the Thailand crowdfunding campaign, donations would show a marked increase coinciding with days of merit-making according to the Buddhist tradition. Chapter 7, this volume and Seidl et al. (2023) provide a more detailed description of these crowdfunding campaigns.



Photo credit: UNDP Thailand
Koh Tao Island, Thailand, known for its stunning coral reefs and rich biodiversity, attracts over 500,000 tourists each year.

2.2 . The Inception Stage

After completing the scan of the biodiversity finance landscape with its key actors, BIOFIN needs to rapidly start to empower and engage national stakeholders, the very first steps of building a national coalition on biodiversity finance. This would lead to overarching coordination and management structures, framing a compelling shared vision on how to tackle the biodiversity finance challenges, and ensuring that the process becomes fully anchored in existing policy, planning cycles and institutional arrangements.

Once they have decided to embark on the BIOFIN journey, the proponents should examine the contours of the biodiversity finance landscape. Ministries of finance and environment should jointly lead this process, which should allow to respond to the following questions:

- What value could BIOFIN add to the country?
- Which are the most critical entry points to make a strong case for investing in conservation?
- How should the BIOFIN methodology be tailored to the national context?
- Who are the most critical national stakeholders to involve closely?
- What are the most optimal coordination and management structures to put in place?

These initial questions can be answered by undertaking the following actions:

- conducting a rapid screening of national strategic policies and documents;
- developing proposals for the BIOFIN management and coordination structures and team;
- organizing the first national biodiversity finance consultation; and
- completing the inception stage once an inception report is produced and agreed among BIOFIN partners and stakeholders.

Box 2.6: Bhutan's integrated approach to SDG implementation

While BIOFIN was designed for biodiversity conservation, a similar approach can be taken to align with the Sustainable Development Goals (SDGs). BIOFIN analysis and best practices reflect the importance of interlinked thematic areas such as climate change, poverty reduction and gender. BIOFIN-like exercises aiming to collect expenditures and financing needs for the SDGs can be combined or coordinated so that data collection would be streamlined and management costs reduced.

The most linear example is the contemporaneous completion of the Biodiversity Expenditure Review (BER) and the Climate Public Expenditures and Institutional Review (CPEIR), which took place in several BIOFIN countries. Follow-up work, particularly on budget tagging both on biodiversity and climate, can also be aligned. The Climate Funds Update provides an overview of climate finance for developing countries, with a focus on international and concessional public climate finance flows through the multilateral climate funds.[a]

The Royal Government of Bhutan has prioritized three SDGs: **SDG 1 (End poverty), SDG 13 (Combat Climate Change) and SDG 15 (Protect Ecosystems and Biodiversity).** This allows for a closer look at how BIOFIN could be expanded to respond to government priorities and to take into consideration, for example, SDGs 1 and 13. The Government decided to coordinate assessments for SDGs 15 (BIOFIN) and 13 (CPEIR) while mainstreaming poverty reduction considerations across both. BIOFIN Bhutan is implemented by the Gross National Happiness (Planning) Commission, the Ministry of Agriculture and Forests, the National Environment Commission, the Ministry of Finance, and other conservation partners. The original assessment team was led by Lam Dorji, former Secretary of the Ministry of Finance.



[a] Climate Funds Update. (n.d.). Climate funds update. https://climatefundsupdate.org

2.2.1. Conduct a rapid screening of the policy context

The foremost document to review is a country's National Biodiversity Strategy and Action Plan (NBSAP). In many countries, this is the only national planning document in place for biodiversity conservation, except for legislation; in others, there may be additional national strategies and plans to be considered. The NBSAP is the main basis of determining biodiversity financing needs and the response formulated in the BFP.

The review should aim to answer the following questions:

- What is the formal status of the NBSAP, for example, a formal policy or a strategic paper?
- At what level of government was the NBSAP endorsed?
- Which stakeholders were leading the exercise or have been involved?
- Does the NBSAP include a clear action plan with targets, indicators, actions and sources of finance?
- Is the NBSAP comprehensive in tackling biodiversity challenges and framing the response?

Box 2.7: The BIOFIN Process and review of the National Biodiversity Strategy and Action Plan

In some cases, a National Biodiversity Strategy and Action Plan (NBSAP) review and update might be underway while a BIOFIN programme is undertaking the analytical components. If this is the case, the BIOFIN team is encouraged to connect with the team undertaking the NBSAP revision. There are a number of ways that this can benefit both processes and end products:

- NBSAPs are intended to have a whole-of-government and whole-of-society approach. The Policy and Institutional Review (PIR) may help to identify some of the less 'traditional' actors to be included in this approach, such as public and private finance institutions and regulators, and economic sectors driving biodiversity change.
- A root cause analysis, part of the PIR (see Chapter 3), can identify actions and targets to be included in the NBSAP as well as inform the BFP process. In turn, NBSAPs can extend the analysis of drivers of change to policies that accelerate biodiversity loss, including those that influence investments or subsidies.
- The Biodiversity Expenditure Review (BER) might identify biodiversity-focussed funding flows in sectors that the NBSAP would not otherwise touch on. This could lead to an NBSAP with a broadening and more integrated focus, and result in joint planning and programmes across different ministries or government functions.
- The BER considers both budget allocated, allocated and budget spent. Cases where there is a large discrepancy between the two may point to challenges that could be best addressed within the NBSAP, such as programmes to improve implementation capacity.
- The BER may identify concerns related to the relative allocation of funds at different levels of government (national, regional, local), which could inform actions developed in the NBSAP to address issues related to concurrency.
- The finance needs assessment seeks to cost the NBSAP. This can only be achieved if the NBSAP is developed to the level of detail that is 'costable' (see Chapter 5). Engaging with the NBSAP stakeholders as they develop the NBSAP, and encouraging a level of discussion and planning that further strengthens the NBSAP to include this detail, will not only make for a good Financial Needs Assessment , but also an NBSAP that is practical and useful.
- An NBSAP which identifies the availability of resources for tags activities and targets that are already budgeted for will improve the methodology for estimating the finance gap.
- Bringing the two stakeholder groups together, when appropriate, can increase understanding across the different areas of expertise, and improve buy-in across a broader range of stakeholders.
- Ideally, all national plans, across sectors, should complement each other; this is equally true for the NBSAP and the Biodiversity Finance Plan. Biodiversity finance solutions should seek to enable the achievement of goals and targets in the NBSAP. In turn, an NBSAP might include actions to enable better biodiversity finance, such as improved protected area legislation that would enable a fiscal incentive mechanism for communal and private protected areas, or improved spatial planning, for which a payments for ecosystem services (PES) mechanism could be developed.

The NBSAP should ideally cover all of the Convention on Biological Diversity (CBD) Kunming-Montreal Global Biodiversity Framework (GBF) Targets and Goals, while the BFP outlines very detailed actions to achieve five of the 23 Targets (see Chapter 1.4). The two reports should be mutually supportive, in both the process and in the end products.

It is important to note, however, that the development of NBSAPs and BFPs are two distinct processes, each requiring specific expertise to lead and guide the process.

Biodiversity Finance Plans and national plans

A national Biodiversity Finance Plan is one of many plans and strategies that are developed to guide national development processes. As such, they should not only take cognizance of, but also seek to complement and influence, the broader policy landscape. These policies and frameworks include: Integrated National Financing Frameworks, which are designed to address funding needs for all of the Sustainable Development Goals; the climate change-focused National Action Plans (NAPs) and Nationally Determined Contributions (NDCs), green economy strategies and sector-focused plans.


Photo credit: Port St Johns SA

It is equally important to include other biodiversity strategies (e.g. PA expansion strategies or biodiversity economy strategies), and scan any national development plans, other major policies (e.g. green growth strategy), most relevant legislation and sectoral strategies (e.g. forestry and agriculture) to verify which additional biodiversity goals need to be considered, and to perceive how biodiversity is currently mainstreamed. Any plans and stated objectives on climate change should also be considered, for example, the Nationally Determined Contributions (NDCs), identifying any overlaps, possible opportunities or even possible trade-offs. The objective at this stage is not to critically review and assess these products but to broadly understand the context. The PIR (Chapter 3) will provide the opportunity to conduct a detailed screening of these and additional documents.

2.2.2. Establish the BIOFIN coordination and management framework

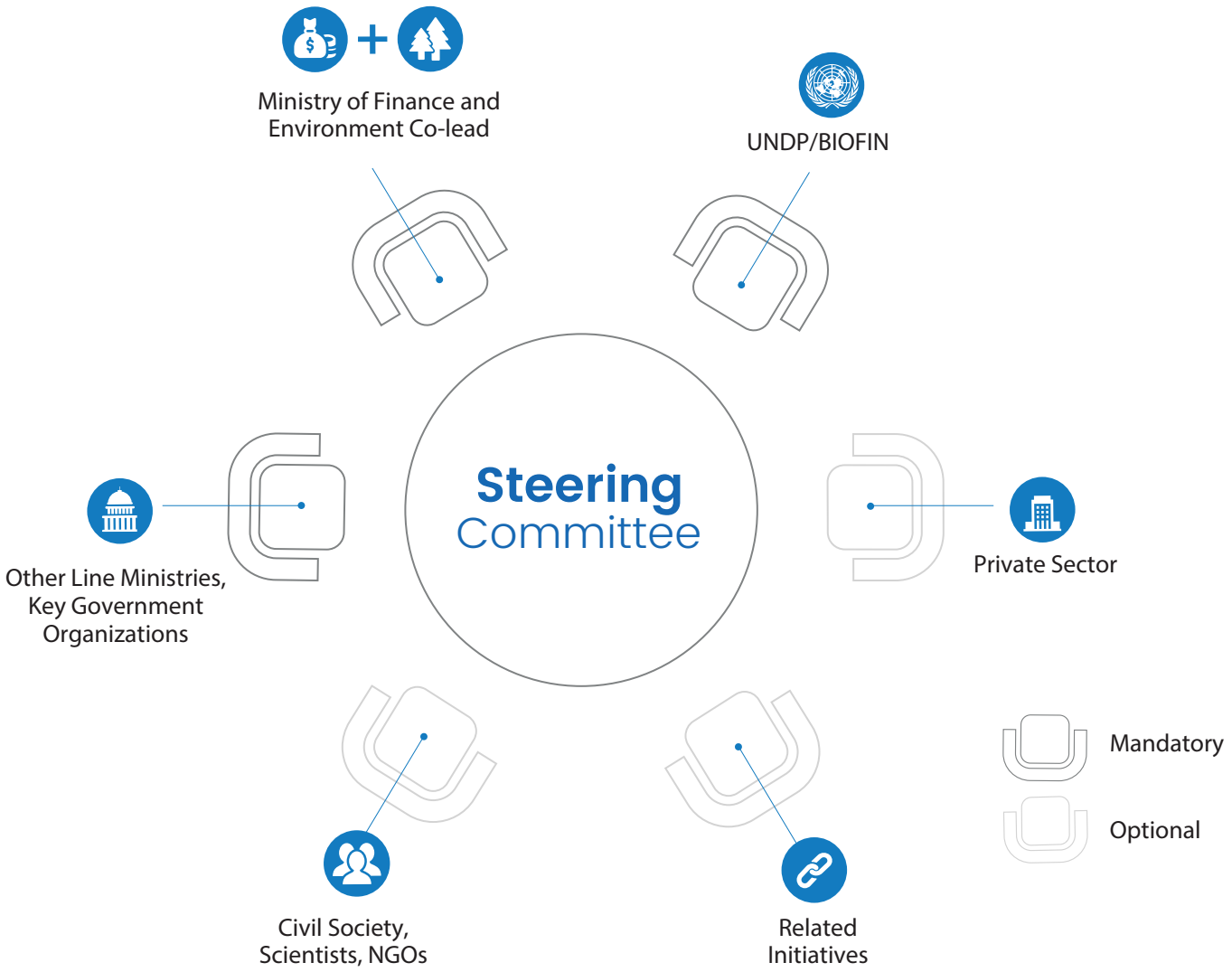
The National Steering Committee

The primary and ultimate national BIOFIN governing body is the National Steering Committee. The Committee is the formal decision-making body for BIOFIN. It guides the country strategy and actions. The Steering Committee should be integrated by, at least, representatives from the Ministry of Finance, the Ministry of Environment and UNDP-BIOFIN. Dependent on country needs, other stakeholders could be included in the Steering Committee, such as representatives from other relevant ministries (e.g. agriculture), finance experts, and representatives from the private sector and civil society, as well as subject matter experts. The Committee should be chaired by a senior government official, at the minister or vice minister level.

The effectiveness and the degree of involvement of the Steering Committee in BIOFIN implementation are directly correlated. In Cuba, the Steering Committee evolved into an established institutional platform bringing together key agencies from the economy, finance, statistics and banking sectors, alongside the environmental regulatory authority. Cuba's National Steering Committee is chaired by the First Deputy Minister of the Ministry of Science, Technology, and Environment, who also represents the National Designated Authority to the Green Climate Fund. The Committee further includes: the First Deputy Minister of the Ministry of Economy and Planning; the Deputy Head of the National Office of Statistics and Information; the Deputy Minister of the Ministry of Finance and Prices; the adviser to the President of the Central Bank of Cuba; and the Director of the International Economic Organizations Division of the Ministry of Foreign Trade and Investment. In Sri Lanka, the State Secretary of Finance chairs the Committee, and the Central Bank is closely involved. Early engagement of key decision-makers from the Ministries of the Environment, Planning and Finance ensured a vibrant and informed discussion on biodiversity finance policies in Egypt. A recent decision of the Steering Committee was to include BIOFIN in the Investment Committee, which is tasked with assessing proposals for economic activities within PAs (Photo 2.1).


Photo 2.1 Egypt's national steering committee meeting at the Petrified Forest Protected Area participated in by Egyptian Environmental Affairs Agency, Ministry of Finance, Ministry of Planning, and UNDP–BIOFIN

Figure 2.4: Blueprint for a Steering Committee



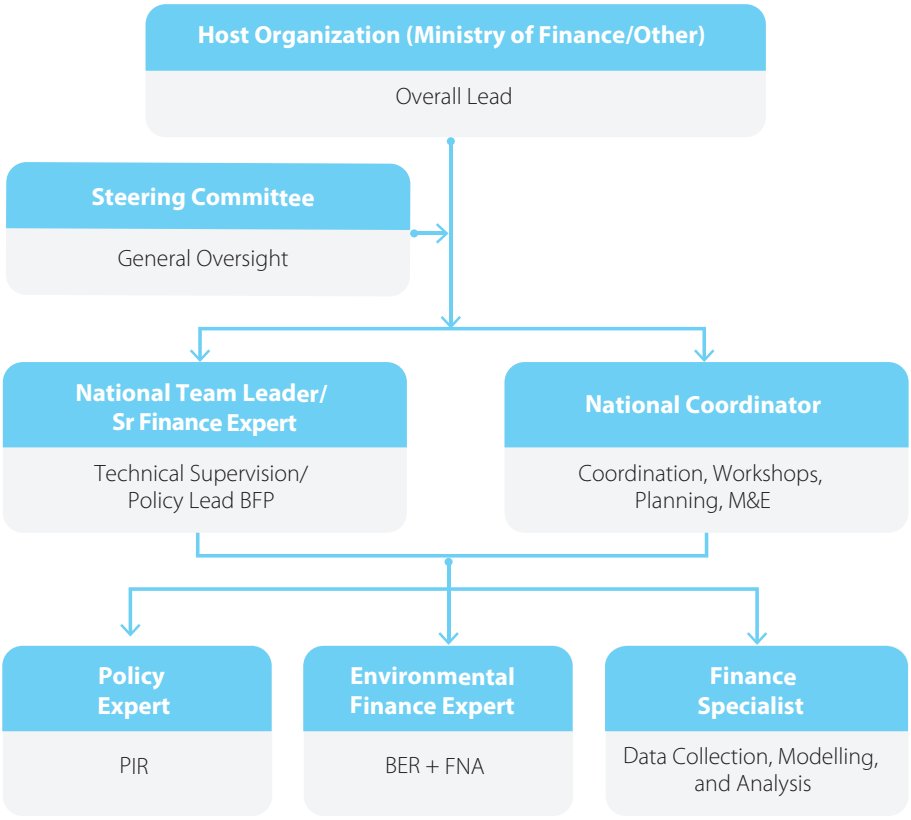
The National Steering Committee should plan to meet at twice a year, and preferably once per quarter, particularly during the initial steps of the BIOFIN Process. Countries that enter the finance plan implementation stage need to revisit the composition, ensuring representation of the institutions and actors with a lead role in the realization of the planned finance solutions.

Scope: The National Steering Committee provides strategic guidance to the BIOFIN Process, facilitating both the alignment with, and feeding into national policy processes. It formally endorses workplans and validates reports from national teams. It debates the specific national objectives and targets the country pursues through BIOFIN. To be effective, the Committee needs to have a clear mandate and terms of reference, ideally captured through a formal memorandum of understanding or ministerial order. Since BIOFIN requires a thorough review of expenditure priorities and the collection of voluminous data sets, some of which may be proprietary, the Steering Committee can facilitate access to the information and provide subsequent guidance on its use (both generated data and source information).

Technical Working Group: Supplementing the Steering Committee, countries may choose to form a technical working group or groups, composed of technical and other experts in the field, to help guide and review the BIOFIN outputs. This group should also adopt specific terms of reference specifying its composition, mandate and frequency of meetings. Existing working groups engaged in relevant themes can be used and expanded to avoid creating new structures and may well be involved in more detailed planning during the implementation phase.

Countries engage a wide range of experts in these working groups. Botswana included the Ministry of Finance and Economic Development, WAVES (World Bank), the NGO Kalahari Conservation Society, the Department of Water and a state organization, Statistics Botswana. Zambia mobilized the Bankers Association of Zambia, the Zambia National Farmers Union, World Wide Fund for Nature (WWF) and the University of Zambia for the group. South Africa has a number of working groups, each dedicated to a finance solution under implementation. Argentina included in the national Steering Committee representatives of the two provinces where they are working. Working groups of some countries such as Sri Lanka and the Philippines consist of private sector business organizations and conservation funds.

Figure 2.5: Recommended structure of the national BIOFIN team



Note: BER= Biodiversity Expenditure Review; M&E=monitoring and evaluation; Policy and Institutional Review (PIR); Financial Needs Assessment (FNA).

2.2.3. Form a national BIOFIN team

BIOFIN teams can be based in UNDP's country office, in order to have a strong inter-ministerial dialogue with all relevant stakeholders, in particular the Ministries of Finance and Environment. In some countries, BIOFIN teams are hosted by either the ministry of finance or environment, but also sometimes the ministry of planning for better integration of biodiversity finance into their national planning processes.

An ideal team composition is shown in Figure 2.5, although the actual composition and the hiring modality are determined by the national context and capacity needs. It is recommended that the core functions are filled by full-time experts; part-time experts could be added as necessary. The key roles in the team are presented in Box 2.8.

Box 2.8: Recommended staffing for a national BIOFIN team

- **Team leader (Senior Finance Expert)** – Senior public/private finance expert with a high and respected profile. She/he is responsible for liaising with decision makers, decision-makers, advocacy and reviewing the technical products. She/he leads the preparation of the Finance Plan. Multiple countries mobilized former senior public servants (e.g. the former Minister of Finance in Costa Rica and the former Secretary of Finance in Bhutan).
- **Project coordinator** – Manager responsible for day-to-day BIOFIN activities, planning and reporting, monitoring and evaluation, human resources, etc.
- **Policy expert** – Biodiversity expert with sound understanding of public policy processes and public finance management. She/he is responsible for completing the Policy and Institutional Review.
- **Environmental finance expert** – Lead expert with a solid background in public finance and or accounting. She/he is responsible for Biodiversity Expenditure Review and Financial Needs Assessment
- **Finance specialist(s)** – Junior experts to contribute with data collection and analysis.

In addition to these positions, the BIOFIN team may also engage a full-time Project Assistant and a Communications Associate. As opportunities for implementing the BFP emerge, various experts may be tapped to supplement the BIOFIN team and focus on specific finance solutions (see also Chapter 7 for a detailed discussion on BFP implementation).

2.2.4. Stage the first national consultation on biodiversity finance

Before starting the BIOFIN assessments, a national consultation (referred to also as the Inception Workshop) should be organized to:

- create awareness of the BIOFIN approach and related concepts;
- engage a wide variety of stakeholders in the process; and
- gauge the perspectives of key actors on the challenges and potential of biodiversity finance.

The following guiding questions can frame the consultation agenda:

- What are the main entry points for biodiversity finance in the country?
- What challenges are foreseen to implement BIOFIN?
- What critical policies are planned for the coming years, and how should we align with these?
- What are the most strategic organizations to engage with and the initiatives to implement?
- Which data sources for biodiversity finance are accessible and under what conditions?
- What is the broad scope and profile of existing finance instruments?



Photo credit: UNDP Costa Rica.
Raices and BIOFIN in Costa Rica support indigenous communities in launching sustainable tourism businesses, with a particular focus on empowering women

2.2.5.Scope for gender and Biodiversity Finance

Within the domains of biodiversity conservation, sustainable development and gender-based budgeting, gender is a well-anchored priority. Target 23 of the GBF calls for gender equality in the implementation of the Framework through a gender-responsive approach. The BIOFIN Process should aim at achieving gender positive results and reducing gender inequalities while promoting women's economic empowerment and financial inclusion. UNDP developed the Gender Equality Strategy 2022–2025[17] to assist countries to address gender inequalities and deliver gender responsive approaches.

The consideration of gender issues in relation to biodiversity involves identifying gender roles and relations on the use, management and conservation of biodiversity.

Gender roles of women and men include different labour responsibilities, priorities, decision-making power and knowledge.

There is a call to better understand and expose gender-differentiated biodiversity practices, gendered knowledge acquisition and usage, as well as gender inequalities in control over resources.[18] BIOFIN is thus committed to exploring the nexus between gender and biodiversity finance, and has already developed good practices on how to link both the biodiversity, gender and climate finance gaps in an integral manner (see Box 2.9). However, sound evidence on the gender impact of biodiversity finance solutions, related literature and best practices are lacking.

[17] Gender Equality Strategy 2022-2025. UNDP. https://genderequalitystrategy.undp.org/

[18] Secretariat of the Convention on Biological Diversity. (n.d.). Gender and biodiversity. Convention on Biological Diversity. www.cbd.int/gender/biodiversity/default.shtml

Box 2.9: The Mujeres Natura Credit (More Women More Nature) programme of Costa Rica: Addressing the biodiversity, climate and gender finance gaps in an integrated manner

With support from UNDP through BIOFIN, efforts are being undertaken to develop biodiversity financial gaps, support implementation of the National Biodiversity Strategy, and contribute to other relevant instruments such as the REDD+ Strategy, and the Costa Rica's national policy for, effective equality between women and men. As part of this work, financial mechanisms for gender inclusion and women's empowerment have been developed.

The +Women +Nature + Mujeres + Natura Program (+ Women + Nature Program) unprecedented in Costa Rica and unique in the region and globally as a multidimensional and multisectoral economic development response. It is an umbrella programme that addresses institutional gender gaps and boosts women's access to financial instruments in forest-, agriculture-, tourism- and nature-related. It includes the following three financial mechanisms valued at around $30 million per year:

1 Women Natura Credit:

Developed and managed by Fundecooperación para el Desarrollo, this private capital instrument allocates $800 to $16,000 credit to women, with an interest rate between 8 and 15 percent per year for a term of up to five years for agricultural, tourism and nature-related sectors (beekeeping, natural non-forest products, etc.). The microcredit scheme also has a blended finance scheme: a guarantee fund provisioned by the National Institute of Social Aid (IMAS), which lowers the credit´s interest rate (around 6–8 percentage points) for women in vulnerable conditions.

2 National Forestry Financing Fund (FONAFIFO):

This is a public-based credit instrument that provides working capital and infrastructure to rural women for innovative projects related to forest conservation and/or sustainable use, with an interest rate of 4 to 7 percent per year, with mortgage, fiduciary and organizational guarantees, and with a term of up to ten years.

3 PSA Mujeres de FONAFIFO:

Through this measure aimed to inrease women's participation under Costa Rica's Payments for Environmental Services Program (PES), applications submitted by women landowners are given additional points within the scoring system for the programme. This effort increases women's opportunities to access incentives through the PES, whose annual budget is approximately $26 million. Additionally, as part of the +Women +Nature Programme, UNDP has also been supporting the Gender Equality Seal of the National Institute of Women, which aims to reduce gender gaps and ensure better gender planning and budgeting, thereby increasing services and institutional benefits for women in the environmental sector. As part of this work, efforts are being made to acknowledge and reward local productive units that promote equality for women, their economic autonomy and their efforts to conserve nature.

Source: Eggerts, E., Quesada-Aguilar, A., Orozco Rubio, A. L., Sánchez Mora, R., Jover, N., & Sermonti, L. (2023). Towards resilient and equitable development in Costa Rica with women and nature at the forefront. United Nations Development Programme. https://www.undp.org/dfs-publications/towards-resilient-and-equitable-development-costa-rica-women-and-nature-forefront

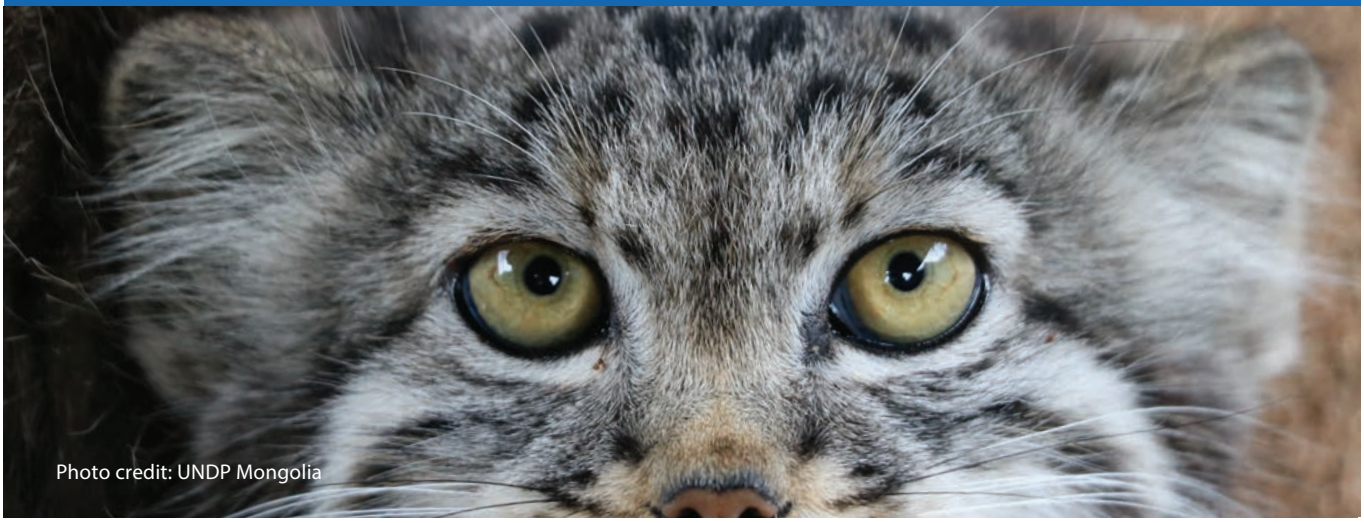


Photo credit: UNDP Mongolia

BIOFIN recommends collecting knowledge and applying a gender lens throughout the BIOFIN Process, specifically in relation to the assessments and planning documents it produces. Early lessons learned from BIOFIN implementation allow to draw the following recommendations:

In the overall BIOFIN Process

Formulate and include gender-sensitive indicators, for example, the number of women actively participating in the formulation of the finance plan, and the number of women benefiting from employment opportunities due to increases in investments in ecotourism.

Assure women's participation in all consultations and BIOFIN bodies and teams, for example, on Steering Committees and conference panels.

Create a favourable environment for women's engagement in all BIOFIN activities, including by promptly identifying solutions to sensitively deal with social and cultural factors that may prevent their fruitful engagement.

Be aware of and adopt gender-sensitive language in all documents, including BIOFIN reports and job descriptions, etc.

Engage gender experts to obtain professional advice on the above.

Foster partnerships with specialized organizations promoting gender considerations, such as Government Gender Focal Points, UN Women, and national women's alliances and organizations.

In the biodiversity finance Policy and Institutional Review

Use a gender lens in reviewing and analysing policies, strategies, legislation and institutions, for example, by identifying opportunities for and/or adverse effects on female empowerment, or by reflecting on how to bridge gender gaps. For example, Uzbekistan reported that women are represented in only 17 to 34 percent of managerial roles in the nature protection sector while also highlighting significant achievements of women in the sector.

Examine to what extent the national biodiversity plan has integrated gender aspects.

Review and report on the literature tackling gender equality and empowerment. For example, in Uganda, the PIR reported the cost of the gender gap in agricultural productivity ($67 million per year).[19]

In the Biodiversity ExpenditureReview

Apply an additional gender tag for biodiversity expenditures that contribute directly to gender equality and empowerment.

In the Financial Needs Assessment

Ensure that gender-related actions are adequately weighted during the prioritization process.

In the Biodiversity Finance Plan

Ensure that gender implications are adequately weighed during the screening and prioritization of finance solutions.

Select at least one biodiversity finance solution with a measurable contribution to achieving gender-positive results and to reduce gender inequalities while promoting women's economic empowerment and financial inclusion.

In the Biodiversity Finance Plan implementation

The design, implementation and monitoring of finance solutions offers an excellent opportunity to demonstrate a gender focus evidenced by community-level impacts on women such as livelihoods and engagement with communities in India through ABS Solutions; in Indonesia through the Zakat programme for poverty alleviation; and in Costa Rica and Peru for women beneficiaries in alternative livelihood programmes. Moreover, the role of women in governance and business management is highlighted in finance solutions on CSR and disclosure frameworks in India and Sri Lanka, respectively. For more gender stories, see Chapter 7 (Implementation).



Photo credit: Mahtab Haider

[19] UN Women (2015). The Cost of the Gender Gap in Agricultural Productivity in Malawi, Tanzania, and Uganda. http://documents.worldbank.org/curated/en/847131467987832287/pdf/100234-WP-PUBLIC-Box393225B-The-Cost-of-theGender-Gap-in-Agricultural-Productivity-inMalawi-Tanzania-and-Uganda.pdf

2.2.6. Document the initial baseline findings in an inception report

All relevant findings, decisions and recommendations from the inception stage should be documented in an inception report. The report should formalize all major decisions, including the scope of work, the Steering Committee and the team composition.

The report should be validated and guarantee that stakeholders will comfortably share a common understanding of BIOFIN objectives and planned activities.

The inception report should include the following topics:

- **National context of national biodiversity finance linked to the global context:**
  Has the country updated its NBSAP?
- **Biodiversity in the national policy context:**
  This describes the scope of the national biodiversity plan, and how other major policies relate to biodiversity, including a country's NBSAP. It suggests entry points for debating further investments in biodiversity.
- **The current biodiversity finance context:**
  This describes known and planned biodiversity finance solutions.
- **Scope of the BIOFIN methodology:**
  This clarifies what sectors need to be included in the analysis, which the most optimal years to use for the BER/FNA are, as well as what definition can be agreed on for biodiversity expenditures. Where are the opportunities to have positive gender and climate impacts?
- **Partnership:**
  This highlights the primary governmental, private sector and civil society stakeholders to involve, and suggests the most strategic initiatives to partner with.
- **BIOFIN workplan:**
  This outlines suggested membership for the National Steering Committee and technical working group, ideas for the composition of the national BIOFIN team, and the main results expected from the process, including targets, indicators, timelines and resources.



Photo credit: UNDP Thailand
In 2022, Koh Tao Island in Thailand introduced a 20-baht tourist fee per visitor. Generating around $300,000 annually, this fee supports coral reef restoration, waste management, and marine wildlife protection.

2.3. Communicating biodiversity finance



Photo credit: UNDP Costa Rica
Costa Rica's crowdfunding campaign has led to the planting of over 250,000 trees and the restoration of 800 hectares of forests.

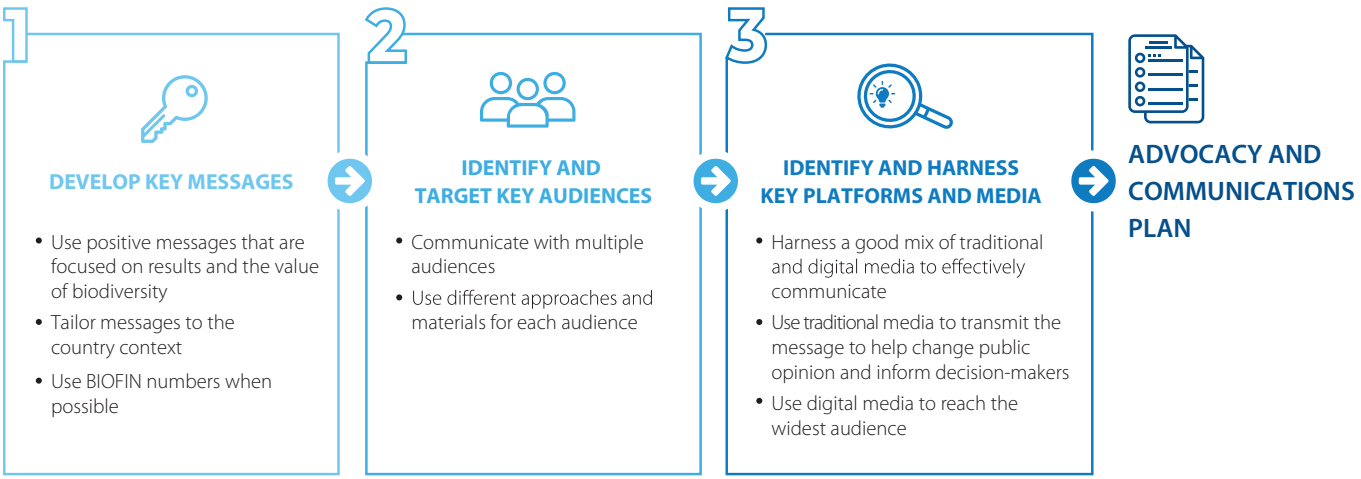
Communication is essential to all stages of BIOFIN, particularly for implementing the Finance Plan and advocating to implement finance solutions. Starting the programme with good communication can help build a strong community of practice, and increase the chances of buy-in and support for implementation. Many stakeholders may not have expertise or experience in biodiversity finance. The process of aligning the language and expectations of the conservation and finance community is a communication challenge per se. As each country completes the assessments, key messaging can be formed, audiences identified and reached, and a proper advocacy and communication plan put in place (Figure 2.6).

Stories and messages need to be tailored to the audience and wisely reflect on the purpose of the communication. If the aim is to drive action, then there should be a balance between warning messages on the tragedy of biodiversity loss and stories about conservation champions that highlight the value of biodiversity to human well-being, societies and economies.

The formulation of key messages should not be left until the end of the BIOFIN analytical process: the PIR may already identify critical issues, policies or opportunities; the BER may expose shortcomings in a country's spending; and the FNA can offer a simple bulk figure to inform the Minister of Finance of the magnitude of the need.

Advocating for biodiversity finance entails communicating complex messages to various audiences. Each audience has a different role and interest, and requires a different approach. The identification of target audiences for communications and advocacy should be undertaken systematically and is a pillar of any advocacy and communication plan. The most appropriate communication channels should be chosen to deliver key messages to the target audiences, including traditional media, events and digital platforms.

Figure 2.6: Advocacy and Communication



BIOFIN DAY

BIOFIN Day – Thailand

In Thailand, BIOFIN Day 2017 gained the support of a key champion, Her Royal Highness Princess Maha Chakri Sirindhorn, who proclaimed that conservation finance was not just the responsibility of the public sector; producers, consumers and the private sector all benefit from biodiversity, hence should consider investments in protecting and restoring biodiversity resources. The private sector response and commitment was impressive, i.e. several high-profile companies pledged support to the programme and conservation efforts more generally. The events spanned three days, involved more than **2,000 participants,** and encompassed a range of activities such as public awareness events with both government and the private sector, and media engagement combined with targeted advocacy towards the private sector. When analysing the impact of the BIOFIN Day campaign, BIOFIN Thailand estimated that fundraising and public relations from public-private sectors was valued at **$281,021.**



Photo credit: UNDP Thailand
Tourists paying a user fee of $0.60 to visit Koh Tao Island.
The funds are used for coral reef restoration and waste management.



Photo credit: Marco Arlaud



CHAPTER 3

The Biodiversity Finance Policy and Institutional Review

Introduction

The chapter 3 describes the Biodiversity Finance[1] Policy and Institutional Review (PIR). The PIR analyses the policy and institutional context for biodiversity finance in a given country. Diverse background information is gathered, establishing the baseline situation for the remainder of the BIOFIN Process and a preliminary selection of finance instruments for early implementation is identified. This introductory Section 3.1 explains the rationale, while Section 3.2 breaks down the detailed steps.

3.1. Objectives

The PIR analyses the relationship between the state of nature and a country's fiscal, economic, legal, policy and institutional framework to identify:

1. an improved understanding of how the management of biodiversity and ecosystem services supports national sustainable development goals and visions;
2. a comprehension of key policy and institutional drivers of biodiversity change;
3. a first-time catalogue of existing biodiversity finance mechanisms, incentives, subsidies and other instruments, including sources of biodiversity revenues; and
4. a preliminary selection of Finance Solutions for early implementation.

3.2. What is a Policy and Institutional Review?

A PIR is a widely used approach to assess the strengths and weaknesses of policies and institutions within a given sector. It focuses on whether or not existing policies are adequate, identifying gaps, translating policies into practice, and examining the functionality of existing institutional frameworks. It describes the institutional and legal context within which policy interventions must operate. PIRs are effectively system analyses and have been applied across many different sectors. They are required under BIOFIN to better understand the complexity of drivers of biodiversity loss and their connection to finance flows. Since nature interacts with so many economic sectors, BIOFIN must analyse a diverse set of drivers to understand and influence the current trajectory of development to improve its outcomes for biodiversity.



Photo credit: Costa Rica
Subsidies designed for socio-economic goals can sometimes unintentionally harm nature. BIOFIN has created a step-by-step guide to help repurpose them for sustainability.

[1] Note that the focus is on biodiversity finance and not biodiversity per se.

3.3. Summary of Policy and Institutional Review steps



Prepare



Review national biodiversity strategies, sustainable development strategies, and linkages between them

- **2a** Review national biodiversity plans and other biodiversity policy documents
- **2b** Review the role of biodiversity within sustainable development planning
- **2c** Collect existing evidence of the economic value of nature and its contribution to sustainable development



Identify important trends and drivers for biodiversity change

- **3a** Identify the main positive and negative trends in biodiversity
- **3b** Identify underlying drivers and levers of change



Review the current state of biodiversity finance

- **4a** Map existing finance instruments and related legislation
- **4b** Review the national budgeting process
- **4c** Map and analyse biodiversity-related revenues
- **4d** Map existing positive or harmful incentives



Analyse main institutions

- **5a** Identify the main institutions and organizations
- **5b** Analyse each main institution to produce a score on interest and influence scale
- **5c** Review priority institutions and develop the stakeholder engagement plan



Carry out an initial selection of new and existing finance solutions for early implementation.



Draft a summary and recommendations

3.4. Policy and Institution Review steps in detail

Step 1: Prepare

Preparations Involve:

- Establishing the team to conduct the PIR;
- Developing a stakeholder consultation plan;
- Defining the scope of analysis; and
- Identifying information sources and document owners.

The PIR will be most effective if the team, ideally including biodiversity specialists and public and/or private finance experts, combines policy and finance skills. The identification or creation of an oversight group is an essential initial step. Countries should already have established Steering Committees and/or technical working groups (see Chapter 2) to fulfil this function. The next step is determining the 'owner' of the PIR. The owner is the group or entity most interested in and best placed to use the results. This may be the Steering Committee. The report should assess and address the owner's needs.

The PIR helps to develop the BIOFIN stakeholder engagement plan (see Chapter 2). It requires an effective consultation process with a variety of stakeholder types. The scope of analysis needs to be defined early, with flexibility to refine it as more information becomes available. Clarity of scope will help maintain a results-oriented focus. Although the PIR should be a comprehensive national assessment, countries may wish to emphasize:

- **Specific biodiversity issues and trends;**
- **Economic sectors** that play the most important role in driving biodiversity loss;
- **Institutions** with high relevance as potential or actual finance stakeholders and decision makers.

During the preparation phase, the BIOFIN team should start compiling critical documents such as;

- **national strategic documents** including the NBSAP, national reports to the CBD, strategies for green growth, climate, poverty, etc.;
- **national and sectoral development plans,** economic development plans, and long-and medium-term fiscal plans;
- **statistical reports** on forests, water, fisheries, tourism and environmental economics;
- **reports from the private sector** on companies that depend on, or significantly impact nature. These could include reports from chambers of commerce and associations of producers, private company reports, CSR reports, etc.;
- **technical reports** related to biodiversity finance, ecosystem services, etc.;
- **studies and publications** related to biodiversity (finance); and
- national budgets and **Budget Execution Reports.**

Step 2: Review national biodiversity strategies, sustainable development strategies, and linkages between them.

Step 2a: Review national biodiversity plans and other biodiversity policy documents

Most countries have NBSAPs in place since governments committed to develop them under the CBD framework. The plans are first assessed during the scoping phase (see Chapter 2) to determine their status and coverage, and if they are adequate as the central planning document for the BIOFIN Process. During the PIR, the alignment of the NBSAP with CBD framework will be assessed. The Action plan of the National Biodiversity Strategy is the basis for the costing in the FNA (Chapter 5) and is used to formulate finance solutions in the BFP (Chapter 6).

The NBSAP should be summarized in the PIR, describing its legal status and institutional arrangements. In some countries, the NBSAP has a formal legal status, whereas in others, it is an aspirational document or plan outlining priorities to mobilize further finance.

Countries with a formal NBSAP policy may require less advocacy to invest in the actions. In countries where it has no legal status, the BIOFIN Process can encourage its integration into national development planning and budgeting processes.

The institutional arrangements for the implementation and financing of the NBSAP and other key strategic documents should be investigated and described. These arrangements may consist of identifying the roles of different actors responsible for implementing each set of strategies and actions. A list of organizations involved with planning, budgeting and implementing the NBSAP and other biodiversity strategies should be prepared to ensure their inclusion in the institutional analysis (described below) and the Biodiversity Expenditure Review (BER) (Chapter 4).

Should the NBSAP be considered insufficient to address the biodiversity management needs of the country, then results and targets from complementary sources should be taken into consideration. When important biodiversity-related strategies that significantly impact biodiversity are not cross-referenced in the NBSAP, we recommend expanding the scope of BIOFIN's work to factor them in. This is essential because other national strategies may have stronger buy-in, potentially higher impacts on biodiversity and can facilitate linking important sectoral policies to biodiversity. This ultimately enhances the chances of securing sufficient finance.

Other biodiversity relevant policy documents to scope out are:

- national sustainable development strategies (green economy, the Sustainable Development Goals, etc.);
- Reports for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),[2] the Ramsar Convention,[3] The Nagoya Protocol on Access and Benefit-sharing,[4] National Reports on Implementation of the Cartagena Protocol[5] on Biosafety and the Convention on Migratory Species,[6] and reports from the International Treaty on Plant Genetic Resources for Food and Agriculture;[7]
- PA expansion strategies, marine and coastal management, biosafety plans (invasive alien species) or desertification[8] and land degradation management plans;
- relevant sectoral strategies, for example, forestry, fisheries and agriculture; and
- climate change adaptation[9] and mitigation plans and policies.

Step 2b: Review the role of biodiversity within sustainable development planning

In this step, countries review major national policy and strategy documents to identify how they understand biodiversity as a fundamental part of sustainable development. This review should cover multisectoral national planning documents, as well as sector plans from key economic sectors.

A review of these documents should highlight how biodiversity and ecosystem services have been integrated into national development planning,[10] green economy strategies, Integrated National Financing Framework - INFF (see Chapter 2 - Box 2.7 and Chapter 6 - Box 6.1) and sector-based plans such as tourism, water and sanitation, forestry and sheries.



Box 3.1: Deep dive: examining sectoral strategies further to identify dependencies on nature

All economic sectors are dependent to some extent on services provided by biodiversity and ecosystems. Sector-based dependencies on biodiversity can be explored further as part of the Policy and Institutional Review (PIR) through a sector dependence analysis. Evidence of the importance of a biodiversity-dependent sector could consist of its contribution to GDP, job creation or foreign-exchange earnings. Here are some sample criteria to capture the key findings of a sector dependency analysis.

Sample criteria for a sector dependency analysis

Criteria	Description
Sector	Name of sector
GDP	Contribution of the sector to the country's GDP
Jobs	Sector employment numbers and estimated potential for job creation
Foreign Exchange earnings	Foreign exchange earnings that the sector attracts in the country
Dependencies	Sectoral dependence on biodiversity and ecosystem services
Impacts	Sectoral impact on biodiversity and ecosystem services and/or the well-being and health of people or a particular group

[2] Convention on International Trade in Endangered Species of Wild fauna and flora (CiTES) (2013). National laws for implementing the Convention. https://cites.org/eng/legislation

[3] http://www.ramsar.org/about/the-wise-use-of-wetlands

[4] Secretariat of the Convention on Biological Diversity. (n.d.). Nagoya Protocol on Access and Benefit-sharing. Convention on Biological Diversity. www.cbd.int/abs/infokit/revised/web/factsheet-nagoya-en.pdf

[5] https://www.cbd.int/reports/biosafety

[6] Khan, M. S. H. (2012). Convention on the Conservation of Migratory Species of Wild Animals. www.cms.int/sites/default/files/document/Res6.04_E_0_0.pd

[7] Food and Agriculture Organization of the United Nations. (n.d.). International Treaty on Plant Genetic Resources for Food and Agriculture. www.fao.org/plant-treaty/en

[8] UNCCD, Z. N. L. D. (2012). United Nations Convention to Combat Desertification. www.unccd.int/convention/about-convention

[9] United nations framework on Convention of Climate Change (UNFCC) (2014). National Adaptation Programmes of Action (NAPAs).] https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/introduction

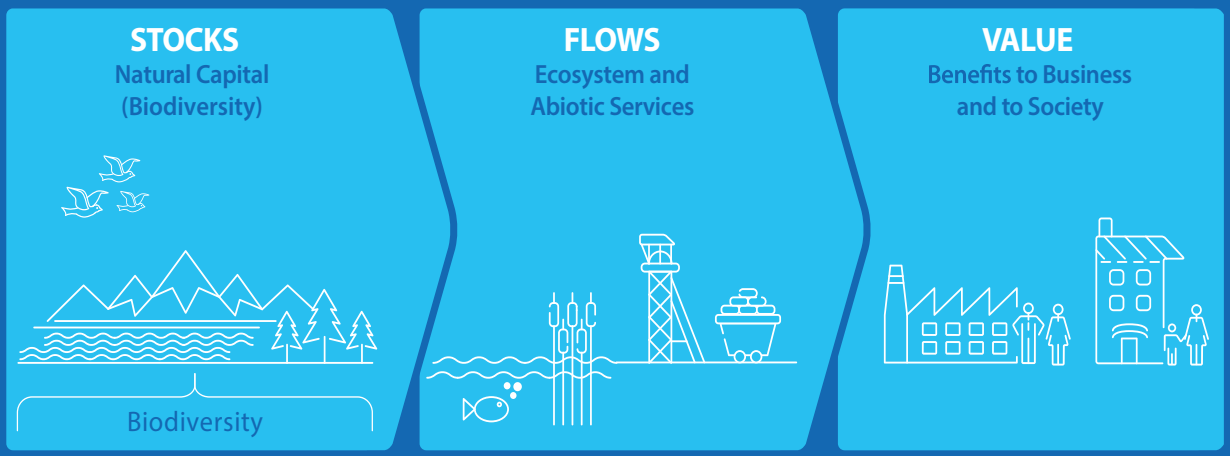
[10] www.gov.za/issues/national-development-plan-2030



BIOFIN Philippines has organized an art auction featuring underwater photography by renowned wildlife conservation photographer and National Geographic Explorer Noel Guevara. All proceeds will support coral reef protection in Tubbataha Reefs Natural Park.

Box 3.2: The natural capital protocol and the taskforce on nature-related financial disclosures approaches to identify natural capital impacts and dependencies

Measurement and valuation of a business or sector's dependencies and impacts can follow a standardized process such as the Natural Capital Protocol, which is aligned with the Taskforce on Nature-related Financial Disclosures (TNFD) risk and opportunity assessment approach, Locate, Evaluate, Assess, and Prepare (LEAP). This is a standardized framework for business or financial institutions to identify, measure and value its direct and indirect impacts and dependencies on natural capital. Natural capital is defined as the stock of renewable and non-renewable natural resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people. This is illustrated in the figure below, which also explicitly recognizes biodiversity as an essential part of natural capital.



These approaches not only consider the positive and negative impacts on biodiversity, but also dependencies, such as raw material sourcing, water use for production and other often ignored ecosystem services (e.g. pollination, flood mitigation).

The alignment of these approaches to measure these impacts and dependencies are illustrated in the figure below. The TNFD has been developed to align with existing frameworks such as the Protocol and Components E3 (Dependency Analysis) and E4 (Impact Analysis) of the TNFD LEAP approach are aligned with steps 5 and 6 of the Measure and Value Stage of the Natural Capital Protocol.

The Protocol guides the measurement and valuation of natural capital impacts and dependencies. Valuation is defined as an estimate of the relative importance, worth or usefulness of natural capital to people and business in a particular context, and can be qualitative, quantitative or monetary. While the Protocol is developed to guide analysis from the perspective of an (private or other) enterprise, it can also be applied to a national or regional economic sector.

As indicated in Chapter 2, further guidance on TNFD was developed in 2023. Additional technical guidance on evaluating the size and scale of dependencies and impacts can be used as per Science-Based Targets for Nature (SBTN), Climate Disclosure Standards Board (CDSB) Framework -- Application guidance for biodiversity-related disclosures and ENCORE.

Taskforce on Nature-related Financial Disclosures (TNFD)	Natural Capital Protocol		
Locate, Evaluate, Assess, and Prepare (LEAP) Component	**Step in the Natural Capital Protocol**	**Questions that each step will answer**	**Actions**
Components E3 Dependency Analysis and E4 Impact Analysis	Measure impact drivers and/or dependencies	How can your impact drivers and/or dependencies be measured?	5.2.1 Map your activities against impact drivers and / or dependencies 5.2.2 Define the impact drivers and/or dependencies that you will measure 5.2.3 Identify how you will measure the impact drivers and/or dependencie 5.2.4 Collect data
Components E3 (Dependency Analysis) and E4 (Impact Analysis)	Measure changes in the state of natural capital	What are the changes in the state and trends of natural capital related to your business impacts and/or dependencies?	6.2.1 Identify changes in natural capital associated with your business activities and impact drivers 6.2.2 Identify changes in natural capital associated with external factors 6.2.3 Assess trends affecting the state of natural capital 6.2.4 Select methods for measuring changes 6.2.5 Undertake or commission measurement



Photo credit: UNDP Costa Rica
In Costa Rica, the Indigenous Tourism Raíces Incubator Program supported 28 projects, benefiting 68 people - including women - and promoting the sustainable management of 1,891 hectares of forest.

Step 2c: Collect existing evidence of the economic value of nature and its contribution to sustainable development

It is essential to explain to key decision-makers how investing in biodiversity is vital to achieve sustainable development that is conducive to sustainable economic growth. Measuring the economic value of nature is an important approach that can strengthen this debate. As described in Chapter 1, most of the benefits received from nature's diversity and function are in the form of ecosystem services. They are not usually priced in the market economy, and consequently inadequately managed or conserved. Many countries have conducted a range of economic analyses to estimate the economic value of nature. The PIR must take stock of economic valuation studies, and understand and present their findings (Box 3.3). Economic valuation[11] can help assess trade-offs among investments perceived to be socially or environmentally positive.

Studies presenting the benefits of biodiversity beyond monetary value are also useful; these benefits may be socio-economic such as job creation, improvements in health and longevity, and gender equity (see also Box 3.4). This evidence base will be useful throughout the BIOFIN Process, particularly in drafting the BFP. We do not recommend primary research or valuation studies at this stage. Useful databases on economic valuation are available on the Ecosystem Services Valuation Database (ESVD).[12] If no clear environmental economic evidence is available in a country, regional or international case studies can be used to support business cases.

Box 3.3: List and summarize environmental-economic evidence

This information provides the background in order to begin building economic and financial investment cases, and identify viable existing or potentially new finance solutions in Chapter 6:

- Report information – title, authors, dates, etc.
- What sector, impacts and/or dependencies, biodiversity or ecosystem services were included?
- What was the baseline state of the environment, and direction and scale of change?
- What valuation methodology or approach was used?
- Whose values were measured, where and over what time period?
- What were the main findings? Was the result of the study used to promote policy reform and was the policy reform successful?
- Do the results suggest opportunities for improved biodiversity finance solutions?

Note the rapidly developing research and evidence relating to links among biodiversity, economic sectors, social values and governance. For example, the conceptual framework for the intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services[a] provides guidance on the elements constituting social-ecological systems at different scales.

[a.] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (2013). Decision IPBES-2/4: Conceptual framework for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. IPBES. www.ipbes.net/sites/default/ les/downloads/Decision%20IPBES_2_4.pdf



Photo credit: Dolapo Adejumo

[11] Ozdemiroglu, E., & Hails, R. (2016). Demystifying Economic Valuation. http://valuing-nature.net/sites/default/files/images/VNNDemystifying%20Economic%20Valuation-Paper.pdf

[12] www.esvd.net



Photo credit: Gaurav Gupta
The world faces a $700 billion annual gap in biodiversity financing. Closing this gap is crucial for protecting the planet's health, ensuring climate stability, securing food supplies, and supporting communities worldwide.

Box 3.4: How South-Africa developed a new paradigm to link investments in nature with sustainable development–the concept of ecological infrastructure

In South Africa, the term 'ecological infrastructure' refers to ecosystems that deliver services to society, functioning as a nature-based equivalent of, or complement to, built infrastructure. A recent publication[a] demonstrates how investing in ecological infrastructure supports the implementation of the South African National Development Plan and the SDGs. Using concrete examples, it demonstrated a clear contribution to poverty alleviation (SDG 1), food security (SDG 2), health and well-being (SDG 3) and the reduction of inequality (SDG 10) in addition to the explicit environmental SDGs (13, 14 and 15). For example, the restoring and maintaining of intact rangelands for sustainable grazing supports food security, contributes to local poverty alleviation, improves water quality by providing a filtering service, and improves the state of biodiversity in these ecosystems. Natural rangelands in the commercial agricultural sector are worth over $77,300 per ha per year.[b]

[a.] Cumming, T. L., Shackleton, R. T., Förster, J., Dini, J., Khan, A., Gumula, M., & Kubiszewski, I. (2017). Achieving the national development agenda and the Sustainable Development Goals (SDGs) through investment in ecological infrastructure: A case study of South Africa. *Ecosystem Services,* 27, 253–260. www.sciencedirect.com/science/article/pii/S2212041617303303

[b.] Blignaut, J.N., Marais, M., Rouget, M., Mander, M., Turpie, J., Klassen, T., & Preston, G., 2008. Making markets work for people and the environment: Combating poverty and environmental degradation on a single budget while delivering real services to real people. The Second Economy Strategy Project, an initiative of the Presidency, Trade & Industrial Policy Strategies (TIPS) Pretoria.

Step 3: Identify important trends and drivers for biodiversity change

The PIR team identifies and prioritizes the country's main positive and negative trends in biodiversity, and understands their underlying drivers, or 'drivers of change'. This may not require additional studies. The NBSAP or other strategic documents and studies should already have established the main drivers of change in the country.

If this is the case, the PIR can focus on drivers related more closely to finance, economic and policy issues rather than biophysical concerns. However, if the NBSAP or other documents do not provide a very detailed root cause (or similar) analysis, then this step needs to be implemented in detail.

Step 3a: Identify the main positive and negative trends in biodiversity

Ideally, a country will have identified its main biodiversity trends in the reports to the CBD, the NBSAP, national State of the Environment reports, etc. It is important to note that almost all of these reports focus on, in some cases entirely, negative trends. Although this may be a good reflection of national priorities, BIOFIN *also* seeks to identify positive trends, because they can often lead *to* great opportunities for formulating finance solutions.

The PIR team should gather the main documents that describe trends in nature and create a master list with descriptions and references to the original documents. Where spatial analysis is available, it can provide an excellent foundation for the later steps in the PIR. The team should review the described list of trends and assess the following:

1. Is the list comprehensive? Does it cover changes in species and habitats, ecosystem services, threatened and endangered species, and habitat status information, ecosystems of biodiversity importance, terrestrial, aquatic, marine and coastal (if relevant), agriculture, water, fisheries, forestry, PAs, wildlife trade, climate interactions, etc.?
2. Are the trend descriptions specific and clear? Deforestation is occurring in many countries, which is a non-specific trend and very difficult to assess. A more detailed description might be "increasing rate of deforestation (1.5% per annum) in tropical forest areas outside of protected areas".
3. Are the trends supported by well documented sources? If not, are they justified otherwise, for example, by expert input?
4. Have trends been ranked for importance by any criteria? What criteria?

Efforts should also be made to refine the description of each trend so that each trend can be connected to the underlying drivers described in Step 3.B.

Step 3b: Identify underlying drivers and levers of change

The true nature of problems is not always clear at first glance. Prior to spending scarce resources to alleviate the immediately obvious symptoms, an understanding of underlying sources can guide a more effective response, which can commonly be achieved through a root cause analysis.[13]

While a traditional root cause analysis is mostly applied to negative trends, i.e. the problems, BIOFIN should also consider positive trends in biodiversity. For example, in South Africa, the increase of communal and private PAs was considered a positive trend to expand areas under protection. However, the long-term management of these PAs would have been sustainable only with increased government support.

There are many methodologies to conduct a root causes analysis. The 'Five Whys Method' is among the easiest to implement. The logic is to keep asking 'why' until the root cause or causes are identified. Five is just an indication of the number of iterative 'why' questions. If one of your answers results in assigning blame, you've probably not reached the end of the questioning, for example: Each biodiversity trend investigated may have multiple root causes.

Biodiversity trend:

Increase in the destruction of threatened ecosystems.

Why?
Illegal ploughing of these threatened ecosystems is occurring.

Why?
Farmers are not being penalized for illegal ploughing.

Why?
Environmental management authorities are not monitoring illegal ploughing – *this is an answer that assigns responsibility.*

Why?
There are not enough funds to provide vehicles for the environmental authorities to travel to the farming districts – *this is a useful point to stop asking why, because it is a concrete problem that can be addressed practically.*



Photo credit: Ronja Fischer

[13] Wood, A., Stedman-Edwards, P., & Mang, J. (2013). The root causes of biodiversity loss. Routledge.

In the example above, the answer to why farmers are not being penalized for illegal ploughing might be that environmental management authorities are not monitoring illegal ploughing, as well as that the legislation defining illegal ploughing is ambiguous and not holding up in court.

When identifying the root cause of a positive trend, a good place to stop asking 'why' is when an answer helps identify what is required to support the biodiversity trend. In the example below, this is about funding communal PAs.

Biodiversity trend:
Increase in protected areas

Why?
Several new communal protected areas are being established.

Why?
A new programme brings together conservation authorities, communities and non-governmental organizations to create protected areas on communal land with high biodiversity value.

Why?
The government and donors have put funds towards developing this programme.

A root cause may be an economic and/or a financial driver. For example, in the Philippines, the cause for the prevalent use of explosives in fisheries can be traced to low penalties, which the fisher would gladly pay because the value of catch would totally compensate the penalty. The analysis might find that an underlying driver is not financial in nature but can still be addressed effectively by a finance solution. Box 3.5 describes a methodology to identify root causes: the Driver-Pressure-State-Impact-Response Analysis.





Photo credit: Gaurav Gupta

Box 3.5: Driver pressure state impact response analysis

The Driver-Pressure-State-Impact-Response (DPSIR) Framework has been used for environmental management issues for several decades. It can effectively help to identify and track indicators and includes several types of feedback loops. Various internet sites have more information on the DPSIR Framework.[a]

Multiple approaches have been used to develop and structure indicators. The DPSIR Framework is a common causal framework for describing the interactions between society and the environment. It is based on the pressure-state-response (PSR) framework model proposed by the Organisation for Economic Co-operation and Development (OECD) in 1993. The DPSIR indicator categories can be defined as follows:[b]

Driving forces are social, demographic and economic developments in societies as well as the corresponding changes in lifestyles, overall levels of consumption and production patterns. Primary driving forces are population growth, development, and individual activities. These primary driving forces provoke changes in the overall levels of production and consumption.

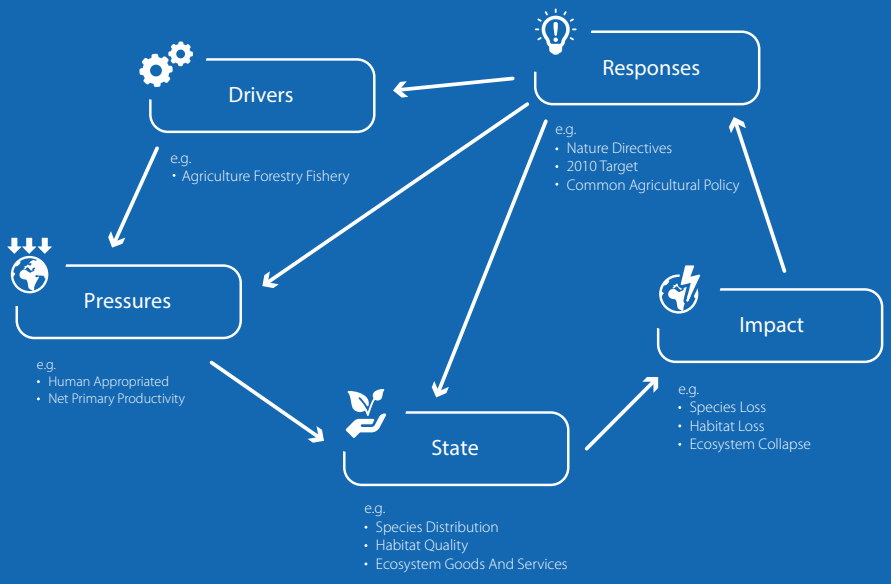
Pressures include the release of substances (emissions), physical and biological agents, resource use and land use. The pressures exerted by society are transported and transformed into a variety of natural processes that manifest themselves in changes in environment conditions.

State is the abiotic condition of soil, air and water, as well as the biotic condition (biodiversity) at the ecosystem/habitat, species/community and genetic level.

Impacts on human and ecosystem health, resource availability and biodiversity result from adverse environmental conditions.

Responses are the measures taken to address drivers, pressures, state or impacts. They include measures to protect and conserve biodiversity (in situ and ex situ), and include, for example, measures to promote the equitable sharing of the monetary or non-monetary gains arising from using genetic resources. Responses also include steps to understand the causal chain and develop data, knowledge, technologies, models, monitoring, human resources, institutions, legislation and budgets required to achieve the target.

The specification sheet for each indicator contains a classification of the indicator in one of the DPSIR categories.[c]



[a] Maxim, L., Spangenberg, J., & O'Connor, M. (2009). The DPSIR framework for Biodiversity Assessment. Ecological Economics, 69(1), 12-23. www.researchgate.net/publication/222918383_An_analysis_of_risks_for_biodiversity_under_the_DPSIR_framework

[b] EEA (1999). Environmental indicators: Typology and overview. Technical Report No 25. Luxembourg, Office for Official Publications of the European Communities.

[c] European Environment Agency (EEA) (2007). Halting the loss of biodiversity by 2010: proposal for a first set of indicators to monitor progress in Europe, EEA Technical Report no. 11/2007, European Environment Agency, Copenhagen. https://www.eea.europa.eu/publications/technical_report_2007_11

Step 4: Review the current state of biodiversity finance

This step aims to create a comprehensive background context of the biodiversity finance landscape by identifying and describing many of the existing biodiversity finance solutions in the country. Special attention during this review should be given to:

- the national budgeting processes;
- biodiversity-related revenues; and
- positive incentive and harmful subsidies.

Step 4a: Map existing finance instruments and related legislation

Finance instruments are used to mobilize, collect, manage and disburse funding, and can be configured as components of a finance solution. They can be strictly financial instruments such as bonds or equities, or fiscal and regulatory tools designed to change incentives, prices and motivation. The term 'finance instrument' in this Workbook is used flexibly and interchangeably with finance tools, mechanisms, economic incentives, fiscal instruments, etc. Some features of finance instruments are as follows:

- They are discrete units that can be clearly named and described.
- They are established through policies, laws and practices.
- They can be altered, expanded, removed, or otherwise manipulated.
- They are based on or a product of monetary, fiscal or economic incentives.

Existing instruments and mechanisms should be listed as thoroughly as possible and include all types of instruments such as regulatory, market, fiscal, grant, debt/equity and risk-related. This list can be based on a variety of national reports, through direct interaction in workshops and with experts' interviews.

The inventory should include the description of all current financial instruments including their size, effectiveness, related legal framework and potential for improvement. They should be named and described with sufficient details; for example, do not just list the instrument as 'payments for ecosystem services (PES),[14] but rather, detail what kind of PES are implemented (e.g. water PES), where and when. If there is only a legislative provision on PES, but not actual implementation, or if only a single pilot was carried out, this should be clearly stated. See Box 3.6 for an example of an existing finance solution on biodiversity offsetting.

The **BIOFIN Catalogue of Finance Solutions**[15] is a good place to find ideas for types of instruments and mechanisms. Additional information on finance solutions can be accessed via the online platform **Financing Solutions for Sustainable Development.**[16] These knowledge platforms can be similarly used for awareness-raising and advocacy, but their information cannot be used directly to include in the actual listing of a country's existing instruments, since this needs to be a description of the country-specific mechanism. It is recommended not to limit this to a one-off exercise, but rather to create a national database of finance solutions. When developing such a database for the country, consider the columns in Table 3.1.


Photo credit: Ian Herbert

[14] The nature of revenues from PES is complex, since the standard, broad definition of PES (a system for the provision of environmental services through conditional payments to voluntary providers) covers a range of finance flows. A PES is a cost to the buyer and a source of revenue to the seller. Governments, public agencies, and private and third sector stakeholders can be both buyers and sellers, so revenues can accrue to each of them and be identified in the list of revenues.

[15] http://biodiversityfinance.org/finance-solutions

[16] http://www.undp.org/content/sdfinance/en/home/how-to-use-this-toolkit/

Table 3.1: Template to describe existing Finance Instruments

Heading	Description
Name	Indicate the actual name and brief description of the instrument. Example: National Lottery
Result	Select from: generate revenues, realign expenditures, avoid future expenditures, deliver better.
Finance Source Category	Select from: government (level), private firm, project developer, national/local/international non-governmental organization, national/ international financial institution, institutional investor, private foundation, bilateral, multilateral or other donor, household. Add a category, if necessary.
GBF target(s)	Describe which target(s) the mechanism is linked to.
Target/Beneficiary	Organization(s), group(s), company(ies) benefiting from the financing instrument.
Sector	Select industrial or economic sector(s) and government activity codes.
Relevant Policy(ies)	Describe how the finance mechanism is integrated into the legal framework.
Amount Mobilized, Realigned or Cost Avoided	Indicate here the finance outcomes associated with the financing mechanism (in US dollars).
Climate	Describe the impacts on climate.
Gender	Describe the impacts on gender.
Challenges to Operation or Implementation	Indicate here any challenges encountered or identified that prevents optimal implementation of the mechanism.
Potential/Opportunities for Improvement	Specify the potential for improvement and actions identified to overcome challenges.
Notes	Provide references and information not captured elsewhere.



Box 3.6: Example of an existing finance solution with potential improvement: Enabling conditions for biodiversity offsets in South Africa

In the Policy and Institutional Review (PIR) produced by BIOFIN South Africa (2016), the existing biodiversity offsetting framework was identified as a Finance Solution with potential improvement. The following is drawn from South Africa Biodiversity Finance Plan:

Biodiversity offsetting is the final option in the mitigation hierarchy that underpins environmental impact assessments in South Africa. Despite this, it is one of the least utilised mitigation options for various reasons, not least of which is national policy uncertainty. As a result, biodiversity offsetting has been implemented in a relatively ad-hoc manner, and there has been a call for national guidance and cohesion on biodiversity offsets. There is also a need for an effective enabling environment for implementing biodiversity offsets across the country to increase their efficacy in leveraging funding for additional biodiversity conservation and management interventions. The potential for the successful finalization and subsequent implementation of the national policy to support biodiversity protection, including through the expansion of the protected areas estate, seems clear. A finance solution could support the finalization of the national offsets policy and associated biodiversity offsetting guidelines, and support designing effective implementation modalities for biodiversity offsets across the country.

Step 4.B: Review the national budgeting process

At present, most biodiversity-identified financing comes from the public sector through ministries, public and quasi-governmental agencies and local governments. Hence, the national and subnational budgeting process is a principal area to map and understand; this is also one objective of the BER and the FNA.

Some questions that this review can address

- What is the budget formulation framework and calendar at the national level?
- What is the role of the different levels of government in the budgeting process?
- When and by whom are budget decisions taken?
- When and how are changes in the budget programmed and enacted?
- Who are the stakeholders and decision-makers responsible for budget preparation, legislation, execution and auditing?
- Is budgeting performed at both the national and local level? If so, describe the similarities, differences and relationships between them.
- How are budgets prepared at the ministerial and agency levels? Which budgeting approach is used (e.g. results-based budgeting)? For further details on budget approaches, refer to the chapter on FNA.
- Are biodiversity-related budgets aligned with national environmental policies?

Familiarity with the budgeting process allows insights into the institutions and other stakeholders that are responsible for planning and budgeting, and provides an understanding of how to introduce changes in programming. For example, the observation of perennial underfunding of biodiversity can be assessed and better understood by analysing the steps in the budgeting process.

Other challenges to improve the integration of biodiversity into the budgeting process include the inability to articulate or link biodiversity targets with medium-term plans and other national targets, and to allocate or disburse funds from previous budgeting allocations, which jeopardizes requests for additional budgets. A fundamental challenge for most countries is the earmarking of biodiversity revenues in the budgeting framework, as explained in the next section.

The budgeting process varies from country to country. It is iterative, i.e. it is perpetually being implemented and requires ongoing adjustments, and it is cyclical according to an established routine: (i) budget preparation; (ii)approval; (iii) execution; and (iv) auditing. Figure 3.1, Figure 3.2 and Box 3.7 provide an example of the budget process from Uganda.

Figure 3.1: Framework for linking policies and strategies to budgeting in Uganda

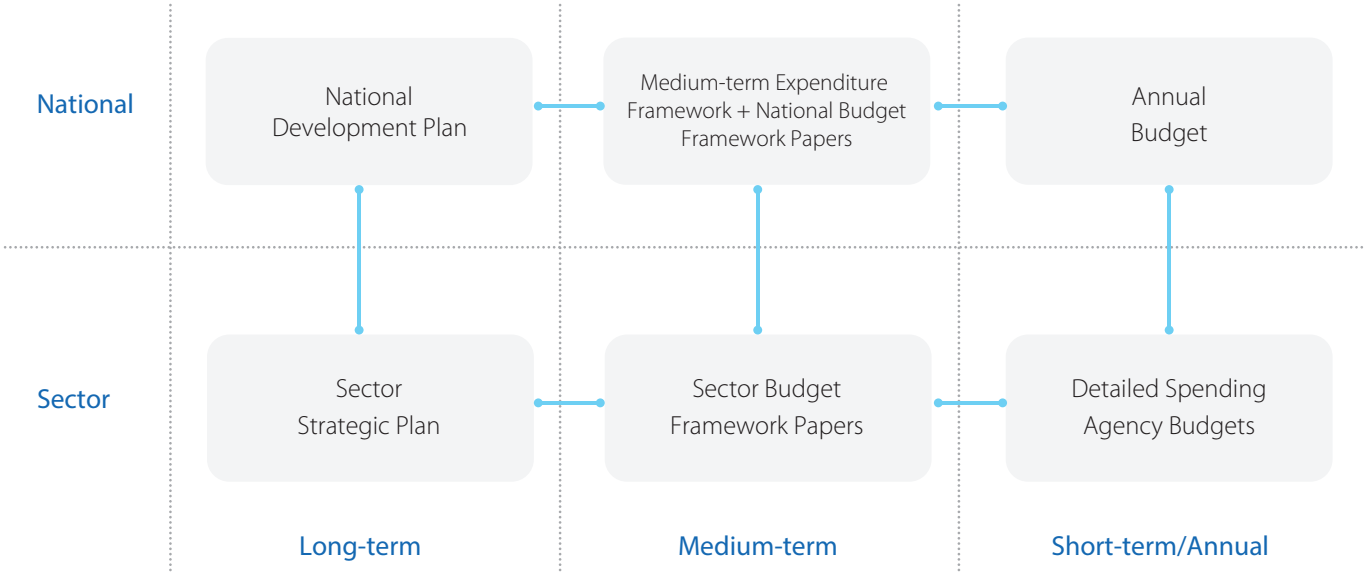



Photo credit: Indira Zhumatayeva
East Kazakhstan region

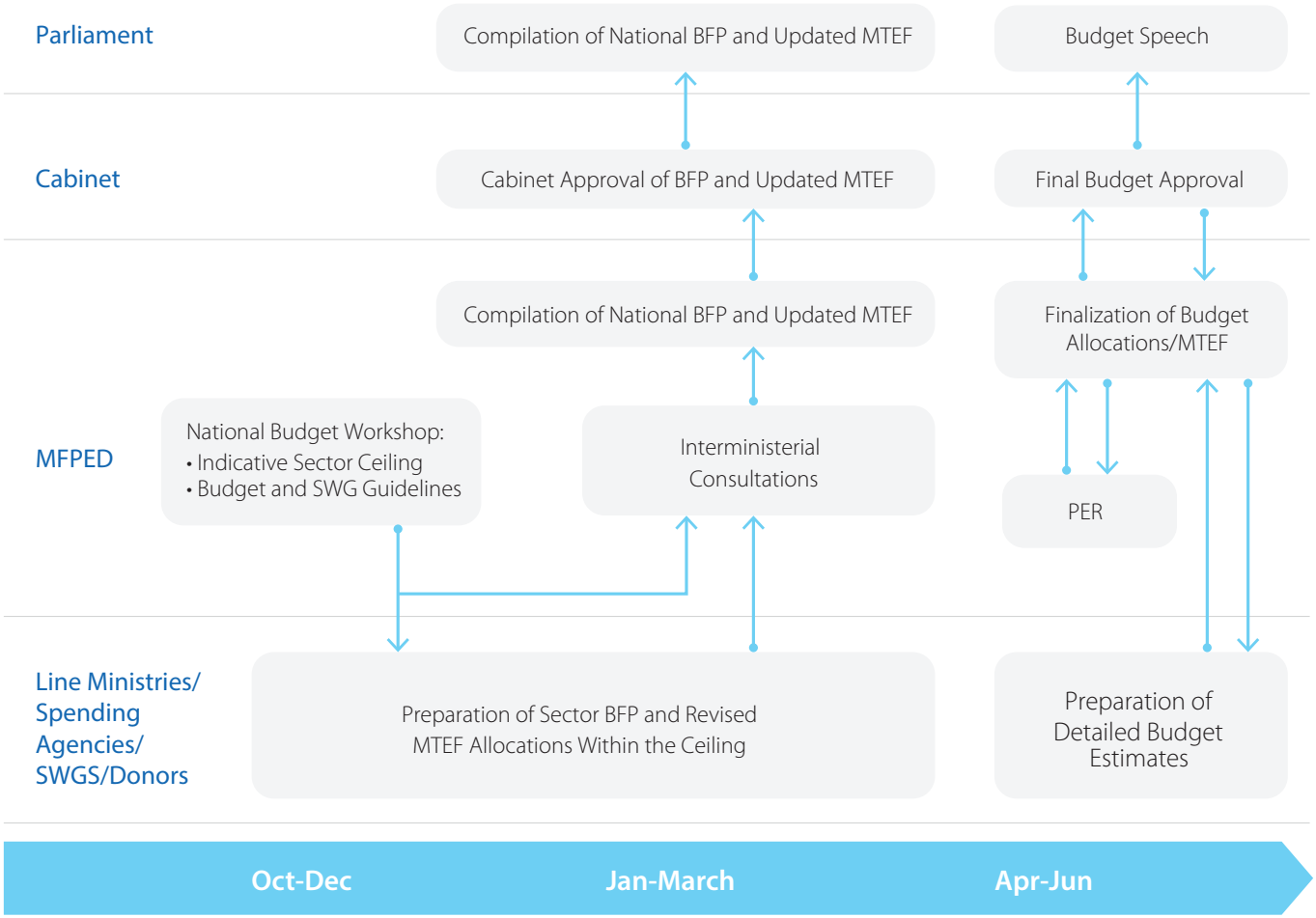
Box 3.7: Budgeting processes in Uganda

In Uganda, government financing for biodiversity conservation is articulated in the national budget process, which is informed by the National Development Plan (NDP), sector strategic or investment plans (SIPs), programme budget framework papers (PBFPs) and annual budgets. The annual budget cycle in Figure 3.2 shows that budget preparation takes place within ministries and other agencies (as an information-gathering phase) before it is aggregated at the sector level. The oversight for the sector occurs within the Programme Working Group (PWG). PWG discussions are based on sector priorities, and allocation and review allocation and review of the government budget ceilings. The budget ceilings indicate the Government's distribution of resources across different sectors based on priorities in the NDP and annual budget strategy.[a, b,]

[a] Forbes, A., Iyer, D., & Steele, P. (2015). Mainstreaming Environment and Climate for Poverty Reduction and Sustainable Development: A Handbook to Strengthen Planning and Budgeting Processes. UNDP-UNEP Poverty-Environment Initiative. http://www.undp.org/content/dam/undp/library/Sustainable%20Development/PEI/PEI%20handbook%20brochure-LR.PDF

[b] IMF (n.d.) Budget Preparation. www.imf.org/external/pubs/ft/expend/guide3.htm

Figure 3.2: Example of the budgeting cycle in Uganda



Note: Note: MFPED = Ministry of Finance, Planning and Economic Development; BFP = Budget Framework Papers; MTEF = Medium-term Expenditure Framework; SWG= Sector Working Group.

A 2016 UNDP study[17] on PA financing in Latin America underscored the need for better budget planning and preparation and results in the following conclusions:

PA budgets can be better designed to convince decision-makers in the Ministry of Environment and the Ministry of Finance to increase budget allocation.

Budgets can be better supported with data such as conservation results, detailed historical costs and cost comparisons, clear financial needs, and both economic impact and results-based indicators.

Site managers should be more engaged in the process.

Attention to national budget formulation deadlines is necessary to avoid simply repeating the previous year's budget.

[17] Flores, M., and Bovernick, A. (2016). Guide to improving the budget and funding of national protected areas systems. Lessons from Chile, Guatemala and Peru. United Nations Development Programme, New York. www.cbd.int/financial/guides/undp-rblc-pabg.pdf

Step 4c: Map and analyse biodiversity-related revenue

In addition to direct economic benefits, biodiversity generates financial revenues for countries through fees, concessions, licences and taxes. The PIR identifies sources and types of revenues generated from the use of nature assets and resources that are related to biodiversity and ecosystem preservation. The Review should cover both tax and non-tax revenue. Box 3.8 outlines some of most common public revenues that can be captured from natural asset conservation and preservation. Retention of fees in PAs is an example of biodiversity revenues being used directly for conservation and other purposes consistent with the management plan. Retention policies must be defined by law. Here, earmarking of taxes is defined as "taking all, or a portion of total revenue from a certain tax or group of taxes and setting it aside or protecting it for a certain designated expenditure purpose".[18] This also refers to the earmarking of environmental taxes collected, or any tax collected to create dedicated environmental expenditure. Some examples of earmarking for conservation arise from gasoline taxes or tourism taxes. Biodiversity revenues can be very substantial and exceed expenditures. For example, the BIOFIN team in Belize found that biodiversity generated BZD25 million ($12.5 as of Dec 2024) in revenue in 2016, while only BZD1.5 million ($750,000 as of Dec 2024) was invested in the country's PA system.

The purpose of identifying biodiversity revenues in the PIR is to identify important institutions and policies related to them and to estimate the volume of revenues generated by type and source. It also helps identify potential finance solutions related to revenue generation.

Tax and non-tax revenues may be derived from use of nature resources leading to biodiversity preservation or conservation, which can include the rendering of a biodiversity or ecoservice related service. Ecosystem services can be classified as provisioning services, regulating services, cultural services, and supporting services. Usually, provisioning services generate a significant portion of biodiversity revenues because of its direct use – be it consumptive such as food, water, medicines and genetic resources, or non-consumptive such as touristic services. Some specific charges might include PA entrance and other fees, tourism charges, water tariffs, fines and penalties, PES systems, and forestry and fisheries revenues. Revenues dependent on biodiversity and ecosystems are rarely categorized as such in public documents and thus require the review of a country's green taxes and the revenues reported by the same agencies identified. Further, it is important to consider that revenues raised at a site level may be retained there and not captured in central accounts. Revenues from biodiversity and ecosystem services are listed in Box 3.8.



Photo credit: Marco Arlaud
The average size of wildlife populations has fallen by a staggering 73% since 1970. Source: WWF's Living Planet Index

[18] World Bank. (2020). Health earmarks and health taxes: What do we know? World Bank Group. Retrieved from https://openknowledge.worldbank.org/bitstream/handle/10986/34947/Health-Earmarks-and-Health-Taxes-What-Do-We-Know.pdf?sequence=1

Box 3.8: Types of public revenue from biodiversity and ecosystem services

Tax revenues from biodiversity include both biodiversity-specific taxes on the use of natural resources or on activities that have a direct impact on biodiversity, and general environmental taxes, which target broader environmental impacts such as pollution.

Examples of biodiversity-specific taxes are:

- land use change taxes on converting natural habitats such as wetlands, forests or grasslands into agricultural or urban land. The revenue is directed towards restoring or protecting other natural habitats;
- forest conservation tax, such as tax imposed on the logging of trees in ecologically sensitive or biodiversity-rich areas;
- invasive species taxes, for example, a port-specific ambient tax with exclusion scheme to encourage the cleaning of vessels for reducing chances of invasion species;
- income taxes paid by companies for biodiversity goods and services;
- import/export taxes by companies for biodiversity goods and services;
- income taxes paid by employees working in a biodiversity-related sector
- excise taxes levied on a tax base that is relevant for biodiversity conservation or preservation such as a carbon tax, a cattle tax that may or may not be related to the methane production potential of the cow and a fish tax;
- value-added tax or general services tax collected on biodiversity goods and services;
- sales tax collected on biodiversity goods and services;
- import/export taxes biodiversity relevant goods and services;
- border carbon adjustment taxes, when proportionate to the administration of a carbon tax;
- Transaction taxes related to the trading of a nature asset that is relevant for biodiversity preservation;
- stamp duties related to the trading of a nature asset that is relevant for biodiversity preservation;
- registration duties related to a nature asset that is relevant for biodiversity preservation.

Examples of general environmental taxes linked to biodiversity:

- pollution taxes;
- carbon taxes;
- bed taxes;
- airport taxes;
- entertainment district taxes;
- import and export tariffs on goods or service of biodiversity relevance;
- border carbon adjustment measures that are proportionate to the administration of a regulated market;
- feebates used for the control of nature assets that are relevant for biodiversity conservation or preservation.

Non-tax revenues include fees and charges (e.g. user fees, permit fees and ecotourism charges), revenues from environmental funds, fines and penalties for environmental violations, revenues from government-operated programmes, and international aid and grants.

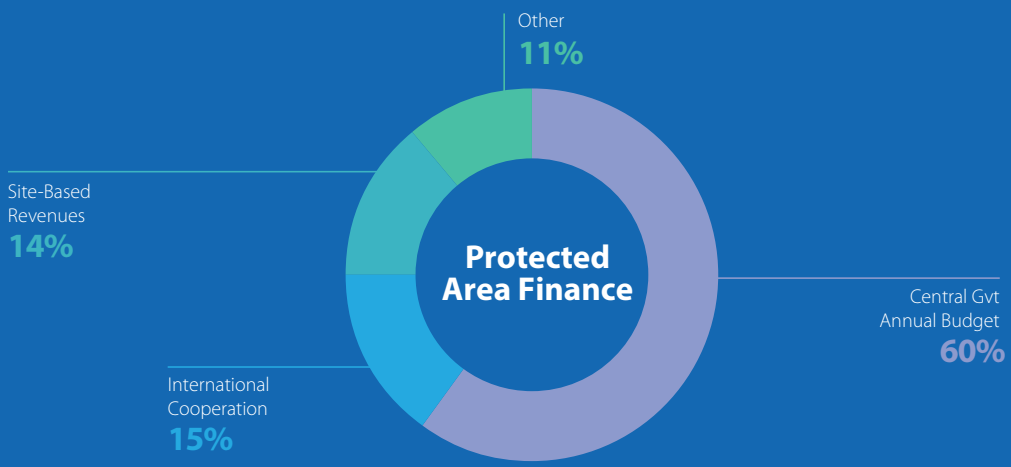
The Following are examples of non-tax revenues from biodiversity:

- **Payments for accessing biodiversity resources and areas (extractive uses):** These include fees, licences, or permits for accessing natural resources, for example, hunting permits, fishing licences and permits for collecting medicinal plants.
- **Payments for accessing biodiversity areas (non-extractive uses):** User fees are collected for accessing parks and protected areas, and for conducting leisure activities. They are a good example of the user pays principle in that they affect only those individuals or groups that directly benefit from biodiversity. Non-extractive uses means that biodiversity resources are not depleted or sold in the process. Examples include entrance fees to protected areas, biosecurity services fees, camping fees, diving fees and island environmental impact fees.
- **Volume-or scale-based resource user fees (water, wood):** Volume or scale-based fees include rents, concessions, dividends and royalties collected in exchange for the right to extract renewable natural resources. Examples include royalties for resource extraction for timber, water tariffs or water extraction fees, royalties from bioprospecting contracts and transportation licences, export permits, and other fees and charges for transporting biodiversity products.
- **Land-based or infrastructure fees (tourism concessions):** These are payments made for business access to natural land, the establishment of infrastructure on natural land, and the creation of marketable services on public lands. Examples include concession agreements, payments made to government from directly outsourcing PA management and rights of way or use for telephone, electricity or water infrastructure.
- **Revenue from environmental funds and endowments:** A biodiversity endowment fund is a fund in which the capital is invested in perpetuity, and only the resulting investment income is used to finance grants and activities. It is a common vehicle to mobilize resources from donors, national governments, the private sector as well as private citizens.
- **Environmental fines and penalties related to biodiversity:** Environmental fines and penalties are collected as a result of an illegal act such as illegal logging, poaching, illegal dumping and unplanned pollution that directly harms the environment. Fines and penalties may be set as a flat rate for specific illegal acts, or as fixed amounts. Fines can either be paid to the treasury or local government or placed in special accounts to cover environmental remediation and compensation to affected people and communities. First, environmental fines can be set in order to discourage the illegal behaviours. Second, the collected revenues can be used to recover the costs associated with offsetting the environmental impact. Fines should not be seen as a source of revenue generation. This can have the perverse effect of allowing transgressions to occur for the purpose of collecting a fine.
- **Revenue from government-operated programmes:** This consists of public agency-operated, market-based instruments, for example, from programmes such as biodiversity offsets, or government-managed auctions for tradable environmental credits, such as biodiversity credits.
- **International aid and grants:** These consist of foreign aid and grants provided by one government to another for biodiversity conservation, often as part of broader international environmental agreements, and funding comes from multilateral environmental agreements (e.g. the Global Environment Facility).

Certain revenues from biodiversity and ecosystem services are explicitly linked to natural resources extraction, for example, logging fees and fishing licences. In these cases, it would be useful to note if this practice is sustainable or if there might be unsustainable practices linked to the revenue generation.

Alternatively, revenues may be generated from more sustainable use of natural resources, such as PA entrance and concession fees, and play an important role in funding PA management (Box 3.9). Revenues from biodiversity should be recorded in a table, using the headings shown in Table 3.2.

Box 3.9: Protected area funding source in Latin America



Source: Bovarnick, A., & others (2010). Financial Sustainability of Protected Areas in Latin America and the Caribbean: Investment Policy Guidance. United Nations Development Programme (UNDP) and The Nature Conservancy (TNC).
www.undp.org/publications/financial-sustainability-protected-areas-latin-america-and-caribbean

Table 3.2: Table for recording sources of biodiversity revenues

Heading	Description
Organization/Agency	Organization/agency responsible for the revenues
Revenue Name	Actual name of the revenue. Example: protected areas' (PAs) entrance fees, fishing licencing fee, etc.
Revenue Type	Non-tax revenue or tax revenue,
Categories of Revenue	Example: payments for accessing biodiversity resources and areas (extractive uses), revenue from environmental funds, land taxes, etc.
Description	Brief description of the revenues and how it functions and how it is collected (collection, management, utilization of revenue)
Revenue Amount	In US dollars and local currency[a]
Use	What are the current known uses of the revenue? Is the use of the revenue earmarked for a specific purpose?

[a] Month-year of the exchange rate should be included.



Photo credit: Gaurav Gupta
Mobilizing resources is essential to closing the $700 billion annual biodiversity finance gap and protecting nature.

Key steps to secure data on biodiversity revenues:

1. Consult budget ministry documents on sources of revenue. presented as tax and non-tax sources. The type of fee or tax and its valuation are usually presented per agency on a yearly basis. In some countries, non-tax revenue information, excluded from the general budget, can be provided by the institutions responsible for their collection.

2. Verify data for specific ministries and details about the nature of the tax or the fee. This allows to clarify budget entries in order to obtain details such as permits, certification and inspection fees. It might also be possible to validate biodiversity relevance. The analysis can also include direction of finance flows, i.e. whether they are retained on site or by the collecting agency or consolidated in the national treasury.

   In some cases, the dates when the fees are imposed indicate whether an updating is beneficial. Some countries have developed finance solutions to address this. For example, Botswana developed a business case detailing the need for the review of PAs' entrance fees, which was approved by the Government in 2022 and led to an increase of revenues by at least $3 million a year (see Box 3.10)

3. Classify revenues according to the nine BIOFIN Categories and according to ministries. The time series can also coincide with the expenditure time series.

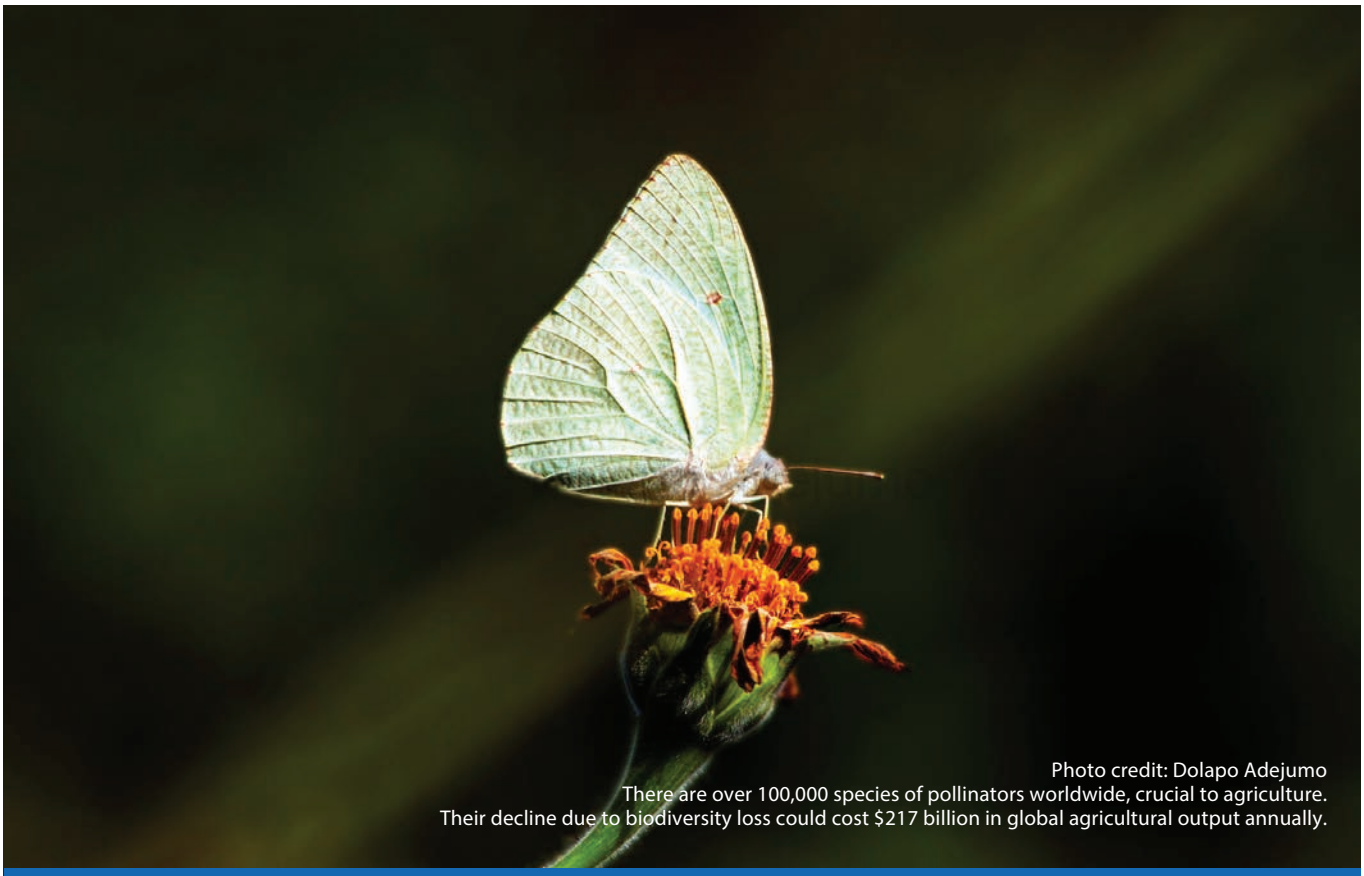


Photo credit: Dolapo Adejumo
There are over 100,000 species of pollinators worldwide, crucial to agriculture.
Their decline due to biodiversity loss could cost $217 billion in global agricultural output annually.

Box 3.10: Examples of how biodiversity revenue analysis results lead to the identification of finance solutions

The Policy and Institutional Review (PIR) in Botswana revealed that entrance and other fees for protected areas (PAs) had not been adjusted since 2000, including for inflation for 18 years and the average inflation rate in Botswana during this period was 4.94 percent. This resulted in decreased real revenues over time.

In 2020 and 2021, the Ministry of Environment and Tourism (with the support of BIOFIN) reviewed all 25 different types of park fees for each of the PAs. As of 1 April 2022, the new fees came into effect. An approach was taken to encourage tourism to some of the less popular PAs, and to maximize revenue from the most visited ones.

Different prices were set for locals, regional visitors and other international visitors. In the first year of implementing the updated fee system, the PA revenues increase by $7.8 million, i.e. seven times the original forecast.

Also, in Seychelles, through the analysis of biodiversity revenues, the Government realized that there were no biosecurity fees, and the resulting finance solution was precisely to develop and introduce them. Similarly, the analysis revealed that the PA fees were last revised in 1994, which led to a willingness to pay study on specific Protected Areas fees.

Step 4d: Map the existing positive and harmful incentives

Increasing evidence demonstrates that well-intended subsidies and government support that target socio-economic goals (food security, energy security, etc.) may have unintended negative and costly effects on the environment, including biodiversity. These effects, in turn, negatively affect societies and economies at the local and national levels. Common examples are found in the agricultural sector. OECD estimated that the support to agricultural production in 54 countries of around $500 billion was potentially harmful to the environment.[19] This can result in habitat destruction, land degradation and nutrient pollution. In many cases, the support has distortive effects, which are unequally distributed and harmful for both humans and the environment.[20] Similar examples are found in the fishery sector, where subsidies worth between $7 billion and $35 billion per year[21] are considered harmful to the marine environment, mainly due to pollution and overexploitation. The fossil fuel sector receives very significant subsidies. For G20 countries, production subsidies average $290 billion per year, and consumption subsidies, $320 billion.[22]

These examples highlight some of the inefficiencies in current policy frameworks such as the lack of solid screening processes for negative impacts on nature, resulting in significant loss of species and irreparable damage to ecosystems. Repurposing this ineffective and unsustainable support could lead to increased fiscal space. Realigning current expenditures could serve the dual goals of generating considerable savings while helping to achieve the SDGs and the global goals of the Rio Conventions. These efforts could equally contribute to building more resilient, sustainable food production systems.

In the past decade, the CBD Aichi Target 3,[23] which aims to reform incentives, including subsidies harmful to biodiversity, has remained among the most underachieved. Different definitions of subsidies are used in different contexts, depending on the specific nature of discussions.

It will be important that each country clearly define the term 'subsidies', which will be the basis to determine the scope of the assessment.

The World Trade Organization (WTO) defines a **subsidy** as "a financial contribution by a government, or agent of a government, that confers a benefit on its recipients" for the purposes of the Agreement on Subsidies and Countervailing Measures.[24] When considering **environmentally harmful subsidies**, OECD defines the scope as "all kinds of financial support and regulations that are put into place to enhance the competitiveness of certain products, processes or regions, and that, together with the prevailing taxation regime, (unintentionally) discriminate against sound environmental practices".[25]

The CBD refers to **harmful or perverse incentives** to biodiversity as "economic, legal and institutional incentives that emanate from policies or practices that induce unsustainable behaviour that destroys biodiversity, often as unanticipated side-effects of policies designed to attain other objectives".[26] Subsidies are considered a subset of incentives.

The International Monetary Fund considers the non-internalization of externalities or government inaction an implicit subsidy when examining subsidies.

Any definition adopted should enable countries to meet their objective of identifying and repurposing harmful subsidies and government support, and ideally facilitate countries to work towards and report on Target 18 of the CBD GBF.

As shown in the definitions above, subsidies are not necessarily limited to financial grants transferred to enterprises or households for a certain development purpose. Table 3.3 presents some of the main types of subsidies that governments could use.



Photo credit: UNDP Mongolia

[19] Organisation for Economic Co-operation and Development (OECD). (2022). Agricultural Policy Monitoring and Evaluation 2022: Reforming Agricultural Policies for Climate Change Mitigation. OECD iLibrary. www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2022_4a3fc124-en

[20] United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), & Food and Agriculture Organization (FAO). (2021). Global Report on Agricultural Support and Sustainable Food Systems Transitions. UNEP. Retrieved from www.unep.org/resources/report/global-report-agricultural-support-and-sustainable-food-systems-transitions

[21] World Bank. (2019). The hidden costs of subsidies in the fisheries sector. World Bank. Retrieved from https://documents.worldbank.org/en/publication/documents-reports/documentdetail/387911567063969327/the-hidden-costs-of-subsidies-in-the-fisheries-sector

[22] Urpelainen, J., & Elisha, A. (2021). Fossil fuel subsidies and their impact on climate change. Energy Policy, 49, 123-135. Retrieved from www.iisd.org/publications/report/fanning-flames-g20-support-of-fossil-fuels

[23] World Trade Organization (WTO). (1994). Agreement on Subsidies and Countervailing Measures (SCM Agreement). Retrieved from www.wto.org/english/tratop_e/subs_e/subs_e.htm

[24] Organisation for Economic Co-operation and Development (OECD). (2005). Environmentally Harmful Subsidies and Transfers: Policy Issues and Options. OECD Publishing. www.oecd-ilibrary.org/environment/environmentally-harmful-subsidies-and-transfers-policy-issues-and-options

[25] Secretariat of the Convention on Biological Diversity (CBD). (2011). Incentive measures for the conservation and sustainable use of biological diversity: Case-studies and lessons learned. Convention on Biological Diversity. https://www.cbd.int/doc/reports/incentive-measures-en.pdf

[26] The Economics of Ecosystems and Biodiversity (TEEB). (2009). The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A Report to the G8 + 5. Earthscan.

Table 3.3: Type of subsidies

Type of subsidy	Actions
Direct Transfers of Funds	• **Targeted spending through government budgets** at different levels, such as direct transfers of funds to farmers based on volume of production, and funding for research and development programmes. • **Transfer of funds to Government-owned enterprises** (at varying degrees of ownership), if the transfer of funds is carried out on the terms and conditions that are more favourable compared to transfer of funds to private ownership. For example, an equity injection in chemical fertilizer distribution from the government's budget.
Indirect Transfers: Income or Price Incentives	**Price interventions** that increase or depress domestic prices generate incentives or disincentives. **Price incentives mainly** consist of border measures, including tariff and non-tariff measures such as import tariffs or quotas, export bans, or subsidies that lead to unfair advantages, and/or **market price regulations** (e.g. domestic price fixation policies above the market rate for producers).
Fiscal Incentives	Fiscal support such as special exemptions, deductions, rate reductions, rebates, credits and deferrals that reduce costs. This includes: • **subsidies based on output,** which include transfers made according to the production output; • **subsidies based on inputs,** which entail transfers made by lowering the price of variable inputs, fixed capital, or credit, for example, VAT exemption for chemical inputs; • **subsidies based on factors of production,** using two kinds of criteria:[a] commodity criteria, such as, for example, in the agriculture sector, area planted, animal numbers, revenues, or farmer's income; or [ii] non-commodity criteria, such as subsidies tied to environmental or landscape outcomes (e.g. to encourage alternative use of agricultural land or land conservation practices) or lump-sum payments to all farmers subject to cross-compliance conditions.
Other Foregone Government Revenue	**Foregone government revenue from government-owned resources** (e.g. natural resources, land, infrastructure), goods and services. No charge or below-market rate charge.
Transfer of Risk to Government	• **Credit support:** Government loans and guarantee below-market rates. • **Insurance:** Government insurance at below-market rates, risk-shifting to the government, and caps on commercial liability. • **Transfer of environmental costs to the government:** Transfer post-project (closure and long-term monitoring costs) or during operations (waste and environmental management costs).

[a] Footnotes

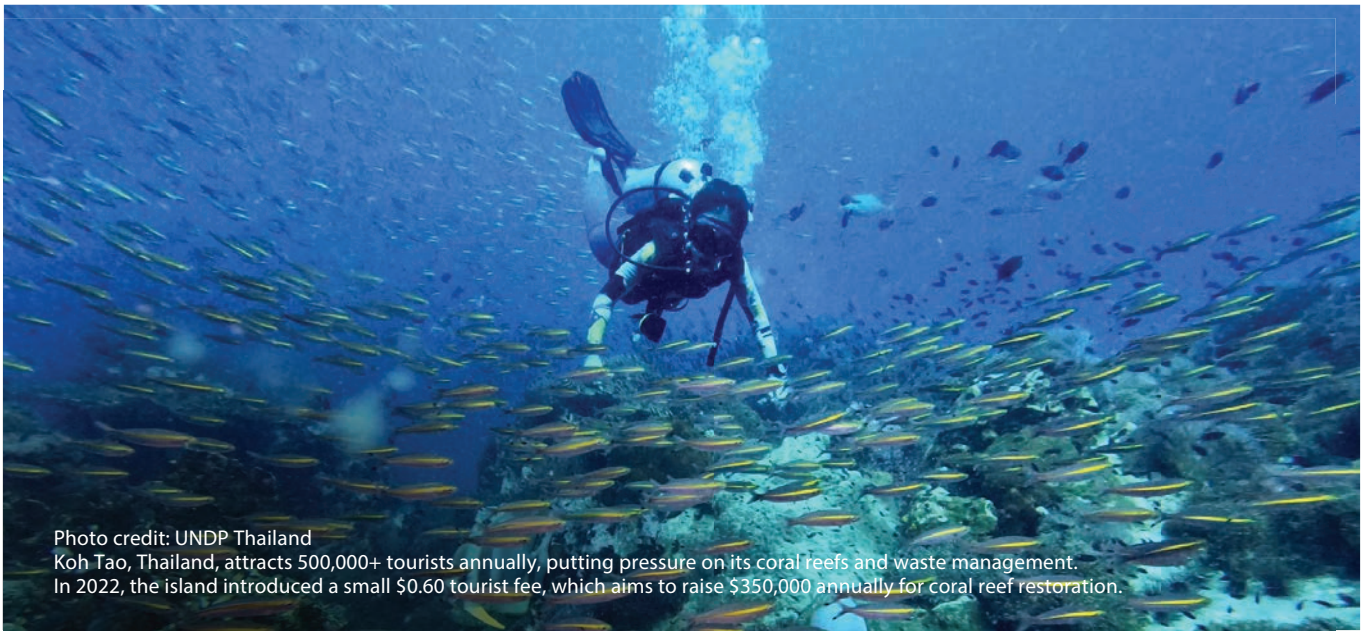


Photo credit: UNDP Thailand
Koh Tao, Thailand, attracts 500,000+ tourists annually, putting pressure on its coral reefs and waste management.
In 2022, the island introduced a small $0.60 tourist fee, which aims to raise $350,000 annually for coral reef restoration.

Types of harmful impacts

Some subsidy types are important drivers of activities harmful to biodiversity, resulting in losses of ecosystem services. These typically impact the environment negatively in two ways:

- **Subsidies aimed at under-pricing the use of natural resources** lead to overconsumption beyond sustainable levels.
- **Subsidies aimed at increasing production** can lead to an increased usage of polluting inputs, damaging production methods, or unsustainable transformation of ecosystems. in turn aggravating the risk of long-term environmental damage.

The monetary size of a subsidy does not necessarily correspond to the extent of its harmful effect;[27] even relatively small subsidies can have major negative impacts.

The opposite is also true: a large subsidy, whether it is effective or not in achieving its stated primary goal, might not necessarily have a substantially negative impact on biodiversity. A basic understanding of the extent of the impact on biodiversity will be important in prioritizing subsidies for reform.

A detailed quantification of **the impacts on biodiversity may be difficult** due to the complexity of the analysis. There are often several contributing factors, making it very challenging to identify the direct causality between subsidies and the exact extent of their biodiversity harmful effects. Table 3.4 illustrates some potential biodiversity impacts of subsidies in key sectors.

Table 3.4: Potential biodiversity impacts of subsidies in key sectors

Sector	Subsidy Objective	Effects	Potential Biodiversity Impacts
Agriculture	To support an increase of production	Intensification with an increased use of chemical inputs, mechanization and irrigation	• Loss of non-target species, including pollinators, due to direct and indirect effects of pesticides • Eutrophication of freshwater, marine and terrestrial ecosystems from fertilizers • Loss of natural habitats due to drainage, irrigation, extension of agricultural land into natural habitats, or consolidation of holdings • Soil degradation and erosion due to cultivation techniques and reduction in the fallow period.
Fisheries	To increase and enhance fishing effort by reducing operating costs (e.g. fuel subsidies, tax exemption) and enhancing revenue (guarantee a fixed price for catch) To implement programmes that increase capacity by reducing the cost of capital for fleet expansion and modernization (e.g. through vessel buy-back schemes, low interest loans, loan guarantees, grants)	• Increased fishing capacity and effort by encouraging longer fishing ranges and purchase of larger vessels • Increased consumption by reducing prices • Increased fishing effort by supporting non-viable businesses	Unstainable fishing levelaleading to: • increased mortality of target and by-catch species • an important physical impact on the habitat of benthic organisms caused by bottom trawling; • the direct effects of fishing also have indirect implications for other species. Fisheries remove prey that piscivorous fishes, birds and mammals would otherwise consume, or may remove predators that would otherwise control prey populations.
Transport	To subsidize fuel cost Provide grants to build roads	• Increased travel and vehicle use • More roads are built	Increased greenhouse gas (GHG) emissions directly and indirectly impact biodiversity. Increased carbon dioxide causes acidification of the ocean, affecting fauna and flora that are sensitive to pH imbalances. Increased habitat losses and habitat fragmentation, and increased deforestation in remote areas.
Energy	To subsidize fuel cost	Increased use	Increased GHG emissions have direct and indirect impacts on biodiversity. Increased carbon dioxide causes acidification of the ocean, affecting fauna and flora that are sensitive to pH imbalances.
Water	To subsidize water price	Water overuse and wastage due to below-cost pricing.	Falling water tables, erosion and loss of biodiversity due to water stress situation or a lack of available water and food for wildlife.

[27] Organisation for Economic Co-operation and Development (OECD). (2013). Environmentally Harmful Subsidies: Challenges for Reform. OECD Publishing. www.oecd-ilibrary.org/agriculture-and-food/environmentally-harmful-subsidies/synthesis-report-on-environmentally-harmful-subsidies_9789264012059-3-en

The PIR should aim to map and screen the subsidies across sectors. The drivers of biodiversity loss analysis created in the first part of the PIR can be used for guidance to identify harmful impact of subsidies. It is also possible to use the types of drivers of loss employed in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' (IPBES) glossary such as climate change, pollution, land use change, invasive alien species and zoonoses.[28]

This mapping and screening phase serves to provide an initial list of subsidies that have clear potential to harm biodiversity and that are politically more viable to redesign.

The following guidance questions were developed as a checklist:

1. What are the most prominent subsidies in prioritized sectors known to have an impact on biodiversity? In which areas?
2. What is the available evidence of harm to nature, biodiversity, ecosystems, ecosystem services, endangered species caused by the specific subsidy?
3. Is the overall subsidy causing the impact or only a specific part? Why? Where? Geographic information system (GIS) data can be used, when available, to support this evidence.
4. What are the annual average costs for government and beneficiaries?
5. Is the target group reached? What are the primary, secondary or other beneficiaries? What are the annual average financial benefits for beneficiaries?



Photo credit: Rachenzero

Box 3.11: Repurposing agricultural subsidies to green coffee production in Viet Nam

For decades, Viet Nam[a] has offered subsidized agricultural credit to support the agriculture productivity of smallholders in order to reduce food insecurity and boost agriculture exports. These subsidies included indirect fertilizer subsidies in the form of lower energy prices for domestic fertilizer manufacturers and farm credit subsidies. Coffee production was characterized by: over-irrigation practices, which led to groundwater depletion; the overuse of nitrogen-based fertilizer, which contributed to soil degradation and pollution; and the expansion of coffee plantation areas on land unsuitable for coffee due to the land's soil type and slope, climatic conditions and water availability, which at times encroached into forestland,[a] resulting in habitat destruction and loss. This mismanagement of soil and water resources resulted in reducing productivity and farmers' earnings and also had negative impacts on ecosystem services, such as the provision of clean air, water, and soil resulting in biodiversity losses and human health issues.

In 2014, Viet Nam recognized the need to develop agriculture more sustainably, and adopted the Agriculture Restructuring Plan (ARP). Accordingly, the Government established a programme that provides farmers with access to credit under the condition that it incentivizes greener farming practices among coffee growers. The conditions also stipulated that the farmers had to train in green production methods, and plant on suitable land. In addition, they gained access to higher quality planting materials and credit for higher efficiency irrigation equipment with official development assistance support. Participating farms saw their profits increase by an average of 23 percent from the baseline.



[a] Havemann, T., Nair, S., Cassou, E., & Jaffee, S. (2015). Coffee in Dak Lak, Vietnam. In Steps toward green policy responses to the environmental footprint of commodity agriculture in East and Southeast Asia (pp. 99-122). World Bank Group. https://www.researchgate.net/profile/Christine-Negra/publication/282768221_Steps_Toward_Green_Policy_Responses_to_the_Environmental_Footprint_of_Commodity_Agriculture_in_East_and_Southeast_Asia/links/5621115108aea35f2681598e/Steps-Toward-Green-Policy-Responses-to-the-Environmental-Footprint-of-Commodity-Agriculture-in-East-and-Southeast-Asia.pdf#page=117

[28] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (n.d.). Drivers of change. https://www.ipbes.net/node/41006



Photo credit: AdobeStock
Subsidies that harm nature, such as those in agriculture, fisheries, and forestry, total around $610 billion annually. Redirecting these subsidies towards sustainable practices could significantly help close the biodiversity funding gap.

When examining subsidies, a careful review of vested interests and socio-economic benefits is required. Regardless of effectiveness, once a private company or interest group benefits from a subsidy, it often lobbies to maintain them. As such, subsidy reforms always face sociopolitical challenges. Despite challenges, several phased approaches are possible, as follows:

greening subsidies approaches, which often retain the payment structure of the subsidy, but adjust the purpose, conditions, regulations and incentives to reduce negative environmental impacts (e.g. maintaining fisheries subsides while not allowing the use of certain hooks/nets that harm fish and other species). Harmful subsidies may even be turned into biodiversity-neutral or positive subsidies;

repurposing subsidies after identifying harmful ones, by collaborating with beneficiaries to redirect them toward more sustainable uses and foster new economic activities. A typical example is transitioning fossil fuel subsidies to support the development of renewable energy sources;

reducing the budget allocation of subsidies, which can mitigate the biodiversity-harmful impact while saving significant public funds. For example, a 5 percent reduction in a large subsidy can help save millions of US dollars;

eliminating subsidies, i.e. the complete removal or cancellation of financial support provided by the government or other entities;

minor modifications of the most harmful elements, i.e. taking out only the most harmful elements, such as a particularly harmful chemical fertilizer, without requiring a major overhaul of a subsidy.

The PIR list of subsidies should include biodiversity-positive and biodiversity-harmful (or potentially harmful) ones. In addition to listing, any information useful to determine how effective these schemes are should be collected. Table 3.5 shows the information to record in the list of subsidies. An example of subsidy repurposing is provided in Box 3.11.

Table 3.5: Template to record information on subsidies

Heading	Description
Existing Subsidy	Name of the subsidy analysed
Responsible Stakeholder/ Organization/Agency	Stakeholders/organization and agency involved or related to the subsidy
Sector/Government Activitiy Codes	Relevant sector(s)
Drivers	Describe the motivations explaining the introduction and continuation of the subsidy
Direct or Indirect	Is it a direct or indirect subsidy?
Financial Value	Financial value of the subsidy (if this information is already available)
Description – Intended Objective and Beneficiaries	Describe the main objectives of the subsidy and the intended beneficiaries
Benefits (Social, Environmental, Economic)	Describe the different benefits that the subsidy has and will have on social, environmental and economic aspects. Example: agriculture subsidy to support rural employment
Biodiversity Benefits	How does the subsidy benefit biodiversity?
Biodiversity-harmful Impacts	What harmful impacts on biodiversity can be expected or are known?
Is this Potentially a Harmful Subsidy?	See definition above
Describe Related Legislation	Describe the main laws and regulation creating the subsidy
Additional Notes	Additional Notes
Links to Related Studies Including CBA, Economic Valuation	Describe different sources of analysis related to the subsidy (e.g. any economic justification).

UNDP-BIOFIN had developed guidelines[29] that provide further guidance, and support countries to:



- identify and assess which subsidies/government support are likely having a harmful impact on nature, and where possible, quantify their value and cost;
- define multiple redesign options through a multidimensional analysis that adequately weighs social, gender equality, environmental, economic, and political economy concerns throughout the re-design and transition process, including within the COVID-19 context;
- develop action plans to redesign prioritized subsidies, outlining multiple scenarios.
- implement the action plans to redesign subsidies in order to reduce their negative impacts on nature while also reducing reducing other negative impacts and enhancing positive attributes for all of the SDGs; and
- identify institutional gaps that have caused subsidies to become adopted without sufficient consideration for nature and define actions to fill existing gaps.

Step 5: Analyse main institutions

This step summarizes the role and function of the institutions identified during the previous analyses of drivers and finance instruments. Each main institution can be assessed and scored for its interest and influence in biodiversity finance, and its capacity in the space. As a result, each institution could be better placed in the stakeholder engagement plan.

Step 5a: Identify the main institutions and organizations

The description of the main organizations and institutions active in biodiversity finance should answer the following questions:

- Which are the main institutions and organizations associated with priority drivers and finance instruments, and who are the decision-makers? Here, the institutions involved in addressing both biodiversity drivers and finance instruments can be matched against the major NBSAP actions and/or the GBF. Alternatively, the analysis can introduce some tagging on whether the institution is a 'core' or 'non-core' biodiversity agency.
- What is the impact the main institutions are having or could be having on priority drivers or finance instruments?
- What are the main challenges that the main institutions face in expanding biodiversity finance?
- What are the opportunities for positive change in the system?
- What are the relevant government function codes, as per the *Manual on sources and methods for the compilation of COFOG statistics — Classification of the Functions of Government (COFOG) — 2019 edition.*

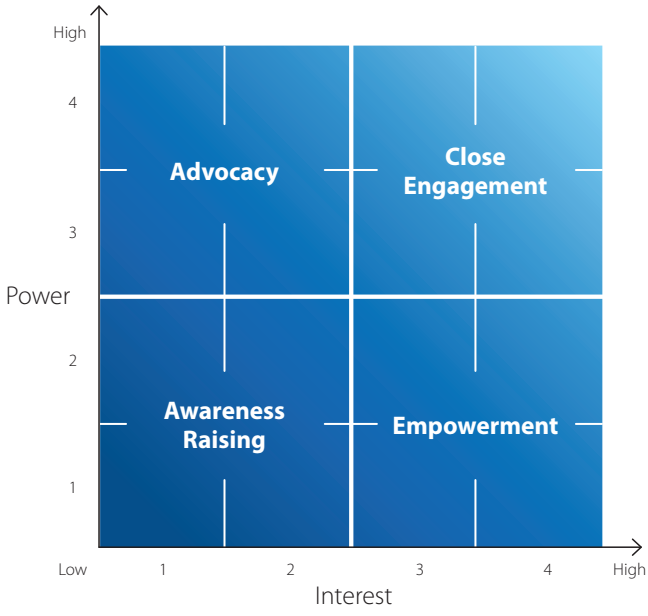
Step 5b: Analyse each main institution to produce a score on interest and influence scale

The list of potential and existing biodiversity finance institutions and organizations can be unmanageably large. The objective is to focus on the most important sectors that drive biodiversity change and, within them, the most important institutions and functions. Each organization's description should include at least its mandate and association with biodiversity. The widely published power and interest matrix is one way to evaluate a range of stakeholders (see Figure 3.3).

Institutions can be assessed on two variables – how much power they hold to influence the outcome of the project concerned (scale of 1–4), and how much interest they have in biodiversity (1–4).

Each organization can then be placed in a matrix. For organizations that fall into the top right, i.e. Close Engagement, engagement plans might be established. For the most important institutions, the key reasons for their prioritization can also be added. Some institutions may not have a core function relevant to Biodiversity but may have a significant influence on it (e.g. Ministry of Finance).

Figure 3.3: Power/Interest matrix for determining methods of stakeholder engagement



[29] UNDP-UNEP Poverty-Environment Initiative (2015). Mainstreaming Environment and Climate for Poverty Reduction and Sustainable Development: A Handbook to Strengthen Planning and Budgeting Processes. www.undp.org/publications/mainstreaming-environment-and-climate-poverty-reduction-and-sustainable-development; www.unpei.org/sites/default/ les/publications/PEI handbook-low res.pdf

Step 5c: Review priority institutions and develop the stakeholder engagement plan

A few of the selected ('Close Engagement') institutions can be evaluated in greater detail in the following terms:

Effectiveness

Reviews and audits of public institutions may be available. If not, the team could conduct a rapid capacity assessment on biodiversity finance. Where capacity is being assessed, this should focus on the ability of the organization and its staff to design, initiate and scale biodiversity finance solutions. Detailed capacity assessments are beyond the scope of the BIOFIN methodology, but it may be considered if essential to the process.

Institutional arrangements

Describe institutional arrangements in terms of how existing governance arrangements function in relation to existing finance instruments or transfer mechanisms.

Associated finance mechanisms

For each priority institution, describe associated finance instruments.

Importance for the Biodiversity Expenditure Review (BER), Financial Needs Assessment (FNA) and Biodiversity Finance Plan (BFP), and implementation

Indicate how the organization can be involved in the consecutive steps of BIOFIN, either as a source of data, expertise, a subject of analysis, or as potential co-creator of a finance solution.



Photo credit: Dolapo Adejumo
Investing in nature isn't just good for the planet - it makes economic sense.
Nature-positive projects could generate up to $10.1 trillion annually and create 395 million jobs by 2030.

Step 6: Select new and existing finance instruments for early implementation

The process focuses on finance instruments with the most promising and realistic results (biodiversity, financial, policy or institutional) in the short term, or those responding to an urgent need or immediate opportunity.

The BIOFIN team, together with its stakeholders, can conduct an initial selection of all identified finance solutions during the PIR consultation workshop. The selection process for each finance solution will follow two steps:

In Step 1, the BIOFIN team together with stakeholders answer preliminary questions If all the answers to the three questions (including either 1a or 1b) are 'Yes', the finance solution can be pre-selected for early implementation (Table 3.6).

Table 3.6: Criteria for the initial selection of finance solutions for early implementation

Criteria	Questions	Answers	
1a. High Feasibility	Is there a high or very high likelihood of success? *presence of a broad political and social support and sound commercial viability (if relevant). No operational challenges known. Strong record or expectation of success, replicability, or scalability in comparable contexts. Capacity to implement the new or improved instrument is evident.*	**Yes**	**No**
1b. Short-term Opportunity or Need	Is there a short-term opportunity? *policy development, emerging legislation, the filling of minor gaps in legislation, a fiscal process window that will soon close) or an immediate need, for example, following a major disaster or a fiscal crisis .*	**Yes**	**No**
2. Budget	Is there a budget available for implementation?	**Yes**	**No**
3. Results (Finance or Policy Result)	Can the result be achieved in 1-2 years?	**Yes**	**No**

In Step 2, the BIOFIN team together with stakeholders should rank the selected finance solutions by their expected impact on biodiversity. Solutions with the highest expected impact on biodiversity are prioritized.

The solutions screened remain part of the broader screening process resulting in the BFP, even if selected for early implementation.

Step 7: Summary and recommendations

In this final step of the PIR, a summary of all the main results should be prepared and presented as part of a comprehensive written report *(see PIR Report Outline below).* Detailed policy and institutional recommendations should be developed based on the analysis, validated and improved through consultations with stakeholders. Recommendations should be as detailed as possible, citing legislation, policies, organizations and sectors, as well as be actionable providing specific options for correcting or improving a situation.

The PIR report will guide the BIOFIN team as the subsequent assessments begin. It should provide useful information for a range of stakeholders in the biodiversity sector and beyond. In addition to the PIR report, we recommend formulating a policy brief to better present the main conclusions and recommendations.

Communicating the PIR and its recommendations effectively is important. The main report and the policy brief should clarify who the target audience is, and where possible, the reports should be presented as part of broader communication campaigns on biodiversity finance (see Chapter 2 for more guidance on communication).



Photo credit: Đặng Thái Tài, BIOFIN in Hòn Yến

The Suggested PIR Report Outline

- **1. Executive summary – Including key findings and recommendations for policymakers**
- **2. Introduction**
  - Overview of BIOFIN.
  - Background information on the Policy and Institutional Review (PIR), including abbreviated information on the context.
  - The objectives of the PIR.
  - Institutional arrangements and contributors to the report.
  - The methods used to collect data and the structure of the report.
- **3. Biodiversity vision and strategies**
  - Summary of national visions and strategies for biodiversity.
  - National development plans, green growth plans, etc. and the contribution of biodiversity and ecosystem services towards sustainable development in a country.
  - Citations of existing economic, fiscal policy, and other studies, and information on how nature contributes to current GDP (and green GDP when available).
  - Summary of the availability of economic valuation evidence for the country, subdivided by sectors, ecosystems, and households, communities and businesses whose value are affected.
  - Sectoral dependencies on, impacts on, risks to, and opportunities for biodiversity.
- **4. Trends, drivers and sectoral linkages**
  - Biodiversity-positive and -negative trends in the country.
  - Describe the drivers of change in biodiversity, including, institutions, policies and markets.
- **5. The biodiversity finance landscape**
  - Overview of the national and state budget process and major government subsidies that impact biodiversity.
  - Overview of biodiversity-based revenues.
  - Summary of biodiversity finance solutions identified in the country.
- **6. Institutional analysis**
  - Institutional arrangements between and among the institutions responsible for biodiversity-related finance.
  - Biodiversity finance-related capacities and needs per priority organization.
  - Stakeholder engagement plan.
- **7. Rapid prioritization of potential improvement of existing finance instruments**
- **8. Summary of key recommendations**
  - Overall conclusions and recommendations.
  - Legal and policy recommendations .
  - Changes in sectoral policies and practices that would help reduce biodiversity loss and/or improve biodiversity finance.
  - Institutional, organizational and capacity development recommendations.
  - Observations on the potential of existing finance solutions.
  - Opportunities for improvements in the budgeting and planning process.
  - Key national entry points, including a rationale for their selection, and the associated agencies and organizations for each entry point.

Technical Appendices can contain further detail, such as in the following:

- **9. The biodiversity policy and institutional review (in table format where possible)**
  - Details of the sectoral analysis.
  - Detailed list and analysis of all policies, laws and regulations reviewed.
  - Detailed list of all revenues inventoried.
  - Detailed list and description of each government subsidy reviewed.
  - Complete listing of all economic valuation studies.
  - A summary description of all current finance solutions.
  - Detailed list and description of all stakeholders identified and consulted throughout the PIR.
- **10. Glossary of terms**

  This section should define all technical terms used in the PIR report.
- **11. References**

  This section should include all references cited in the report, ideally with web links.



Photo credit: Nel Botha
African Bush Elephants (Loxodonta africana) stand nearly four meters at the shoulder and are the largest land animals on Earth. South Africa hosts over 20,000 wild elephants, most of which can be found inside Kruger National Park.

CHAPTER 4

The Biodiversity Expenditure Review



Introduction

The Biodiversity Expenditure Review (BER) builds on extensive experience of public expenditure reviews across many policy areas in defining a biodiversity expenditure. In addition to the public sector, it considers expenditures by a wide range of actors, including the private sector, donor and civil society actors.

A biodiversity expenditure is any expenditure whose purpose is to have a positive impact or to reduce or eliminate pressures on biodiversity. Biodiversity expenditures consist of direct or primary expenditures that have biodiversity as their principal purpose, and indirect or secondary expenditures[1] that have biodiversity as their secondary purpose.

The chapter is divided into four sections: Section 4.1 covers the objectives, main concepts, expected outputs and links to other chapters; Section 4.2 describes the detailed steps in the BER methodology and associated guidance including how to do a private sector BER; Section 4.3 discusses private sector expenditures for biodiversity and the estimation process; and lastly, Section 4.4 provides guidance on developing and communicating conclusions and recommendations.

4.1. Concepts and objectives of a BER

Objectives

The BER analyses detailed data on public, private and civil society budgets, allocations and expenditures to inform and promote improved biodiversity policies, financing, and outcomes. The BER should result in a comprehensive report, a clear executive summary and policy briefs to help policymakers understand general trends, challenges and opportunities in biodiversity expenditures.

The BER should cover the following:

1. **Spending basics** by determining who spends money, on what types of actions, and how much is spent or invested. Public and private expenditures are described and if possible, estimated;
2. **Biodiversity expenditure categories** by sorting biodiversity expenditures and investments according to key biodiversity targets, actors, strategies, goals and plans;
3. **Policy alignment** by analysing the degree to which spending aligns with stated government priorities;
4. **Delivery patterns** by considering whether the budget is allocated fully and to what extent the allocation has been disbursed and spent;
5. **Future spending** by identifying biodiversity expenditure trends and data to estimate future spending;
6. **Analysis and finance solutions** by highlighting which thematic areas are better financed and why, analysing opportunities for improved delivery; by comparing biodiversity and sectoral expenditures to government budgets and GDP in order to explore opportunities for improved fiscal planning and finance solutions. Opportunities to scale up or realign private sector finance flows to biodiversity are also analysed, and potential finance solutions identified.

Main concepts

An expenditure review[2] is a standard diagnostic tool used across many sectors to help understand how much money is spent within specific sectors or themes, whether budgets and expenditures are aligned with national policy priorities, and what the expenditures have achieved. They are often linked with PIR as part of an overall assessment of policies, institutions, expenditures and finance within a sector.

Expenditure reviews traditionally focus on the public sector covering topics such as climate,[3] poverty eradication,[4] education[5] and the environment.

During the start of the BIOFIN Process, BERs were adapted from these sectors, but after having been applied in at least 40 countries, the BER process has evolved. Some have developed into full-fledged finance solutions, while others have resulted to improved measurement of biodiversity expenditures, thus, enhancing the budget allocation process.

[1] Also called a spending review, sectoral spending analysis or comprehensive spending review, among other terms.

[2] Bird, N., Beloe, T., Hedger, M., Lee, J., O'Donnell, M., & Steele, P. (2011). Climate Public Expenditure and Institutional Review: A methodology to review climate policy, institutions and expenditure. An ODI and CDDE methodological note. www.cbd.int/financial/climatechange/ g-cpeirmethodology-undp.pdf

[3] Kazoora, C. (2013). Public Expenditure Review for Environment and Climate Change for Rwanda, 2008-2012. www.unpei.org/ sites/default/files/e_library_documents/Rwanda_PEER_2013.pdf

[4] World Bank and Australian Aid (2012). Philippines: Basic Education Public Expenditure Review. https://openknowledge.worldbank.. org/bitstream/handle/10986/13809/71272.pdf?sequence=1&isAllowed=y

[5] MEA (2005). Millennium Ecosystem Assessment Ecosystems and Human Well-Being. www.millenniumassessment.org/ documents/document.356.aspx.pdf

Box 4.1: How Biodiversity Expenditure Reviews have benefited various countries over the years

The Biodiversity Expenditure Review (BER) has led to the development of finance solutions, such as in India, which developed mainstreaming as a finance solution. In addition, in the Philippines, Costa Rica and Seychelles, the BER informed budget realignments. In Mongolia, the BER improved implementation of natural resources user fees, which were applied at the subnational level. Nepal's BER focused on community-level expenditure analysis, which resulted in a finance solution that would measure in-kind and cash expenditures of selected forest user groups and build their capacity for mobilizing finance for biodiversity conservation in piloted biological corridors.

Mexico conducted the BER application also at subnational levels, and in partnership with the National Institute of Statistics and Geography (INEGI) has led to a national environmental accounting system (for further information on the institutionalization of the BER process, see Chapter 7).

Bhutan introduced an integrated BER and developed an intricate tagging system that linked biodiversity, climate change and poverty, while Malawi introduced a budget code for biodiversity and introduced a tagging system as a result of the BER. The BER ultimately helps develop a biodiversity budget coding protocol and tagging system, which may result in greater or more effective budget allocations. A systemic approach can help countries record and track the amount of money spent on biodiversity over time.

The budget coding of climate expenditures in Indonesia led the Government to issue a $1.25 billion green sukuk [a] connected to the climate expenditures identified in the national budget, of which $2.8 million was allocated for a parrot conservation and rescue centre in Maluku.[3] Indonesia has also formalized the dynamic tagging system, and in March 2024, launched the biodiversity tagging in the government budget.

[a] Green Sukuk is a *sharia*-compliant bond, where 100 percent of the proceeds go exclusively to finance or re-finance green projects that contribute to mitigation and adaptation of climate change as well as preservation of biodiversity.

Due to the multiplicity of stakeholders in biodiversity, the BER scope needs to go beyond public spending and include expenditures from the private sector, civil society and ODA – with the latter being partially (analysed within the public sector budget). National cumulative expenditure figures are useful for biodiversity policy and management planning and can be used by the CBD (being a section of the Financial Reporting Framework), the SDGs, donors and national reporting.

It is important to consider the extent of subnational expenditures (e.g. state, province, and local/municipal) in biodiversity. In countries such as South Africa with decentralized systems, a significant proportion of public budgets is distributed to subnational authorities. Fiscal decentralization might have delegated subnational authorities to manage and spend certain revenues on their own accounts.

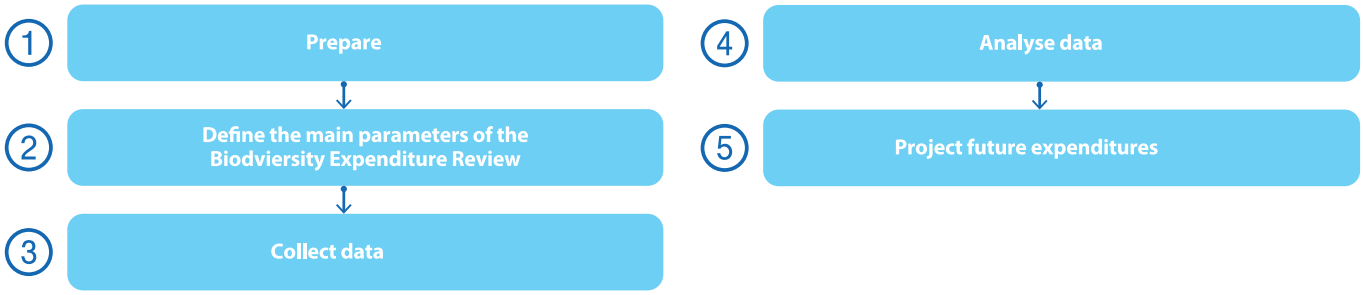
Due care should be taken to avoid double-counting since expenditures can be posted at multiple levels. In some cases, site-based (e.g. PA systems) expenditures should also be reported if they are based on locally acquired revenue (e.g. entrance fees) that are not accounted for elsewhere.

The BER should also evaluate expenditures against total government budgets, biodiversity-based revenues (such as discussed in Chapter 3), GDP and sector contributions to GDP, among others.[6] Ultimately, the analysis derived from the BER can be used to address fiscal sustainability and policy alignment concerns, as well as efficiency and effectiveness, all of which are important inputs to the BFP as described in Chapter 6.

The Biodiversity Expenditure Review process

The BER process consists of: defining the main parameters for the expenditure review (time frame, institutional involvement, data specificity, data sources); collecting and analysing data; and projecting future expenditures (Figure 4.1).

Figure 4.1 The process of developing a Biodiversity Expenditure Review



[6] E.g. debt payments as percent of GDP, foreign exchange rate, and poverty and employment statistics.

Links to other chapters

The PIR (Chapter 3) identifies priority private, public and civil society organizations to include in the BER. A broad description of the institutional mandates is also provided to inform the biodiversity attribution process in this chapter. The BER then determines to what extent their budgets and expenditures align with national biodiversity priorities. Upon completion of the PIR and BER, we have a clear understanding of the sources, amounts and types of biodiversity expenditures across biodiversity categories and themes. This information establishes a reference point against which to compare the FNA (Chapter 5) to estimate financing needs.

This is critical baseline information to identify, prioritize and implement biodiversity solutions of the BFP (Chapter 6). The BER also helps identify potential opportunities for fiscal reform and areas where expenditures may not be aligned with national visions and strategies. The BFP can include biodiversity finance solutions that focus on avoiding future budgetary needs, better prioritize current investments or improve the efficiency of programme delivery.



Photo credit: UNDP Thailand
UNDP BIOFIN supports enhanced waste management efforts and the protection of coral reefs on Koh Tao Island, Thailand.

4.2. Summary of the five steps of a BER

The Five Technical Implementation Steps for the BER may be Adapted Based on Need.

STEP 1

Prepare

Define the scope of the analysis, identify key stakeholders (including the 'client' for the BER), develop a stakeholder consultation plan, identify key data sources, and develop a data management system.

STEP 2

Define the main parameters of the BER

2a. Clarify the definition of 'biodiversity expenditures'.
2b. Establish a classification and tagging system to map biodiversity budget expenditures with relevant national and international biodiversity goals.
2c. Establish a system for the attribution of primary and secondary expenditures.

STEP 3

Collect data

Identify and collect data from public, private, donors and civil society organizations and other data sources.

STEP 4

Analyse data

Estimate the biodiversity component of expenditures.

4a. Apply the attribution rate and estimate biodiversity spending for the agency.
4b. Analyse biodiversity spending in the national context.
4c. Identify relationships between budgets, allocation, expenditures expenditures and biodiversity revenues.

STEP 5

Project future expenditures

Analyse likely major future trends in biodiversity expenditures for each priority organization, taking into consideration key assumptions (e.g. predicted inflation, GDP growth) that could affect future expenditures.

The chapter concludes with guidance on reporting to targeted stakeholders and decision-makers.



Photo credit: Moorish Idol

Step 1: Prepare

The BER preparation stage involves a scoping process, a stakeholder assessment, identification of data sources, and the development of a data management system.

The scoping process aims to build products targeted to the key stakeholders and decision-makers, and generate the greatest possible ownership and impact. The scoping process determines the years to be covered, the organizations to include (especially in the private sector), and the best possible level of detail for classification and attribution. Government spending, as well as NGO and donor spending, should be included in the scoping process. Once data collection begins, the time period may change due to a lack of comparable data. The appropriate time period for the review may depend on national circumstances (e.g. the timing of budget cycles) as identified in the PIR (Chapter 3). The data should include at least the previous five years for which complete data are available, but the longer the time sequence, the better the analysis. Depending on data availability, the team may decide to use budget data or actual expenditures, which may incur some lag time; either data set is acceptable provided that there is consistency.

It is useful to update and revise the stakeholder consultation plan initially developed as part of the PIR (Chapter 3). There are key types of stakeholders involved in the BER, which may overlap, which are: principal stakeholders and decision makers; and organizations from which data are required. For the former, individuals and organizations with the greatest influence on public and private biodiversity budget processes, allocations and expenditures should be included (i.e. those who have the greatest 'power' in the power/interest matrix). The key stakeholders and decision-makers may be members of the BIOFIN Steering Committee, the finance ministry, finance regulators, environmental and other key ministries, national statistics departments, key civil society and private actors, such as donors, civil society groups and representatives of the finance and corporate sector. A subgroup of these key decision-makers can be identified as the 'client' for the BER, i.e. those who have the greatest interest in seeing the results and recommendations—and attention should be paid to ensure that their interests and questions are included in the analysis and conclusions. For the latter, the list of organizations to be contacted for expenditure data should have been identified in the PIR (Chapter 3) and can be adjusted as more information is acquired.

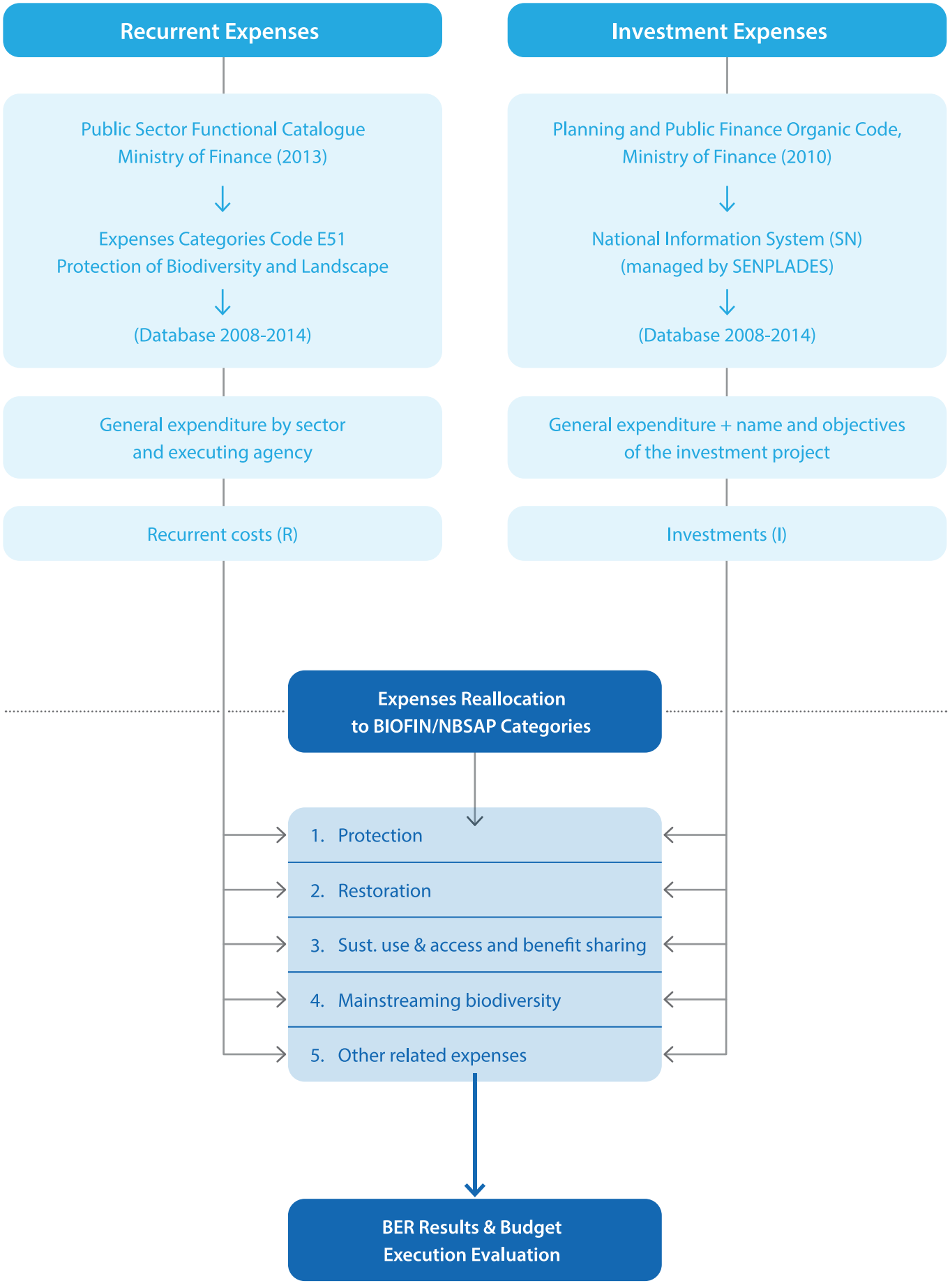
The team should draw on experiences from other BERs and environmental expenditure reviews previously conducted in the country or in other BIOFIN countries, including in other thematic areas such as climate change, poverty, health or education. A scan of data availability, consistency and the level of detail is discussed with the key stakeholders. It should quickly become evident if there are detailed results-based government activities or programme-based expenditures, or if budgets are only associated with agencies or organizations.

Once the framework and targets of the analysis are identified, it is valuable to plan a consultative meeting to validate the scope and build consensus on the definition of biodiversity expenditures, the classification system and the attribution coefficients for expenditures especially for secondary attribution. The meeting can also cover how the data will be retrieved from both public and private institutions, and resolve any data confidentiality issues. An example of an effective scoping exercise from Ecuador is presented in Figure 4.2, showing the main sources of data, how the expenditures are categorized, the dates for data acquisition, and more details. Disaggregation of expenditure data will also depend on what countries may need for planning purposes. The example from Ecuador below shows disaggregation into recurrent and investment (capital) expenditures.



Photo credit: Mahtab Haider
Lion in the grasslands of the Serengeti, Tanzania - where tourism is a major source of revenue - is one of the countries to have launched BIOFIN in 2025.

Figure 4.2: BER scoping exercise: Example from Ecuador



Step 2: Define the main parameters of the BER

The BER quantifies the amount of money intentionally[7] spent on positive biodiversity outcomes. It is essential to distinguish between environmental and biodiversity expenditures (i.e. other environmental expenditures are not the subject of a BER) by using a clear definition of biodiversity expenditure. To ensure multi-year and internal consistency, as well as comparability among countries, the BER standardizes the classification of biodiversity expenditures and tagging, and the attribution of expenditures.

Step 2a: Clarify the definition of 'Biodiversity Expenditures'

A 'biodiversity expenditure' is any expenditure whose purpose is to have a positive impact, or to reduce or eliminate pressures on biodiversity. Biodiversity expenditures include primary expenditures that have biodiversity as their 'primary purpose' as well as 'secondary' expenditures where biodiversity is clearly identified as an objective. This formulation is derived from the definition provided by the CBD (see Chapter 1). Table 4.1 provides a more detailed description of a biodiversity expenditure attached to primary and secondary attribution levels further discussed in Sections 4.2b and 4.2c.

Activities that address one of the CBD objectives but are detrimental to another should be excluded. For example, if a subsidy on sustainable use of wood products is considered but results in a direct loss of biodiversity because of the plantations of exotic invasive species, it should not be counted.



Photo credit: Ecuador's National Corporation for Popular and Solidarity Finance
Yulisa Vargas, owner of 'Kyndi Ice Creams,' a small business that makes artisanal ice cream using ingredients from the Amazon rainforest.
A beneficiary of BIOFIN's green credit programme in Ecuador.

Box 4.2: The global biodiversity expenditure (GLOBE) taxonomy

The GLOBE Taxonomy (GLOBE) is a comprehensive listing of biodiversity expenditures that addresses existing global and national frameworks, and provides standards for appropriate attribution. The main elements of the GLOBE are as follows: (i) nine primary biodiversity expenditure categories; (ii) second- and third-level biodiversity expenditure subcategories; (iii) examples of expenditures; (iv) biodiversity attribution rates (BARs); and (v) alignments between the new Global Biodiversity Framework (GBF), Aichi Targets and the SDGs. The definition and alignment of the Biodiversity Finance Categories to the GBF Targets are presented in Table 4.2, while the subcategories are presented in Table 4.3.

GLOBE focuses on public sector expenditures and covers 'positive expenditures' only; thus, it can be viewed as a white list of expenditure items that contribute to the GBF. It supplements the preparation of the BER because with a list of actions that may serve as reference for budget alignments, whether at the primary category or secondary category level. Furthermore, the attribution rates, which were derived from the expert knowledge of BER practitioners, can also be a useful reference point when undergoing the estimation process.

The BARs assigned in this taxonomy follow a similar approach as the Rio Markers (see Box 4.3), i.e. they focus on the intention or the objective of a certain expenditure, rather than its impact.

The intention should be clearly stated in the expenditure or derived from documents describing the budget programmes or the mandate of the institution for that activity. The biodiversity motivation thus clearly justifies the need for this expenditure and how the actions are designed. The impact of an expenditure is, in most cases, not known beforehand and depends on many circumstances beyond the control of the government and other actors. Therefore, the BARs do not consider impact or implementation, but rather intention: i.e. the objective of the spending on this action.

The scoring approach, while informed by the Rio Markers, differs in that it delves into further detail and goes beyond the three categories, i.e. "not targeted – 0"; "significant – 1" and "principal – 2". In many cases, the purpose of a public expenditure might not be primary, i.e. where BAR = 100 but still significant or at least above zero. For example, a rating of 25 percent indicates that the biodiversity intention is quite weak based on the definition of a biodiversity expenditure (Table 4.1). The design of the action is significantly shaped by other objectives but allows for some unintended (but recognized) biodiversity benefits. The Taxonomy includes expenditures that have at least a 'miniscule' biodiversity purpose, i.e. all expenditures without a biodiversity purpose are not listed.

[7] OECD Rio Marker for Biodiversity. www.oecd.org/dac/environment-development/rioconventions.htmt.356.aspx.pdf

Table 4.1: Detailed definition of biodiversity expenditure

Biodiversity Objective: The purpose of the expenditure is to **Increase, Protect, and Restore** biodiversity; ***Prevent biodiversity loss; or Address the drivers that contribute to biodiversity loss,*** or impede biodiversity gains, including lack of awareness and enabling conditions in policy and institutions.	
100% (Primary)	The purpose of the expenditure is completely aligned with the **biodiversity objective.** Where multiple objectives occur with biodiversity, the attribution is retained for as long as the intention of the other objectives (climate, health, human development) completely aligns with biodiversity or does not diminish or compromise the attainment of the biodiversity objective.
75% (Quite Significant)	The **biodiversity objective** remains an important part of the expenditure, but the articulation is more indirect and /or other objectives precede the biodiversity objective.
50% (Significant)	The **objective** is unclear as a policy objective and /or other objectives are more prominent than biodiversity.
25% (Moderate)	The **objective** is noticeably weaker in terms of policy articulation than other objectives and framed as an unintended impact.
5% (Low)	The **objective** is almost non-existent in policy articulation and framed as an unintended impact.
1% (Miniscule)	The main objective of the action is to promote purposes other than biodiversity; however, there is some minimal link to the **objective.**



Photo credit: Dolapo Adejumo

Box 4.3: The Organisation for Economic Co-operation and Development Rio markers on biodiversity

The OECD Rio Markers on Biodiversity Organisation for Economic Co-operation and Development (OECD) Rio Markers[a] are designed to track international development assistance financing for the three main Rio Conventions: Climate Change, Desertification, and Biodiversity. To identify a biodiversity-positive expenditure, the Convention on Biological Diversity's (CBD) three main objectives can be referenced as a benchmark:

- The conservation of biological diversity
- The sustainable use of the components of biological diversity
- The fair and equitable sharing of the benefits arising from the utilization of genetic resources.[b]

The OECD Rio Markers also identify an objective as a 'principal objective' (what BIOFIN terms 'primary') if it "directly and explicitly aims to achieve" one or more of the above three objectives. Thus, primary expenditures have one or more of the CBD objectives as a stated primary purpose or *causa finalis* (the final cause or purpose), and secondary expenditures are identified as those in which one of the CBD objectives is noted but is not the expenditure's primary purpose.

[a] OECD Rio Marker for Biodiversity. www.oecd.org/dac/environment-development/rioconventions.htm

[b] Convention on Biological Diversity, Article 1. Objectives. www.cbd.int/convention/articles/default.shtml?a=cbd-01

When defining the biodiversity expenditures, it is also useful to understand the United Nations System of Environmental-Economic Accounts (SEEA) (see Box 4.4). Both the BIOFIN BER and the SEEA adhere to the concept of *causa finalis*, i.e. they focus on the intent of an activity or expenditure, rather than on the impact. UN SEEA uses *causa finalis* as a standard when determining the environmental protection classification and measurement. In contrast to the BER Methodology, the SEEA approach only focuses on the primary purpose but ignores secondary purposes.

In BIOFIN, a given expenditure can contribute to the overall biodiversity expenditure, even if the biodiversity objective is only one among many other objectives, or only a secondary one. The secondary objective is reflected in the BAR. For BIOFIN, the PIR clarifies the intent based on the mandate and functions of government agencies or the private sector.



Photo credit: UNDP Mongolia
The population of wild goats in Mongolia has increased in recent years thanks to effective conservation efforts.

Box 4.4: The United Nations system of environmental economic accounting

The United Nations System of Environmental-Economic Accounting (SEEA) contains internationally agreed standards, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy. The SEEA framework is consistent with the System of National Accounts (SNA) to facilitate the integration of environmental and economic statistics.[a] For environmental activities, Environmental Products or environmental expenditures, the UN Statistical Division adopted the Classification of Environmental Purposes (CEP) in 2024 that aims to replace the former CEPA (Classification of Environmental Protection Activities and expenditure) and CreMA (Classification of Resource Management Activities and expenditure). Only primary expenditures are accounted for based on the attribution principle of 'primary purpose'. This rigorous attribution approach avoids double counting but fails to comprehensively capture the totality of biodiversity investments and likely points of intervention.

The SEEA Central Framework[b] and SEEA Experimental Ecosystem Accounting[c] provide more detailed information. The BIOFIN Process should seek alignment with SEEA where possible, such as when the SEEA framework is mainstreamed. Mexico's experience highlights how the SEEA and BIOFIN approaches can be harmonized. See Box 4.5 for a detailed description of the integration of the UN SEEA with the BIOFIN classification system as applied in the Mexico BER. When a country endorses the SEEA framework, the BER should start analysing all reports the environmental accounting while also noting how the biodiversity component needs to be elaborated. Also, the BER process requires another layer of data that SEEA or other natural capital accounting approaches do not consider and that forms the core of the BIOFIN BER – budgets and expenditures on biodiversity.

[a] SEEA. http://unstats.un.org/unsd/envaccounting/seea.asp

[b] United Nations, European Commission, Food and Agriculture Organization of the United Nations, International Monetary Fund, Organisation for Economic Co-operation and Development, & The World Bank. (2014). System of environmental-economic accounting 2012: central framework. New York: United Nations. http://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_Cf_final_en.pdf

[c] SEEA. https://unstats.un.org/UnSD/envaccounting/eea_project/default.asp



Photo credit: UNDP Kazakhstan
Canyon in Almaty, Kazakhstan

Step 2b: Establish a classification and tagging system to map biodiversity budget expenditures with relevant national and international biodiversity goals

A good budget classification system is an important cornerstone of a public finance management system. Classifying expenditures correctly is fundamental for: (i) formulating policy and analysing performance; (ii) allocating resources efficiently among sectors; (iii) ensuring compliance with the budgetary resources approved by the legislature; and (iv) carrying out day-to-day administration of the budget. Public sector expenditures also adhere to standard classifications including administrative, economic and functional classifications. Administrative classifications identifies the agency(ies) responsible for the expenditure, while the economic classification identifies the type of spending incurred such as salaries, capital expenditures and interest payments. Lastly, the functional classification organizes expenditures under broad categories. GLOBE promotes the functional classification guided by the United Nations Classification of the Functions of Government (COFOG), mainly for the purposes of standardization and comparability across countries.

The current classification system for biodiversity expenditures includes nine categories (similar to the classification system proposed under Biodiversity Workbook 2018) but is now aligned to the GBF (Table 4.2). The nine BIOFIN Categories are further disaggregated into subcategories and a third level on expenditure programmes. In addition to the GBF, the classification system can be tagged to the SEEA, as shown in the Mexico example (Box 4.4), as well as to the SDGs and other multilateral environmental agreements, and national planning frameworks, the most important of which is the NBSAP. These national strategies and targets are identified in the PIR and are used in parallel with the BIOFIN Categories in the FNA. The tagging demonstrates how specific biodiversity expenditures contribute to national and international goals and inform planning and budget prioritization.

Table 4.2: Definition of Primary Biodiversity Categories and their alignment to GBF targets

Primary Biodiversity Category	Definition	Alignment to GBF Targets
1. Access and Benefit-sharing	This refers to access to genetic resources, with a focus on prior informed consent, and the distribution of the benefits of genetic diversity, with a focus on equity and transparency for those whose knowledge is used and on mutually agreed terms, taking into consideration all rights over those resources and to technologies, and by appropriate funding.	9–Benefits for people by sustainable use of wild species 13–Access and benefit sharing (ABS) from genetic resources 21–Access and sharing of data, information and knowledge 22–Representation and participation in decision-making and access to justice and information
2. Biodiversity Awareness and Knowledge	Biodiversity awareness and knowledge includes a wide range of different topics. Biodiversity knowledge aims to produce, generate and provide an easy and timely access to quality data and information in order to support all efforts in halting biodiversity loss or maintaining and increasing current biodiversity levels. Knowledge generation and distribution includes formal and non-formal contexts, technical training, biodiversity communication and scientific research, and Indigenous Peoples' and local communities' knowledge.	21–Access and sharing of data, Information, and knowledge partially: 1–Patial planning 20–Technology, innovation, scientific research and monitoring
3. Biosafety	Biosafety includes two sub-categories: (1) Prevention, containment, and eradication of invasive alien species (IAS) (2) Safe handling, transport and use of genetically modified organisms/living modified organisms (GMOs /LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity.	6–Invasive alien species 17–Biosafety measures
4. Green Economy	The UN Environment Programme (UNEP) has defined the green economy as "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities". Simply, a green economy can be defined as one that is low in carbon, resource-efficient and socially inclusive. Some activities also aim to benefit biodiversity.	15–Business and financial institutions 16–Sustainable consumption Partially: 7–Reduce pollution risk and impact 8–Climate change 12–Urban biodiversity
5. Biodiversity Planning and Finance	This category refers to national, state or local planning, policy, finance, legal, coordination and enforcement actions that are cross-cutting and that cover multiple biodiversity categories or general topics such as strategic environmental assessments, spatial planning, and multilateral environment agreements.	14–Integration of biodiversity and Its values 15–Business and financial institutions 16–Sustainable consumption Partially: 1–Spatial planning 12–Urban biodiversity 18–Harmful incentives 19–Resource mobilization
6. Pollution Management	'Pollution' is the introduction of harmful materials (i.e. pollutants) into the environment at a faster rate than can be dispersed, diluted, decomposed, recycled, or stored in some harmless form. It can be natural (e.g. Vulcan ashes) or human-made, and in any form (solid, liquid, or gas, but also energy).	7–Reduce pollution risk and impact

	Pollution management consists of pollution prevention at the source (most preferred option), reduction, reuse, recycling, treatment or disposal (less preferred option). It overlaps with certain pollution control measures in the "Sustainable Use" Category, such as promotion of sustainable agriculture. If the written objective is to reduce negative impacts, it should be included here; if it is to improve biodiversity in production systems, it should be included under the "Sustainable Use" Category.	
7. Protected Areas and Other Conservation Measure	This Category consists in *in situ* and *ex situ* measures to protect and safeguard biodiversity at the genetic, species and ecosystem levels. The effort can be area-based through protected areas and their expansion and connection, or through buffer zones; however, this also entails applying other conservation measures.	3–Area conservation 4–Reduce extinction of threatened species and minimize human-wildlife conflict Partially: 1–Spatial planning 5–Sustainable use of wild species 8–Climate change 9–Benefits for people by sustainable use of wild species 19–Resource mobilization
8. Restoration	Ecosystem restoration refers to assisting in the recovery of ecosystems that have been degraded or destroyed, as well as conserving the ecosystems that are still intact. This should result in the rehabilitation of the ecosystem functions and services. Restoration efforts are recognized to support the achievement of all Rio Conventions – Convention on Biological Diversity (CBD), United Nations Convention to Combat Desertification (UNCCD) and United Nations Framework Convention on Climate Change (UNFCCC), as well as the Sustainable Development Goals (SDGs).	2–Restoration 4–Reduce extinction of threatened species and minimize human-wildlife conflict
9. Sustainable Use	Sustainable use refers to "the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations". This category is distinguished from the green economy by its focus on ecosystem services, primarily production and the underlying support services. Activities are targeted towards improving biodiversity outcomes in coordination with other co-benefits related to natural resource use.	2–Restoration 4–Reduce extinction of threatened species and minimize human-wildlife conflict 5–Sustainable use of wild species 7–Reduce pollution risk and impact 9–Benefits for people by sustainable use of wild species 10–Sustainable agriculture, aquaculture, fisheries and forestry

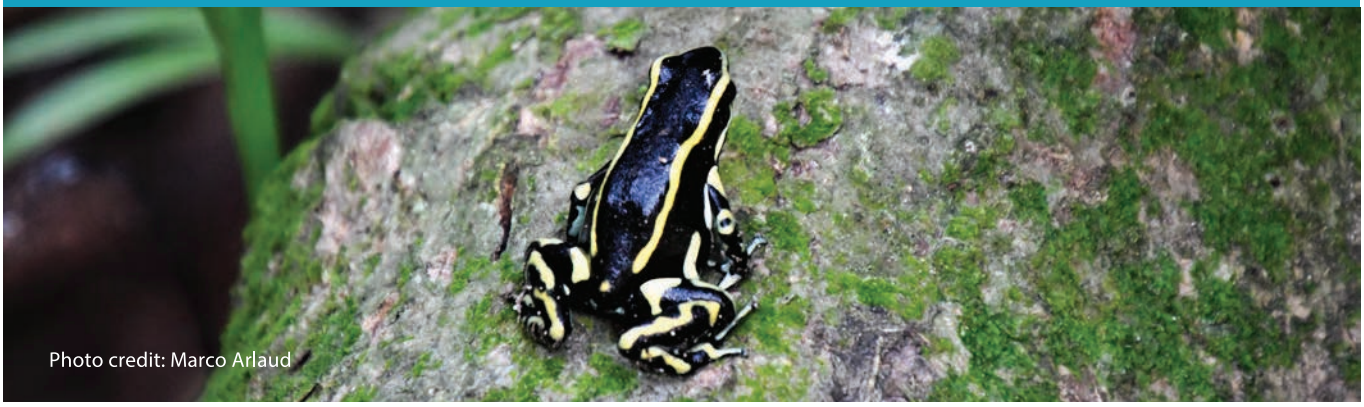


Photo credit: Marco Arlaud

Box 4.5: The Biodiversity Expenditure Review in Mexico

BIOFIN Mexico collaborated with the National Institute of Statistics and Geography (INEGI) to produce a detailed analysis of biodiversity expenditures, taking full advantage of inter-institutional synergies.[a] BIOFIN Mexico adopted INEGI's System of Environmental Economic Accounting- (SEEA) based methodology[b] to measure every federal expenditure and assign them a biodiversity-purpose coefficient (also referred to as the Biodiversity Attribution Rate) from 0 to 100. This resulted in a BER framework to review the allocation of public resources, not only from the environmental sector, but also from every single ministry.

The Mexico framework aligns with United Nations Environmental Economic Accounting System Central Framework (SEEA-CF), the international statistical standard that responds to the concepts, definitions and classifications for the compilation of environmental accounts; this enables the generation of internationally comparable statistics.

The measure of biodiversity expenditures for the public sector is based on the Classification of Environmental Activities (CEA).

The main inclusion criteria include expenditures whose purpose is the measurement, control or abatement of pollution, and the conservation and protection of the environment and natural resources, as well as categories related to sustainable use and green economy.

For the estimation of biodiversity expenditures, INEGI uses the Public Accounts as its main information source, which consolidates the total amount of federal expenditures in a given year. The budget of expenditures identifies the programmes and expenditures related to the CEA categories and then runs the data through BIOFIN's biodiversity-purpose coefficients. In addition, other documents were analysed, such as the list of investment programmes and projects, annual reports, and the official internet sites of administrative units. Local governments used administrative statements, daily entries and questions about expenses.

The Environmental Protection Expense (EPE) is calculated as follows:

EPE = ***Current expenditure + Investment***

- **Current expenditure** = Payment for personal services + purchase of materials and supplies + payment for general services
- **Investment** = Acquisition of real and personal property + public works.

The BIOFIN methodology helped to revise the EPEs classified in category 6 of the CEA: Protection of biodiversity and landscape. The following CEA categories were also screened for biodiversity-related expenditures:

1. Wastewater management
2. Protection and remediation of soils, groundwater and surface waters
3. Research and development for the protection of the environment
4. Other environmental protection activities.

The BER thus compiled further records of expenditures using the BIOFIN methodology, for example, in programmes related to the sustainable use of biodiversity. These expenditures were later integrated as subclasses within the CEA by INEGI, resulting in a harmonized accounting of biodiversity expenditures. Moreover, the framework development and calculation process was documented and systematized to allow for the management of an up-to-date database, which will ultimately deliver long-term monitoring of the country's biodiversity expenditure.

This methodology has allowed Mexico to have sound, reliable and annual BER accounts available to decision-makers. It has also allowed BIOFIN Mexico to publish its BER report every year.



CEA
Protection of Biodiversity and Landscapes
Category 6 CEA



BIOFIN
Added Categories 2,4, 8 and 9 CEA + BIOFIN Categories



BER
Integrated BIOFIN/CEA expenditure accounting

[a] Institutionalization of the BER process with INEGI is discussed in Chapter 7.

[b] www.inegi.org.mx/app/tabulados/default.aspx?pr=28&vr=2&in=44&tp=20&wr=1&cno=1&idrt=3271&opc=p



Photo credit: Shutterstock
Since 2018, 14 countries have united under the Jaguar 2030 Conservation Roadmap for the Americas to reverse jaguar population decline and preserve their habitats.

Step 2c: Establish a system for the attribution of primary and secondary expenditures

Once expenditures are classified according to the nine BIOFIN Categories, the Biodiversity Attribution Rates (BARs) should be determined. At this point, agencies with biodiversity mandates would have been already identified by the PIR report and verified through stakeholder consultations for the BER. Particularly for the 'non-core' biodiversity agencies, detailed expenditure data are required at the programme/project level or even at the activity level to estimate biodiversity or non-biodiversity expenditures.

Attribution approaches require the classification of 'primary' and 'secondary' expenditures, and then the determination of the percentage of certain expenditures that should be attributed to biodiversity. Primary biodiversity expenditures should have rates of 100 percent (similar to OECD Rio Markers and SEEA). Expenditures are considered 'primary' on the basis of the 'predominance principle' (i.e. they are predominantly for biodiversity) unless there is information proving otherwise. Previous BIOFIN experience shows that it is usually easiest to start with the public institutions where a primary biodiversity expenditure (100 percent) is expected before focusing on the institutions where secondary biodiversity expenditures are expected.

The BER process recognizes the participation of several agencies in biodiversity spending with different intentions based on the *causa finalis* principle. In contrast and despite an increasing number of experiences recorded by BIOFIN and others, there is no international agreement on the attribution of a percentage value to secondary biodiversity expenditures. Indeed, even an attribution of 100 percent is a best estimate of intentionality.

The BER should seek to attribute expenditures as accurately as possible using well-defined and transparent attribution criteria and processes. Countries should aim to obtain as much information as possible about the budgets and their objectives.

GLOBE attribution rates range from 0 to 100 percent (Table 4.1) and are available at three levels of expenditures: primary (corresponding to the nine biodiversity categories), secondary and tertiary. The GLOBE rates are standardized rates resulting from an expert process involving more than 100 experts across BIOFIN countries. Each expenditure line is associated with at least one BAR, but there could be cases where multiple attribution rates are registered for one expenditure line when a particular action is implemented by multiple agencies.

This structure is consistent with functionalities associated with the COFOG. By using COFOG, the aim is to harmonize these differences so that the public biodiversity expenditure is comparable over time and across countries and regions.[8]

Countries will have the following options with respect to applying attribution rates. For countries that have undertaken BER and are now in the process of, or in the planning stage, to revisit it, the options are to: (i) use existing attribution rates taken from previous BER exercise; (ii) use the recommended attribution rate schedule in tandem with the definitions provided in Table 4.1; and (iii) use the GLOBE attribution rates. For countries who are only starting the BER process, the recommendation is to apply the GLOBE attribution rates to facilitate the estimation process.

Programme approach and agency approach

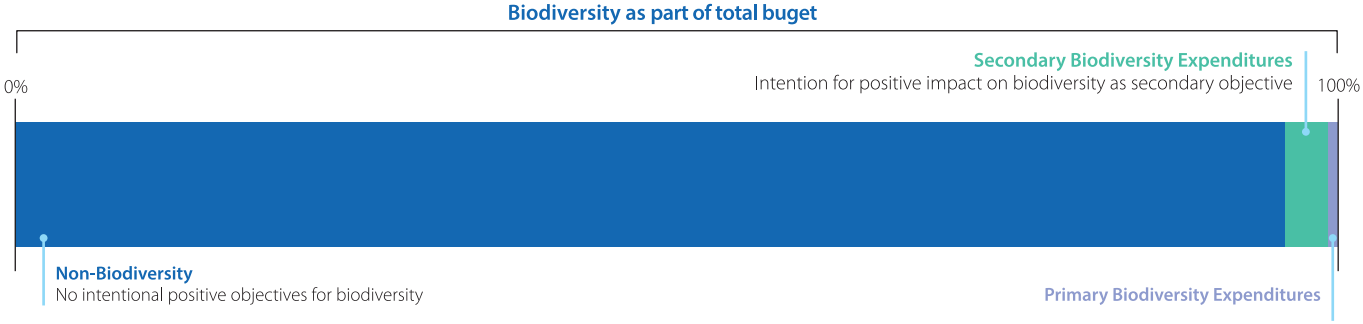
There are two potential approaches to obtain the necessary information for the attribution of expenditures:

a programme approach, focusing on the detailed expenditures of programmes; and
an agency approach, focusing on the organizations (or 'agents') making the expenditures.

The programme approach is regarded as best practice because it assures that budget and expenditure data are associated with specific programmes, activities, targets and indicators. The agency-based approach, in contrast, may not have the same level of data granularity as the programme approach, and cannot adequately capture expenditure trends or fine details of attribution. Depending on the availability of data and the willingness of specific agencies to allow access to programmatic data, countries may use a mix of both the programme and agency approaches. Both approaches are described in more detail below.

The result of attribution is illustrated in Figures 4.3 and 4.4. Figure 4.3 identifies primary and secondary expenditures. Since most public and private expenditures will not be targeted to biodiversity, we should focus on those budgets and organizations that have been prioritized in the PIR.

Figure 4.3: Identification of biodoversity expenditure within overall budget (percent of total expenditures)

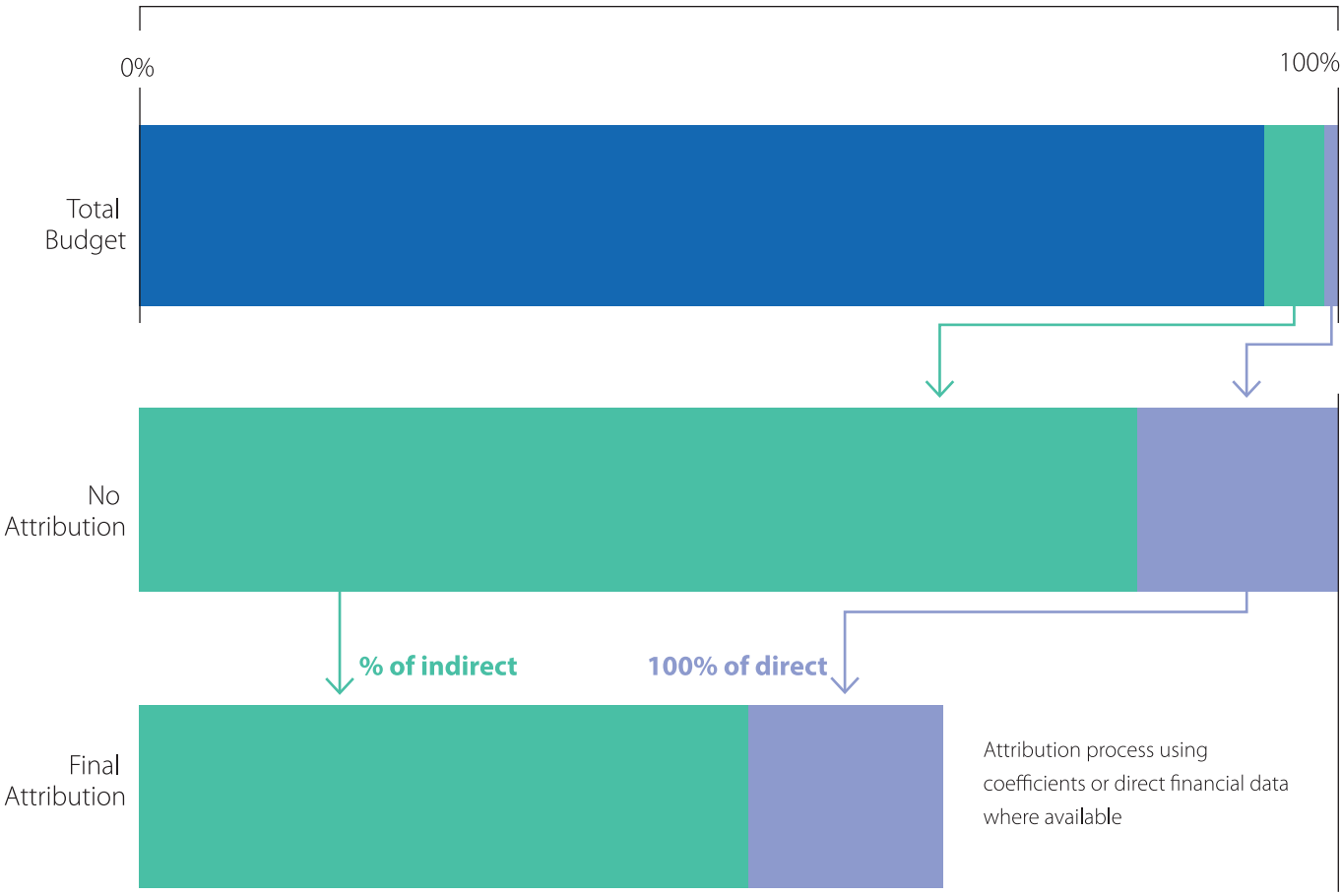


[8] COFOG: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary: Classi cation_of_the_functions_of_government_(COFOG)

In Figure 4.4, the attribution of secondary expenditures is used to estimate more precisely the total spent on secondary actions or programmes to the amount spent on intentional biodiversity goals (primary expenditure). Since biodiversity is not the primary objective of 'secondary' expenditures, the percentage of the expenditure that is intentionally and explicitly being spent on biodiversity-positive goals is the result of the attribution exercise. Basically, each identified budget is multiplied by the BAR so that only 1 percent, 5 percent, 25 percent, 50 percent or 75 percent of the secondary programmes are calculated, which reflects the biodiversity Intention of the budget line in question. Biodiversity Expenditure = ∑Budget line *Attribution Rate

It is important to differentiate between ***intent*** and ***impact.*** An action intended to boost agricultural production could have very positive impacts on biodiversity, but if the primary intent of the project or activity is agricultural production (or food security, etc.), the BAR is only the percentage that was intentionally targeted as biodiversity positive outcomes. Furthermore, the 'intent' must be documented (i.e. written down in policies/ budgets). This approach produces a rough estimate of the amount of money allocated intentionally to biodiversity.

Figure 4.4: Illustrative example of pathway to final biodiversity attribution



Note: The scale varies between rows: the first row shows that percentages of the national budget; the second and third rows are the percentages of the section of the national budget that support biodiversity.

The programme approach

In the programme approach, expenditure data are available at a more granular level. Agency expenditures are disaggregated into programmes and projects, which can be further categorized according to administrative, economic and functional classifications. A good description of the programmes and clear policy guidance will allow to assign BARs with greater confidence.

The aim is to establish a process that can be repeated periodically and produce replicable, consistent, and trustworthy results. These guidelines can be followed:

- To ensure consistency, the written 'intent' must be documented, in line with OECD explicit tagging and SEEA's end purpose.
- Work at the most detailed level of data in the most cost-effective way. This applies to the smallest unit of the organization for which there are budget data, or the smallest programme budgets and expenditure data that exist.

The attribution system weights expenditures by an estimate of the percentage of money spent (or budgeted) that was targeted to specific biodiversity categories.

The agency approach

When programmatic data are not available, the 'agency' approach can be used. Each agency (organization, branch, division, etc.) is evaluated for its intended financial contribution to biodiversity. Budget or expenditure data may be available only at this level, and no further information can be secured to determine the biodiversity spending, or whether it may be classified as primary or secondary. It is essential to attribute the percentage to the finest level of organization for which data are available, such as branch, division, or local technical agency. The finer the level of analysis, the more likely a 100 percent attribution can be adopted. Avoid attributing the percentage at the ministry level because a singular attribution rate will not accurately depict the varied mandates of a particular ministry. The same attribution score by BAR should be used for all years of the assessment, unless there were significant changes to the policy or institutional framework.

There are three ways to attribute expenditures:

1 Review the organization's written or legal mandate.

Reviewing an organization's mandate, mission statements and annual reports helps to assign BARs. A comprehensive PIR would have covered this already and provided more details about the organization's biodiversity-relevant programmes. Where an organization has multiple (including non-biodiversity) mandates, a relative budget importance of the different mandates should be estimated, i.e. relative proportions should be established. This proportion of the budget can then be classified according to the BIOFIN Categories, the SDGs, NBSAP, or to any national plans to which the BER can contribute. Where multiple categories are covered under an agency's mandate, it is desirable to highlight them (e.g. a forestry department that supports sustainable use and manages PA).

2 Conduct interviews with managerial staff.

In managerial interviews, it is valuable to begin with a briefing on what biodiversity expenditures are, including the BIOFIN categories. This establishes a shared understanding of 'biodiversity expenditure' before asking the interviewee to estimate the amount of their organization's annual budget that is attributable to specific biodiversity categories or national targets. This can be a one-off discussion or a regular activity. More detailed guidance on conducting interviews and surveys with key staff can be found in the 2018 BIOFIN Workbook.

3 Use expert systems such as GLOBE to assign BARs.

The GLOBE structure allows for application of BARs at the sub-category level, which may correspond to lower organizational levels of the agency. This corresponds to Classification Level 2 (Table 4.3) or lower. For example, the forestry agency may have divisions focused on forest product utilization or forest plantation, which can be linked to in the GLOBE. Alternatively, the team can decide to apply alternative protocols such as OECD Rio Markers or SEEA, but recognizes the lack of granularity of this approach and its implications on final biodiversity expenditure estimates.



Photo credit: UNDP Mongolia
Investing in Nature Mongolia has boosted environmental spending, with BIOFIN enhancing budget transparency and strengthening local capacities in environmental management.

Table 4.3: Primary biodiversity categories and sub-categories

Classification Level 1	Classification Level 2
1 Access and Benefit Sharing	1.01 Bioprospecting / Screening for biodiversity areas and establishing permitting processes
	1.02 Contractual arrangements
	1.03 Benefit-sharing mechanism
	1.04 Nagoya Protocol
2 Biodiversity Awareness and Knowledge	2.01 Formal biodiversity education
	2.02 Non-formal biodiversity education, including technical training
	2.03 Biodiversity awareness and communication
	2.04 Biodiversity scientific research
	2.05 Indigenous People's and local communities' knowledge
	2.06 Convention on Biological Diversity clearing-house mechanism
3 Biosafety	3.01 Invasive alien species
	3.02 Genetically modified organisms (GMOs), including living modified organisms (LMOs)
4 Green Economy	4.01 Green supply chain
	4.02 Extractive industries
	4.03 Sustainable consumption
	4.04 Sustainable energy
	4.05 Sustainable tourism
	4.06 Sustainable transportation
	4.07 Sustainable urban and rural areas
5 Biodiversity Planning and Finance	5.01 Biodiversity laws, policies, plans
	5.02 Other relevant laws, policies, plans
	5.03 Biodiversity coordination and management
	5.04 Biodiversity finance planning and coordination
	5.05 Strategic Environmental Assessment (SEA) framework
	5.06 Spatial planning
	5.07 Multilateral Environment Agreement (MEA)
	5.08 Access to resources, information and decision-making, including FPIC consultations
6 Pollution Management	6.01 Protection and remediation of soil, groundwater and surface water
	6.02 Protection of ambient air and climate
	6.03 Waste management
	6.04 Coastal and marine pollution debris management
	6.05 Other pollution management measures
	6.06 Enabling activities related to all types of pollution
7 Protected Areas and Other Conservation Measures	7.01 Management and expansion of protected areas
	7.02 Management of areas outside of protected areas
	7.03 Other effective area-based conservation measures
	7.04 Conservation of species
8 Restoration	8.01 Reintroduction and translocation of species
	8.02 Site redevelopment and engineering
	8.03 Site management

9 Sustainable Use	9.01 Agrobiodiversity
	9.02 Sustainable agriculture
	9.03 Sustainable aquaculture
	9.04 Sustainable fisheries
	9.05 Sustainable forestry
	9.06 Sustainable freshwater
	9.07 Sustainable marine and coastal management
	9.08 Sustainable rangelands
	9.09 Sustainable wildlife

Step 3: Collect data

Here, private and public expenditure data are systematically and comprehensively collected from either public or confidential sources. In the latter case, confidential and privacy clauses and data sovereignty considerations will be strictly applied. Here, the following will be covered:

a. Initiating data collection
b. Suggested data sources
c. Macroeconomic assumptions and indicators: GDP, inflation and exchange rates
d. Managing the double counting risk.

a. Initiating data collection

This substep requires the identification of technical partners and data sources needed to capture data on public and private budgets, allocations and expenditures. In data collection, the granularity and specificity of the dataset are what guarantee the depth and quality of analysis. However, there is a trade-off between the resources spent, both time and money, and the results expected from the analysis. Typically, countries will want to collect data on projects and activities at the subagency or departmental level. A data request letter from BIOFIN's principal collaborating ministries, usually the ministry of finance or the ministry of environment, can facilitate the sharing of information. Data on budgets, allocation and actual end spending should be collected for all key organizations.

It is useful to build on existing initiatives where possible (e.g. SEEA, natural capital accounting, public environmental expenditure expenditure reviews.), and hold discussions with the national statistics department that prepares the SNA. It is important to note that the BER is complementary to natural capital accounting approaches such as SEEA: for example, the aim of SEEA is to chronicle the economic value of stocks and flows of natural capital (economic accounting), while the aim of BER is to compile and manage the financial resources (budgets, financial accounting) dedicated to natural capital stewardship. The SEEA system of financial accounting is the CEA, which is not yet sufficiently detailed to address biodiversity finance adequately; future collaboration between BIOFIN and CEA could be fruitful. When both financial and economic methodologies use the term 'accounting', this can be a source of confusion.

Care should be taken in data comparison and in describing data sources and any administrative change in budget composition. For example, not all budgeted money is allocated to projects or other activities, and not all allocations are spent (see Step 4.2a). Budget data in one year should not be compared to spending data in another without checking for consistency and controlling for inflation. Attention should be paid to the composition of the data collected. For example, in Indonesia, budget data were collected from 2006, but did not include personnel costs until 2010. Without appropriate correction, any graphical representation would have given an inaccurate impression of trends.



Photo credit: Gaurav Gupta
Current financial flows for climate change mitigation needs to increase at least three times if we are to limit global warming to 2°C or below and achieve the Paris Agreement targets.

b. Suggested data sources

To the extent possible, the data used should be authoritative and dependable, and ideally from publicly available sources. It is important to realize that public reporting on expenditure data varies greatly among countries. The BER should be based on detailed primary data wherever possible. The main sources for biodiversity budget, allocation and spending data are:

- Agencies and Institutions
  - Line ministries and their sub-departments
  - National statistics offices
  - Chambers of commerce, central banks, securities and exchange commissions, industry and business associations for private sector expenditure data.
- Reports and Other Published Statistics
  - Natural capital accounting and UNSEEA implementation projects
  - Government expenditure reviews and /or execution reviews
  - Government auditing reports
  - Other public expenditure reviews and data
  - IMF and world bank assessments
  - OECD Development Assistance Committee (DAC) Creditor Reporting System (CRS) database.[9]

Basic data that should be collected for every BER include the following for each year covered:

- Total government budget and expenditures;
- Gross domestic product;
- Inflation
- Total budgets of the following ministries and natural resource-based agencies:
  - ministries and agencies responsible for the environment, agriculture, fisheries, forestry and tourism
  - ministries and agencies responsible for water, energy and climate change;
  - planning or economic development ministries; and
  - agencies or organizations responsible for PAs;
- donors active in the environmental field;
- international NGOs active in conservation or natural resource management;
- National and local government revenues generated from renewable natural resource sectors, such as ecotourism, forestry, fisheries, water management, and sustainable agriculture.
- Where available, disaggregated expenditure data on capital (or investment) versus recurrent expenditures may provide useful insights into budgeting processes.

c. Macroeconomic assumptions and indicators: GDP, inflation and exchange rates

To contextualize biodiversity spending, data on macroeconomic values and public and private spending should be collected. Understanding growth and spending patterns in the economy provides inferences upon which to analyse biodiversity spending. Biodiversity expenditures should at the very least be compared to GDP and total public expenditures. Where private sector data are available, estimating private sector contribution to GDP, namely biodiversity expenditures or investments will also yield powerful insights.

GDP can be gathered from official sources often online both in nominal and real terms, but it is important to note the source and type of data referred. Most sources of budget and expenditure data are reported in local currency and in nominal terms, not adjusted for inflation. These data should be entered in any spreadsheet in nominal terms. However, the analysis should preferably refer to real or inflation-adjusted numbers.

There are a variety of approaches to calculate inflation. It is best to use official inflation data provided by the ministry of finance or the central bank. A better option would be to use a GDP deflator.[10] In the absence of an official deflator, data from the IMF or the World Bank can be used. Since the BIOFIN methodology makes use of both within-year and across-time comparisons, both nominal and real expenditures should be reported.

Cross-country comparisons are desirable to better communicate with policymakers and determine benchmarks for improvement. Countries may thus decide to communicate aggregated numbers in US dollars. Similar caution is required for inflation in the use of exchange rates. In addition, countries with significant exchange rate variability may present aggregated numbers based on a conversion to a US dollar equivalent in addition to adjusting for inflation.



Photo credit: Ian Herbert
New Zealand applies the BIOFIN methodology to conduct a Biodiversity Finance Assessment.

[9] OECD Statistics on External Development finance targeting environmental objectives including the Rio Conventions. http://www.oecd.org/dac/environment-development/rioconventions.htm

[10] https://quickonomics.com/calculate-gdp-deflator

d. Managing the double counting risk

Double counting occurs when one expenditure is counted twice in an expenditure review, resulting in an over-estimation of the amount of money budgeted, allocated or spent.

It is a well-known and common risk in BER. The most common mistakes involve budgets and expenditures reported by organizations that transfer resources to other organizations. This is what occurs if both the ministry of environment and a parastatal park entity receiving money from the ministry report the same expenditure. These transfers include subsidies and intra-governmental transfers.

To manage the risk of double counting, the BIOFIN team may choose to adopt either an 'abatement or execution principle' or a 'financing principle'. The former principle is recommended and requires the accounting for expenditures to be recorded at the level of the executing or implementing agency. For example, a planning team might determine that the ministry of finance, i.e. the financing agency spends $100,000 on biodiversity education through allocation to the ministry of education, the executing agency. Under the 'execution principle', only the expenditure from the executing agency, the ministry of education, would be counted. Under the financing principle, biodiversity expenditures are instead recorded at the source, thus not allowing the level of detail that the BER analysis requires.

Funding that comes from the private sector will use the 'financing principle' or count the expenditure from the source rather than from the conduits or implementors. Expenditures are easier to track, especially when smaller and more dispersed people's organizations are involved. When collecting information from large NGOs, clarification should be sought on the source of funds to address possible double-counting issues. This caution holds true also when deploying funds from development agencies.

Step 4: Analyse data

In this step, the collected data are used to analyse several aspects of biodiversity management and finance in three substeps:

4a: Apply the attribution rate and estimate biodiversity spending for the agency.
4b: Analyse biodiversity spending in the national context.
4c: Identify relationships between budgets, allocation and expenditures and biodiversity revenues.

The outcome of this section should include:

- Biodiversity expenditures for all relevant agencies, i.e. ideally all those identified in the PIR;
- Total biodiversity expenditures for the country – public, donors, NGOs and other civil society players, and partial estimate of private company or individual spending;
- Total biodiversity public expenditures as a percentage of GDP and as a percentage of the total government budget.
- Total biodiversity private expenditures as a percentage of GDP and total private sector investments/earnings;
- Total spending by key natural resource-based ministries compared to total national government budget (ministries and agencies responsible for the environment, agriculture, fisheries, forestry, tourism, water, energy, tourism);
- Comparison between natural resource-based ministries in spending levels;
- Comparison between natural resource-based ministries and other ministries of education, health, infrastructure, etc.;
- Biodiversity spending results broken down as follows:
  - Primary versus secondary spending
  - Spending per ministry, agency and/or organization
  - Capital and recurrent spending per agency and percentage of total
  - Tagged according to SDGs, the Aichi Targets/NBSAP targets and BIOFIN Categories
  - Sources of financing including public, private, and official development assistance
- Comparison of budget, allocation and spending levels in the environmental ministry and key agencies; and
- Analysis of temporal trends.

Step 4a: Apply the attribution rate and estimate biodiversity spending for the agency

Estimation of biodiversity spending is more straightforward when more budget or expenditure data are available at the programme/project/activity level. The BAR is easier to determine when the activity or programme description is known, and this extends to cases where attribution rate is zero, or a particular budget line has no relevance to biodiversity spending. If the team decides to use GLOBE as a reference, it can search for the relevant category or subcategory, or expenditure programme, and apply the BAR determined by the experts. In a best-case scenario, the third level of the taxonomy can be used to establish the link between GLOBE and the budget entry. If detailed expenditure is unavailable, the subcategories or second level of the taxonomy can be used.

In cases where a particular agency performs multiple functions, the GLOBE's BAR will be highly useful. For example, a fisheries agency might have multiple functions such as food security, coastal protection through the establishment and management of marine PAs, and mitigation of pollution arising from coastal aquaculture. GLOBE can better inform the process through the attribution rates associated with the Categories Sustainable Use (GLOBE category 9) Protection (GLOBE category 7) and Pollution Management (GLOBE category 6), respectively.

Depending on the budget structure of each country and decisions made during the scoping exercise, the BER may opt to carry out further analysis on specific economic classifications such as salaries, operating expenses and capital expenditures (see example of Ecuador in Figure 4.2). A measure of proportionality is also required to determine the biodiversity component of salaries or operating expenses. Some association of these expenses with biodiversity-relevant programmes must be determined either through analysis of mandates or intentions, and further supplemented by detailed interviews. The same method can be applied for capital expenditures.

When further classified according to the nine BIOFIN Categories, some insights into the development orientation of a country's spending might be derived.

The biodiversity expenditure is simply determined by multiplying the budget by the attribution rate and if programme data are available, aggregating the biodiversity expenditures across all programmes to estimate the total agency expenditure .

Box 4.6: Example of biodiversity expenditure analysis - Nepal

Nepal's Biodviersity Expenditure Review (BER) adopted the principle of causa finalis or 'end purpose intent' for biodiversity attribution. Using a Delphi technique (brainstorming and consensus-building), BIOFIN Nepal classified biodiversity-relevant programmes/activities into six categories.

Thereafter, each programme and activities were assigned with a biodiversity coefficient varying from 0.95 for high attribution to 0.01 for marginal attribution and thereafter multiplied with the biodiversity relevant expense to estimate biodiversity attributed expenditure.

The Attribution of Biodiversity Expenditure in Nepal's BER

Level	Attibution %	Example
Primary (Direct Benefit)	95	Contributes to any Convention of Biological Diversity (CBD) objective or biodiversity conservation as the main (primary) objective: refers to programmatic expenditures, for example, on Protected area management, wetland restoration, agro-biodiversity conservation and rangeland management. This may also include expenditures by agencies related to whose primary objective is biodiversity conservation (e.g. Department of National Park and Wildlife Conservation, Divisional Forest Office, Nepalese Army deployed for protected area management the Armed Forest Guard).
Secondary (Direct Benefit)	75	Contributes to biodiversity conservation as a secondary biodiversity objective for example, non-timber forest products (NTFPs) management, species conservation, forest management, etc. This also includes agency-wide expenditure whose secondary objective is biodiversity conservation but also contributes directly to it (e.g. Department of Plant Resources).
Significant (High) Indirect Benefit)	50	Contributes to biodiversity conservation as a tertiary objective or supports conservation (being cross cutting in nature), for example, through community-based forestry, research and capacity building, ecosystem-based adaptation, Reducing Emissions from Deforestation and forest Degradation, plus the sustainable management of forests, and the conservation and enhancement of forest carbon stocks (REDD+), and the green economy. This also includes agencies wise expenditures whose secondary objective is biodiversity conservation, but contributes indirectly to it through research, training and capacity building (e.g. Forest Research and Training Center).
Significant (Medium) Indirect Benefit	25	Supports biodiversity conservation or biodiversity conservation co-benefits, or reduces biodiversity threats, for example, through plant protection and integrated plant management, planning and management, climate adaptation, watershed management, agro-forestry, soil management, alternative energy and tree improvement. This also includes agencies' expenditure and facilitates or supports biodiversity conservation (e.g. an agriculture knowledge centres) or agencies, Departments of Forests and Soil Conservation, Provincial Forest Ministries and Provincial Forest Directorates.
Significant (Low) Indirect Benefit	5	Supports biodiversity conservation indirectly or minimizes biodiversity threats, for example, through organic farming, disaster risk reduction and seed managementand improvement.
Marginal Indirect Benefit	1	Supports biodiversity conservation marginally, i.e. negligibly but changes attitudes and/or practices, for example, through trade promotion promotion and pollution control.



Photo credit: Ian Herbert

Step 4b: Analyse biodiversity spending in the national context

To situate the results of the BER within the national context, it is essential to describe the country's current macroeconomic context and use this information as part of the analysis. Graphs should be included to illustrate the country's GDP and inflation, as well as government budgets as a percentage of GDP. Real and nominal GDP should also be compared. Optionally, a GDP graph converted to US dollars or euros will also be informative. Other critical contextual information such as high public deficits can be used to justify drops or unexpected changes in historical trends. Current account balance and foreign direct investments are also useful macro-indicators to compare biodiversity expenditures.

This section examines the partition of biodiversity expenditures in national and BIOFIN Categories and among different organizations. It also identifies what percentage of expenditures are directed at biodiversity compared to other areas and sectors. Finally, it explores how well expenditures are aligned with stated government policies regarding biodiversity.

The analysis should begin with a review of biodiversity spending in terms of primary and secondary expenditures. This can be presented in the form of a simple graph over time. These outputs can then be divided into biodiversity expenditures by institution, national biodiversity targets and BIOFIN Categories. If SDG and national development targets were also tagged to expenditures, they can also be examined. This analysis should include not only public sector, but also NGOs, other civil society groups, donors and the private sector.

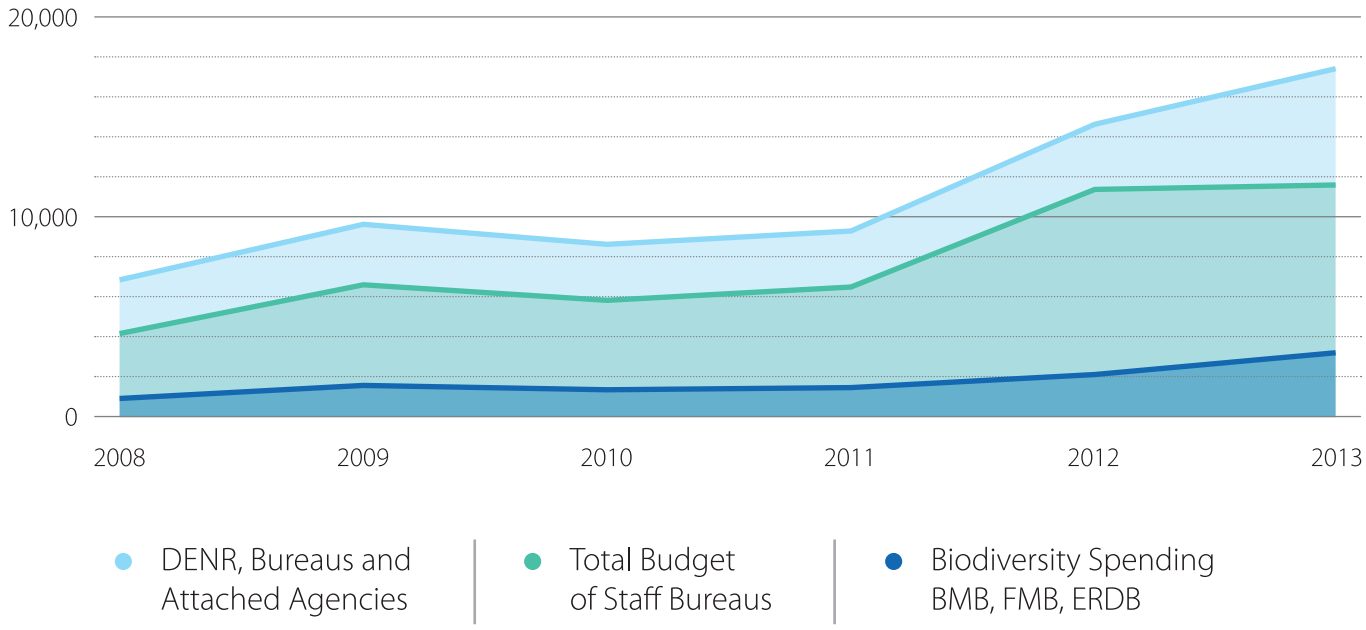
Graphics that show how biodiversity expenditures are partitioned among the public sector, civil society, donors, and private companies can be presented as pie charts.

We can examine trends from various angles: for example, Figure 4.5 shows the Philippines' spending trend from 2008 to 2013. Biodiversity expenditures increased over time, but they remain a small share of the total environmental budget and have grown less than total budgets. The ability to depict medium-to long-term trends is why BIOFIN recommends a time series of expenditures covering at least five years. When analysing expenditure trends, a conversion of expenditures from nominal to real values is required using either GDP deflator indices or Consumer Price Index (CPI).

Following this basic descriptive presentation, biodiversity expenditures can be analysed relative to line ministries and national budget spending. Graphs and tables should present the percentage of biodiversity expenditures relative to the budgets of line ministries and sector-based GDP. Multiple graphs could compare biodiversity spending in natural resource-based ministries (environment, forestry, fisheries, agriculture, energy, water, tourism) with each ministry's total budget.

Expenditures also can be tagged to the 23 (GBF) Targets. However, care must be taken to avoid attributing primary biodiversity scores to GBF such as pollution and agriculture that are secondary by their common application. Unpacking GBF Targets into specific actions can improve the resolution and provides for a better understanding of the biodiversity intent.

Figure 4.5: Relative biodiversity and ecosystem services spending – Philippines (million pesos)



Notes: The Department of Environment and Natural Resources (DENR), Biodiversity Management Bureau (BMB), Forestry Management Bureau (FMB), and the Ecosystems Research and Development Bureau (ERDB); Staff Bureaus include all of the specialized services such as those listed above.

By comparing biodiversity and public expenditures, we can discern how much money is budgeted for different sectors and how biodiversity fits into the bigger picture. *How does spending compare to the priorities in the national development plan, green economy plans, etc.?*

The presentation of the analysis should also be adapted to decision-makers' needs. For example, if the PA system is very important for tourism or watershed management, it would be beneficial to conduct a separate targeted analysis of its revenues and expenditures.

The analysis of ODA, private and civil society expenditures can follow a similar pattern, but with a more limited focus on the aggregated amounts. It is also insightful to compare international, national and local expenditures, keeping in mind that different data sources may be based on different parameters that reduce their comparability.

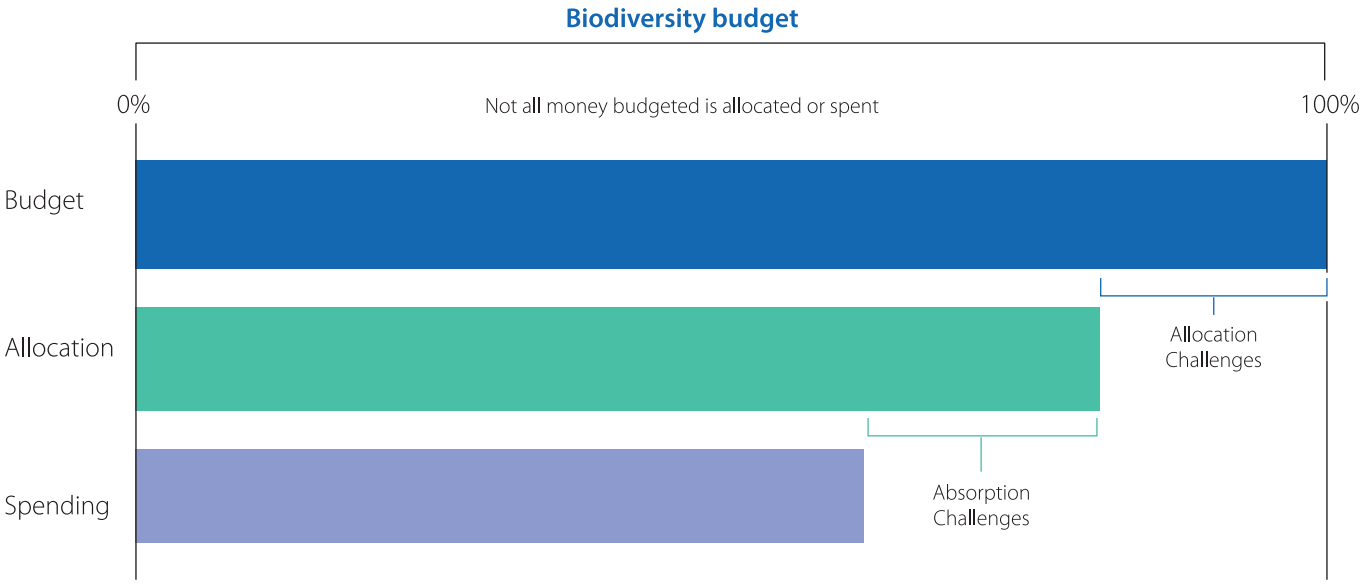
Step 4c: Identify relationships between budgets, allocation and expenditures and biodiversity revenues

Expenditures data include amounts that are **budgeted,** amounts that are **allocated** (i.e. transferred to spending units), and amounts that are spent.

Care should be taken to attribute expenditure data appropriately and avoid double counting since it is common for public authorities to transfer resources multiple times, for example, from the ministry of finance to the ministry of environment, and then from the ministry of environment to a PA.

This analysis evaluates how effectively budgets are transformed into expenditures, and whether spending constraints are due to a lack of initial budget allocations, a lack of resources or their delayed transfer or the absorptive capacity of the executing agencies. The analysis should be conducted on the main biodiversity actors, such as the ministry of environment. For each priority organization examined, a graph profiling budgets allocation and expenditure should help to highlight discrepancies. If the large gap is between budget and allocation, delays in transferring or approving budgets are often the reason. If the gap is between allocation and expenditure, then it is likely a timing issue or an absorption capacity issue i.e, the receiving organization lacks the capacity to spend the money efficiently. If the latter is the case, increasing budgets will do little to improve impact on the ground.

Figure 4.6: Project future expenditures



Step 5: Project future expenditures

This step seeks to project future biodiversity expenditures based on historical trends and future macro economic prospects. Future projections should cover a forward period of approximately 5 to 10 years, and may be based on various scenarios such as economic growth, severity of climate change, or successful mainstreaming of biodiversity in the budget. The projections can be compared to cost projections derived from the NBSAP costing. The exact time period chosen will depend on national budgeting processes and cycles, identified in the PIR (Chapter 3).

It is essential to clearly document and validate methodological decisions and assumptions used. Where the trend does not depict erratic behaviour, and history is our best teacher, a long-term average growth rate can be applied as a factor.

A linear regression analysis reveals the average level of budget expenditure and the annual rate of change over the time period, and facilitates extrapolation into the future. It also provides a measure of variability around the average that might be used for sensitivity analyses and generate 'optimistic' and 'pessimistic' projections.

Sensitivity analysis is typically conducted by changing several key variables and assumptions in projected expenditures to identify the assumptions that may be the most impactful if changed. Where greater precision in estimates and predictions can be secured, we can expect less sensitivity to change.

When past trends that show erratic budgets diminish its predictive power we can follow alternative paths. We can accept expert opinion or an ad hoc algorithm to combine what we know about the future with what we observe in the past, for example, moving average or trend analysis based on biodiversity expenditures as a percentage of government budget or GDP.

Countries that historically demonstrate a high degree of variation in rates of exchange and inflation may want to adopt a three-or five-year weighted moving average approach to reduce prediction error in future forecasts due to unusual or temporary short-term variations in these factors. However, the effectiveness of the models depends on the quality of the data.

Annex 1 shows examples of charts developed by Fiji, the Philippines, and Zanzibar, Tanzania depicting biodiversity expenditures as a percentage o total ministry budgets or disaggregated by sources of funds or spending categories. An example of how spending projections can be carried out is also provided.



Photo credit: UNDP Mongolia

4.3. The Biodiversity Expenditure Review in the private sector

To date, most efforts to understand biodiversity expenditures, needs and investment gaps have focused on the public sector. However, the private sector, particularly the private financial institutions (banking, asset management), and the corporate sector have a significant role as agents of biodiversity loss or of conservation and sustainable use of nature.[11] Many are highly dependent on nature for their profits. An increasing number of private companies are reducing their negative impact or even contributing positively to biodiversity. Recent efforts to mainstream and account for biodiversity dependencies and impacts of the private sector include; environmental footprint, product lifecycle and circular economic approaches such as restorative agriculture, the framework recently released by the Task Force on Nature-dependency Disclosure, and risk-based appraisals such as those developed by the Capitals Coalition and The Economics of Ecosystems and Biodiversity.[12]

Engaging private companies requires the communication of a clear definition of biodiversity expenditures and an explanation of why the private company should be interested in BIOFIN or biodiversity finance. Furthermore, important biodiversity investments that are made in the private sector are not well documented or understood. For example, private actors do not typically monitor and report their biodiversity expenditure, and when they do, it is under diverse and poorly defined headings such as conservation finance, ecosystem finance and sustainable finance.[13] Incorporating the private sector into the BER will provide critical information to formulate finance solutions.

Previous BER applications were characterized by patchy and unharmonized data, but opportunities to engage better with the private sector have improved significantly due to several factors. First, there is a better and more urgent recognition of the impacts of nature loss to macro-economics and the finance sector.[14] Another factor is the mainstreaming of disclosure and regulatory frameworks showing the urgency to address the continued deterioration of biodiversity and associated risks (see also Chapter 2, Section 2.1.4). Lastly, clearer language in the GBF pertaining to the better alignment of financial flows to nature also catalyses more engagement.

The development of a set of recommended disclosures for nature-related risks and opportunities is built on the premise that transparency of information through disclosures facilitates better risk and capital allocation decisions by corporates, investors and lenders. As this occurs, understanding will grow of the financial implications of the dependencies and impacts on nature that materially shape enterprise risks and opportunities. This will enable financial markets to channel capital away from nature-negative outcomes and towards nature-positive solutions, opportunities and business models, ultimately supporting more efficient allocation of both risk and capital, and the functioning of stable markets. BERs must take cognizance of developments in this space to assess trends in private sector expenditures for biodiversity.

However, extending the analysis to the private sector may not necessarily be as straightforward, and the results are not directly comparable with public sector expenditures. Thus, whatever any 'expenditure estimates' that arise from the foregoing analysis can be regarded as proxies, and aggregating expenditures of the public and private sector should be qualified.

[11] World Economic Forum (2020). Why the crisis engulfing nature matters for business and the economy.

[12] Seidl, A., Cumming, T., Arlaud, M., Crosset, C., & van den Heuvel, O. (2024). Investing in the wealth of nature through biodiversity and ecosystem service finance solutions. *Ecosystem Services*, Vol. 66.

[13] OECD (2020). A comprehensive overview of biodiversity finance. Paris. www.cbd.int/doc/c/dbcc/a4bc/913fe42c87f6fea8a356ca49/post2020-ws-2020-03-other-01-en.pdf

[14] Statement on Nature-Related Risks (24 March 2022). Network for Greening the Financial System finance. Furthermore, important biodiversity investments taking place in the private sector are not well documented or understood. Including the private sector in the BER will provide critical information to formulate finance solutions.



Photo credit: UNDP Gaurav Gupta

The purpose of this section is to:

- **4.3a** Identify and characterize private sector participants
- **4.3b** Identify and characterize private sector finance flows.
- **4.3c** Collect and analyse the finance flows from the private sector.

4.3.1. Identify and characterize private sector participants

A first step is identifying the different private sector players that may contribute to a country's biodiversity spending. Chapter 2, Section 2.1.4 and Moving Mountains have identified private sector entities as follows:

- Banks
- High net worth individuals
- Institutional investors
- Multinationals
- Corporates and small and medium-sized enterprises
- Faith- based organizations
- Large endowments.

Civil society

Civil society is strictly not considered to be part of the private sector, i.e. it is more of a third force party supporting both government and the private sector by acting as a financial conduit or directly implementing biodiversity actions at the local and national levels. Some NGOs typically channel support from a variety of national and international sources into specific biodiversity actions and projects. Expenditure data for these projects may be found in the annual reports of the implementing organization and/or often, reports of the donor organizations, or failing these preferred sources of information, it can be requested directly. However, care should be taken to avoid double counting expenditures from both the source and implementing organizations.

Engaging private companies requires the communication of a clear definition of biodiversity expenditures and an explanation of why the private company should be interested in biodiversity finance. Furthermore, important biodiversity investments taking place in the private sector are not well documented or understood. Including the private sector in the BER will provide critical information to formulate finance solutions.

Individuals, households and communities

Individuals, households and communities can be a source of financing for biodiversity with potential contributions as in the case of crowdfunding (see Chapter 7) or through contributions of labour and other material inputs (Box 4.7). Understandably, the contribution of this segment is difficult to track and even more difficult to estimate, except through more organized fund-raising events or through dedicated data monitoring, such as that of BIOFIN Nepal.



Box 4.7: Harnessing finance flows from individuals and communities: Nepal's forest user groups



In Nepal, a significant component of biodiversity expenditure can be traced to Community Forest User Groups (CFUGs). Local communities manage 2.2 million hectares of forests, comprising more than 30 percent of forest area in the country. CFUGs voluntarily promote activities such as fencing, planting, and managing forests to improve biodiversity.[a] However, investment from community-based forest management in biodiversity conservation is often ignored or hardly accounted for, potentially demotivating the community in the longer term. Furthermore, the investment of the CFUGs in both cash and voluntary labour is not estimated or acknowledged.

BIOFIN Nepal conducted studies in 32 CFUGs from Chitwan, Gorkha and Kaski districts, representing all three physiographic regions of the country, i.e. hills, mountains and Terai. The average annual expenditure of CFUGs was NPR 13,367.2/ha over the last three years (2017–2019. The study further estimates the voluntary labour contribution of NPR 9,952.0 ha-1 yr-1, of which NPR 8,738.5 ha-1yr-1 can be attributed as biodiversity expense; this is 87.8 percent of the total kind contribution. Estimates made at the national level reveal a staggering result. XFUGs spent NPR 39,883.3 million ($311 million) annually on biodiversity conservation, twice the Ministry of Forests and Environment budget of 2019, and even more if in-kind contributions of the CFUGs are considered.

	Particulars	Unit	Amount
1	Community Forest Area	million ha	2.23
2	Ministry of Forests and Environment (Annual Budget in 2019/20)	NPR million	9,208
3	Biodiversity-relevant Cash Expense of Community Forest	NPR / ha	8,813.0
4	Total BR Biodiversity-relevant Cash Expense of CF Community Forest (2019)	NPR million	15,753
5	Biodiversity-relevant Cash Expense as a percentage of the Total Budget of the Ministry (2*100/4)	%	213.4

[a] Anup, K.C. (2017) Community forestry management and its role in biodiversity conservation in Nepal. In: Lameed, G.A. (ed.) Global Exposition of Wildlife Management. Books on Demand, pp. 51–72.

It is ideal to have a private sector specialist on board to lead this part of the BER process. The expert will know who the private sector players are or which organizations BIOFIN can engage with. Private sector partners, UNDP country offices and government partners will most certainly have platforms for private sector engagement since they promote various initiatives on finance. A review of available reports in both social and mainstream media will also provide some leads as to who might be spending for biodiversity.

Among multinational corporations and banks, securing information about the priority spending and investments of the mother companies in biodiversity will help assess whether the local branch or subsidiary might be a potential data provider. The identification of leading companies that might have the capacity to collect and provide biodiversity data, such as those engaged with the United Nations[15] Global Compact,[16] the Natural Capital Declaration,[17] or similar initiatives, also presents opportunities for data collection and sharing.

Some factors that can be used to select data providers for the BER are as follows:

- There are significant corporate footprints identified either based on valuation of assets or incomes, or on dependence on biodiversity to enhance further analysis. See also Box 4.9 on how Guatemala used the Pareto principle (80:20 rule) in setting up the list of data providers.
- There is adequate sectoral representation, especially among corporates working in sectors with significant impact and/or dependencies on biodiversity resources, i.e. use of the International Standard Industrial Classification of All Economic Activities (ISIC) to ensure proper industry representation.
- There is a history of working in the biodiversity field.
- Data providers participate participate in disclosure frameworks to ensure data sharing and transparency of data.
- They have established partnership agreements with UNDP to avoid the lengthy process of due diligence if required for data sharing.



Photo Credit: UNDP Viet Nam
With UNDP's support, Hòn Yến village has developed a sustainable ecotourism model, directing 15% of tourism revenue toward coral reef conservation. This initiative not only safeguards the village's vital marine ecosystems but also supports the livelihoods of over 2,060 residents who rely on these reefs for their income.

[15] Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., Delmar, A., Meghji, A., Sethi, S. A., & Tobin- de la Puente, J. (2020). Financing Nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability.

[16] Mulder, G. (2021). Mapping Dutch financial flows to biodiversity. Netherlands Enterprise Agency, The Hague.

[17] OECD (2020). A comprehensive overview of global biodiversity finance. Paris. www.cbd.int/doc/c/dbcc/a4bc/913fe42c87f6fea8a356ca49/post2020-ws-2020-03-other-01-en.pdf

4.3.2 Identify and characterize private sector finance flows

Corporate social responsibility and philanthropy

Several types of finance flows for biodiversity were analyszed and aggregated at the global level[17]. Some private sector finance flows generate more resources for biodiversity, while others are more realigned with investments, which is a more effective use of resources (e.g. sustainable supply chains and sustainable procurement) and cost avoidance.

CSR is a business model that portrays how a private sector entity can demonstrate its commitment to enhancing society's betterment in terms of environmental, ethical, financial and philanthropic pursuits.[19] Philanthropic responsibility is one of the more familiar types of finance flows to biodiversity characterized by donations to charities, community organizations or civil society organizations for implementing biodiversity initiatives. All types of private sector participants and civil society can adopt CSR and philathropic funding or other types of donations for altruistic purposes. There is no direct expectation of financial profits, but some goodwill and reputational enhancement may result.

Finance flows from CSR and philanthropic funding can fill some funding gaps for biodiversity actions outside of public land and deliver effective services to community-managed conservancies. Since governments often face pressure from various stakeholders and political groups whose interests conflict with conservation goals the additional finance from CSR and /philanthropic funding is valuable, especially in terms of timeliness of funding and less bureaucratic procedures.

Green financial products

Green financial products include debt and equity instruments that support biodiversity. Interest in green financial products has grown due to the comparable, if not greater, market returns from sustainable products, plus enhanced opportunities to address reputational and physical risks. The market for green investments is well on its way to maturity with around $30.7 trillion in institutional assets under management globally, in the form of green debt products, real assets, and public equity environment, social and governance (ESG) focused funds. Yet, the challenge is that biodiversity receives very little of the funding, with the bulk still being ploughed into the energy sector. Less than 0.7 percent of the $271 billion in green bond issuances, were allocated to biodiversity conservation in 2019. The situation with impact investments is similar with less than 0.5 percent of social and environmental impact investments allocated to biodiversity.

Green bonds, blue bonds, climate bonds, nature bonds, ESG bonds and environmental bonds are similar to conventional bonds except that their aim is to finance energy efficiency projects, renewable energy, pollution prevention and control projects, natural resources and land management projects, clean transportation projects, wastewater and water management projects, and green building projects. A subset of the larger 'green bond' category is a 'pay-for-performance' bond. In the example of the Rhino bond, the investors forego coupon payments and instead get paid when the success indicators are achieved. Emerging modalities include impact bonds and insurance products.

Green bonds and their derivatives abide by the Green Bond Principles last updated in 2021; however, the greenness of the bond remains undefined, and it is left to the discretion of the issuer to elaborate on the specific purpose of the bond to potential investors. Some details such as use and/or eligibility of the proceeds, measuring of impacts, management of funds including third party verification, and reporting on impacts can provide more information on the 'greenness' of the bond. Estimating the biodiversity component of the bond, the challenge is to estimate the biodiversity component of the issuance. For example, in 2020 Indonesia carved out $2.7 million funding for the Maluku Conservation Center from *sukuk* funding, demonstrating the potential of this particular Islamic finance mechanism for biodiversity.

Supplemental documents such as sustainability reports or impact reports can provide more details about the biodiversity component of the issuance. Where relevant, the GLOBE list of activities could also serve as a reference point when determining the biodiversity component of a green financial product. Other sources of data on green financial products include the Climate Bonds Initiative, a valuable resource for tracking global green bond issuances and finding a directory of third-party green bond verifiers, and the Environmental Finance database.



Photo credit: UNDP Mongolia

[18] Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., Delmar, A., Meghji, A., Sethi, S. A., & Tobin- de la Puente, J. (2020). Financing Nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability.

[19] Mulder, G. (2021). Mapping Dutch financial flows to biodiversity. Netherlands Enterprise Agency, The Hague.

Biodiversity offsets

The new GBF regards biodiversity offsets as one of several innovative financing mechanisms that could support implementation of national biodiversity action plans. Biodiversity offsets are payments made to compensate for damages / destruction to biodiversity by development projects after the steps in the mitigation hierarchy are complied with.[20] Offsetting is the final step in the mitigation hierarchy, where negative biodiversity impacts are first avoided and minimized where possible and then mitigated with reparative actions at the impacted area; finally, any residual impacts are offset in another location. No net loss or a net gain in biodiversity are the simple objectives of biodiversity offsets but it is still fraught with myriad implementation issues.

For example, the Global Inventory of Biodiversity Offset Policies tracked a total of 196 countries consisting of: 42 countries where offsets are embedded in regulations; 66 countries (34 percent) that have established provisions to enable and facilitate voluntary offsets; 29 countries (14 percent) that have undertaken initial exploration of offset policy options; and 59 countries (30%) - mostly low- and middle-income countries, that have no identified provisions for offsets. Tracking the no net loss objective has not been robust due to challenges in programme design, monitoring and enforcement. One area that spurs optimism is the financial disclosures regime that supersedes regulatory framework. Here, corporates requiring financing for their investments need to disclose impacts and risks on biodiversity which would support better monitoring.

Biodiversity credits

Target 19 of the new GBF recognizes biodiversity credits as an emerging finance mechanism. Biodiversity credits offer a new way to finance the conservation of nature's essential ecosystem services. Assigning a financial value of nature is crucial for tackling the nature crisis. Biodiversity credits provide a method for businesses to support nature, incorporate environmental costs into their operations, and contribute to corporate nature-positive strategies. The Biodiversity Credit Alliance (BCA) defines a biodiversity credit as "a certificate that represents a measured and evidence-based unit of positive biodiversity outcome that is durable and additional to what would have otherwise occurred". According to BCA," a positive biodiversity outcome is an improvement in measures of biodiversity, a reduction in threats to biodiversity, or prevention of an anticipated decline in measures of biodiversity ".[21]

Biodiversity credits should exist within a credit framework or system that determines whether and how they can be used. The BCA recognized the following potential sources of biodiversity credits:

(i) voluntary business footprint compensation driven by shareholder and stakeholder pressure;
(ii) businesses seeking credit market experience in anticipation of regulatory requirements;
(iii) businesses seeking to comply with supra-national or national regulatory requirements;
(iv) businesses seeking to mitigate systemic business risk emanating from nature dependencies;
(v) financial institutions and markets seeking nature-positive investments;
(vi) government agencies implementing policies, regulatory measures,[22] or ODA;
(vii) retail and individual consumer-facing companies and brands providing value for consumers; and
(viii) philanthropists, including foundations.[23]

In addition, a fair and sustainable biodiversity credit market would prioritize the rights of Indigenous Peoples, who are increasingly acknowledged as the frontline of protecting and maintaining biodiversity.[24]

Natural infrastructure

Natural infrastructure refers to the networks of land and water bodies that provide ecosystem services for human populations, which produce similar outcomes to implemented grey infrastructure. *It covers all ecosystem-generated solutions that provide the fundamental, practical needs of daily existence: freshwater wetlands that provide flood protection, water provision and water purification services. Mangroves and coral reefs that can absorb the shock of storm surges and protect communities from sea level rise. And forests that clean air, regulate microclimates, and remove carbon from the atmosphere*

Opportunities to harness natural infrastructure should not be overlooked in favour of synthetic or built infrastructure, that the G20 Global Infrastructure Outlook estimates at $94 trillion by 2040, including access to drinking water and electricity. Moreover, the International Institute for Sustainable Development shows that nature-based infrastructure provides identical yet cheaper provision of the same service without destroying biodiversity.

Examples of finance mechanisms are user-driven investments where consumers are levied a tax or user charge which are then aggregated and deployed to enable protection of ecosystems such as watersheds, mangroves and coral reefs. Water quality trading, offsets and buyback programmes are other types of finance mechanisms where the private sector can participate.

[20] IUCN. (January 2016). IUCN Policy on Biodiversity Offsets.
www.iucn.org/sites/default/files/2022-06/iucn_biodiversity_offsets_policy_jan_29_2016_0.pdf

[21] Biodiversity Credit Alliance. (May 2024). Definition of a Biodiversity Credit. Issue Paper No. 3.
www.biodiversitycreditalliance.org/wp-content/uploads/2024/05/Definition-of-a-Biodiversity-Credit-Rev-220524.pdf

[22] Here, use case for biodiversity credits may be jurisdictional offsetting schemes, as described in the previous paragraph.

[23] Biodiversity Credit Alliance (2023). Demand-side Sources and Motivation for Biodiversity Credits.
www.biodiversitycreditalliance.org/wp-content/uploads/2024/05/BCAIssuePaper_DemandOverview06122023-final.pdf

[24] Biodiversity Credit Alliance (BCA). (2023). Communities and nature markets: Building just Partnerships in Biodiversity Credits. Discussion paper. New York: Biodiversity Credit Alliance: www.biodiversitycreditalliance.org/wp-content/uploads/2024/05/BCA-Discussion-Paper_Building-just-partnerships-in-Biodiversity-Credits.pdf



Photo credit: Kurit Afshen
Living Root Bridges, Nongriat Village, Meghalaya, India

Other private sector financial flows

Other types of financial flows from the private sector include **sustainable supply chains and nature-based solutions** (NbSs). Commodity-driven supply chains result in significant biodiversity impacts through overexploitation, land conversion and deforestation. Corporates may address supply chain issues in several ways: by improving corporate policies and internal standards; by using third-party sustainability standards and certifications; and through direct corporate funding of sustainability improvements within their supply chains, including in producer countries. Furthermore, achieving a positive impact may entail sustainable sourcing initiatives at the jurisdiction and landscape level of naturally sourced ingredients. Corporates may also invest in monitoring biodiversity impacts of their suppliers and/or adherence to internal company standards, which may also require additional investments in systems and personnel.



Box 4.8: Sustainable tourism certification spurs positive investments - Sri Lanka

In Sri Lanka, BIOFIN supports the tourism sector through the National Sustainable Tourism Certification scheme for various participants/providers from small and medium-sized enterprises including tour guides, hotels and destination management. Biodiversity protection is a key criterion for certification. The National Sustainable Tourism Certification for the accommodation sector entirely focuses on biodiversity, including conservation activities management of ecosystems and landscapes, management of invasive species, visits to natural sites and wildlife interactions. Other criteria include biodiversity-related aspects such as waste management and pollution control, and green procurement practices. Significant investments upward of $10 million were recorded in 2023 including those of bilateral and multilateral development banks.

NbSs are interventions that enhance climate change adaptation interventions and minimize the negative impacts of climate action on biodiversity. Governments agreed to a definition of NbSs as follows:

Actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits.[25]

Promotion of NbSs combined with climate change interventions resulted in positive outcomes for ecosystem health through increased species richness. In addition, most of these interventions also brought climate change adaptation and/or mitigation benefits.[26] Economic instruments such as carbon pricing, trading and offsets are also popular NbS, which are exposed to criticisms of greenwashing. There are also cases when the NbS interventions themselves threaten the integrity of ecosystem health, such as when reforestation promotes single species use or invasive species. In such cases, the estimation of these finance flows are more complicated and will not lend to aggregation with public sector expenditures.

4.3.3 Collect and analyse the finance flows from the private sector

Collecting comprehensive information on private sector biodiversity expenditures is generally more difficult than collecting public sector data, especially if the data protocols require comparable and verifiable time series data. However, recent trends in disclosure, more stringent environment, social and governance (ESG) reporting, and compliance to emerging finance taxonomies show that data required from the private sector may be more accessible. Industry business associations or even finance regulators such as the Central Bank or the securities and exchange commission are potential sources of expenditure data. For example, the Central Bank of Costa Rica conducted a survey of small, medium-sized and large enterprises covering manufacturing, vehicle repairs and wastewater management sectors.[27]

At the company level, firms are increasingly publishing annual CSR reports, general purpose financial statements, sustainability reports or impact reports, etc., which often include a narrative on environmental actions and risks. Other reporting such as government surveys and industry reports may also provide data or insights. These external reports tend to be available only for large publicly traded companies. If data are collected solely from a subset of company leaders in sustainability, as most who engage with BIOFIN and share data are likely to be then care must be, taken to avoid linear extrapolation to the industry from this subset. Conservative assumptions should be used when drawing general conclusions from any such subsample of leading companies.

[25] UN Environment Assembly. About UNA.5. www.unep.org/environmentassembly/unea5/about-unea-5?%2Fabout-unea-5=

[26] Key, I.B., Smith, A.C., Turner, B., Chausson, A., Girardin, C.A.J., Macgillivray, M., & Seddon, N. (2022). Biodiversity outcomes of nature-based solutions for climate change adaptation: Characterising the evidence base. *Front. Environ. Sci.* 10:905767. doi: 10.3389/fenvs.2022.905767

[27] www.bccr.fi.cr/indicadores-economicos/DocCuentaGastoProteccinAmbiental/Gasto-Proteccion-Ambiental-2018-2020.pdf

Respondents can be invited to a workshop- style session to discuss the overall purpose of the BER and explain the purpose of data collection. It is recommended that BIOFIN partner with or co-organize the workshops with business associations/chambers of commerce or even financial regulators to enhance the credibility of the process. Private sector groupings can also be proposed if the potential data provider list is large, for example, civil civil society + philanthropies + large endowments (forming one group) and corporates (forming another group).

The workshop can be used to assess and value the different finance flows to biodiversity. Participants can indicate which of the finance flows their organization contributes to and in what manner. Specific information on actual expenditures or investments can also be derived, but it is recommended that BIOFIN teams develop standard data collection instruments to allow for comparison.

If data are deemed confidential, BIOFIN may propose to present only aggregate figures without identifying the name of the private sector entity.

Data requirements for major categories of finance flows may include :

- volume of financing, for example, amount of donations, bond issuance, or investments;
- description of projects and /or use of proceeds;
- role of entity: financier, facilitator, implementor, or all of these;
- geographic focus of financial support:
- identification of partners (e.g. civil society, academia, government);
- third party verification to ascertain greenness of financial products.

Aggregating private sector financing flows

Within the context of the BER, the purpose of assessing and estimating private sector financing flows is to determine how much they are contributing to biodiversity spending for the country. However, not all financing flows can be considered positive flows to biodiversity in terms of intent and/or impact measurement. A classification of financing flows has been developed below to guide countries on how to deal with private sector financing. (see Tables 4.4, 4.5, 4.6 and 4.7)

The classifications of private sector financing flows reflect principles used in the BIOFIN Process such as intent vs. impact, addressing multiple objectives, and a broader scope of finance outcomes beyond resource mobilization only.

The proposed classification considers the overall objective of this section, which is to estimate biodiversity expenditure of the private sector, to the extent possible, with caveats on using proxy numbers and aggregation with public sector numbers. For public sector spending, the principle of *causa finalis* was used to determine the biodiversity relevance of the spending. For the private sector, the *causa finalis* can focus on two distinct elements: the motivation to maintain or enhance financial returns and the intention to address biodiversity.



Photo credit: UNDP Thailand
To improve coral reef protection, waste is being collected on Koh Tao Island in Thailand.

Table 4.4: Type 1 - Enhancement of biodiversity is the main focus with a purely altruistic motivation	
Private Sector Source of Finance Flow	• The entire private sector may qualify
Examples of Finance Mechanisms	• Donations through corporate social responsibility (CSR) philanthropy • Investments in nature-based solutions that cover habitat restoration and improvement
Approach to Biodiversity Expenditure Reporting	• Actions are consistent with, or in support of, government actions to achieve the Global Biodiversity Targets, including conservation and restoration • The GLOBE Taxonomy can be used as a reference for alignment to public sector financing • Total amount can be added to public sector spending.

Table 4.5: Type 2 - Maintenance or improvement of financial returns by including biodiversity in the investment portfolio	
Private Sector Source of Finance Flow	• Multinationals, small and medium-sized enterprises, banks, institutional investors
Examples of Finance Mechanisms	• Debt and equity instruments such as green loans and green bonds
Approach to Biodiversity Expenditure Reporting	• Determine the volume of loans/equity and estimate the amount assigned to biodiversity. This can be estimated on its own without necessarily adding to public expenditures and denoted as a proxy.

Table 4.6: Type 3 - Maintenance or improvement of financial returns by addressing climate and biodiversity co-benefits	
Private Sector Source of Finance Flow	• Multinationals, small and medium-sized enterprises, banks, institutional investors
Examples of Finance Mechanisms	• Nature-based solutions such as carbon pricing, carbon offsets, carbon credits
Approach to Biodiversity Expenditure Reporting	• Monitoring of investments but no aggregation of estimates with public sector spending.

Table 4.7: Type 4 - Maintenance or improvement of financial returns by providing compensation for biodiversity loss or damage	
Private Sector Source of Finance Flow	• Multinationals, small and medium-sized enterprises, banks, institutional investors
Examples of Finance Mechanisms	• Carbon offsets, biodiversity offset, biodiversity credits with an offset function
Approach to Biodiversity Expenditure Reporting	• Monitoring of investments but no aggregation of estimates with public sector spending.

Box 4.9: The private sector: Data collection and results from Guatemala

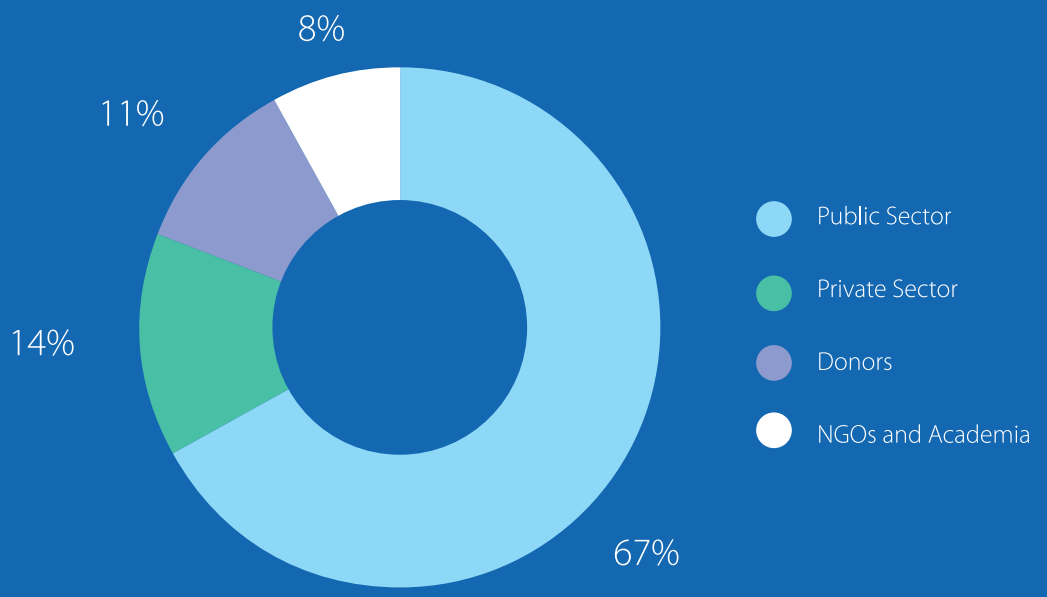
To determine the biodiversity finance actors, two prioritization criteria were considered: the experience of the entities within the environmental field and the economic contribution to biodiversity (based on analysing 20 percent of the institutions/companies that contributed 80 percent of the resources targeted for biodiversity). As a result, within the commercial sector, sugar, African palm, banana, extractive industries and coffee-producing entities were considered in the biodiversity expenditure analysis, as well as Guatemala's principal donors (the G13 donors), non-governmental organizations and academia. In order to familiarize the selected entities with BIOFIN's purpose and encourage them to provide information about their biodiversity expenditures:

- all pre-selected actors were invited to a workshop where they were asked to share information about their biodiversity expenditures. Personal contacts with key actors could be established, which assisted with later requests for information;

- after the workshop, the participants were asked via email to complete a questionnaire. The questionnaire included questions on the type of international cooperation/non-governmental organization/company, local, number, type and timeframe of projects, sources of funding, amount of biodiversity expenditure, and classification of expenditure according to Classification of Environmental Protection Activities (CEPA) categories (see Box 4.3). The key stakeholders who could not attend the workshop were contacted by phone.

As a result, it was determined that the private sector contributed $48 million, development partners $35.37 million, and NGOs and academia, $26.84 million.

Biodiversity Expenditures in Guatemala (2010–2014)



From 2010 to 2014, the total biodiversity expenditure of Guatemala from 2010 to 2014 amounted to $331.16 million, or 0.14 percent of GDP. Public expenditure contributed 67 percent of the total amount ($221 million) and the private sector, international cooperations and NGOs contributed 33 percent ($110.1 million).

Source: BIOFIN Guatamala

4.4. Reporting and outreach

The BER should be able to answer the questions outlined in the objectives (Section 4.1) and at a minimum, include the basic data and analysis suggested in Box 4.7. It should help policymakers understand the general trends in biodiversity expenditures and their future consequences. The output is a comprehensive BER report (suggested outline below) accompanied by spreadsheets with original data and calculations. Additional outputs include short reports, policy briefs and the formulation of key messages. The latter can be used for policy advocacy and communication and as an input to the BFP (Chapter 6).

Identifying potential finance solutions for early implementation

During the BER, potential finance solutions may emerge that can be implemented immediately without waiting for the BFP to be completed. Some general categories of finance solutions that may emerge and the process for selection and prioritization of these solutions are discussed here.

Increasing resources for biodiversity

Usually, when biodiversity results are compared with total budgets or even country GDP, the percentage shares allow for a hard think on biodiversity investments, especially when compared to the revenues generated by the sector or the values of ecosystem services (as discussed in Chapter 3). Together with the PIR analysis, the expenditure lines of an agency can then be compared to its stated mandate and determine opportunities to seek greater budget allocations. BIOFIN's Categories and sub-categories are aligned with the GBF, and this might be used to assess policy gaps, i.e. actions not currently implemented to promote some actions, such as in green economy or sustainable production and consumptions. In the private sector, the engagement can highlight possible finance flows that might not yet exist in country and could thus be the basis for pilots and eventual scaling up. Countries can review potentials for green financial products, NbSs and natural infrastructure. All of these examples show the potential to increase resource flows to biodiversity.

Allocation challenges and absorption challenges present opportunities for designing finance solutions. These challenges may be to improve communication of opportunities for financial and economic returns from biodiversity investments and to form partnerships with champions including the legislature. Absorption challenges imply the need for increased implementation capacity, a staffing complement, the timely release of budgets, and the ability to download the budget.



Photo credit: UNDP Costa Rica
In Costa Rica, the +Women +Nature Programme has promoted the creation of financial instruments for women and nature.

Improving efficiencies and realignment

As discussed, gaps between budget allocations and actual expenditures indicate absorptive capacities of agencies. Understanding the difficulties in deploying the budgets in terms of timeliness and institutional capacities may point to another finance solution. Many BIOFIN countries have resorted to expanding, recognizing and increasing biodiversity spending across non-core biodiversity agencies in finance solutions that focus on mainstreaming. These types of solutions represent either or both realignment and improving efficiencies.

Cross-cutting finance solutions and enabling finance solutions

In addition to these four finance results, there are also enabling actions that can facilitate the institutionalization of the finance solutions that emerged from the BER. Examples include: integrating biodiversity into expenditure tagging systems; developing online platforms for reporting and collaboration with, inter alia, the private sector; aligning with disclosure frameworks (financial reporting); and developing financial products (providing incentives).

The team should prepare a preliminary listing of potential solutions from the BER and subject these to simple selection criteria (see below). If all the answers to the three questions are 'Yes', then the finance solution is pre-selected for early implementation.

Criteria for the initial selection of finance solutions for early implementation

Criteria	Questions	Answers		Results
Feasibility	Is there a high or very high likelihood of success? *Broad political and social support and sound commercial viability (if relevant). No operational challenges known. Strong record or expectation of success, replicability, or scalability in comparable contexts. Capacity to implement the new or improved instrument is evident.*	**Yes**	**No**	• Macroeconomic data and budget trends • Biodiversity expenditure of the public sector - thematic areas, spending categories, comparison among agency budgets, general trends • Challenges and opportunities in the budgeting process • Expenditure projections of the public sector • Biodiversity expenditure of the private sector - scope, methodology for data collection and estimation - disaggregated main categories • Data collection and estimation process • Estimation and characterization of private sector biodiversity expenditures • Summary results - public and private biodiversity expenditures
Budget	Is there a budget available for implementation?	**Yes**	**No**	
Results (Finance or Policy Result)	Can the result be achieved in one year?	**Yes**	**No**	



Photo credit: UNDP Viet Nam
UNDP BIOFIN helps a fishing village in Viet Nam shift to green tourism

If several potential finance solutions pass the criteria, a second level may include the following to enable a ranking:

- the volume of finance mobilized or catalysed i.e. the higher the finance outcome, the more preferable;
- the linkage of the solution to national priorities, such as medium-term plans, climate change plans or poverty reduction strategies and;
- the presence of partners and/stakeholders who are willing to champion the solution.

It is important that stakeholders participate in the selection process to ensure ownership of the results. Furthermore, the process for early selection of finance solutions must be integrated into the BFP preparation process.



Photo credit: Mahtab Haider

Model outline of a BER report

1. Executive Summary

2. Acknowledgements

3. Introduction

4. Methodology

- Scope of BER – dates, institutions and, audience
- Definition of biodiversity expenditures and biodiversity categories
- Attribution methodology for allocating indirect biodiversity expenditures
- Data acquisition - sources of data

5. Results

- Summary results - macroeconomic data and budget trends
- Sector budgets
- Biodiversity in the budget
- Biodiversity spending by sector/theme/categories
- Biodiversity spending by organization/government activity code
- **Private sector biodiversity expenditure estimation**
- Challenges and opportunities in the budgeting process
- Projecting future expenditures
- Identification of potential finance solutions from the Biodiversity Expenditure Review

6. Recommendation and Conclusions

7. Annexes

Annex 1

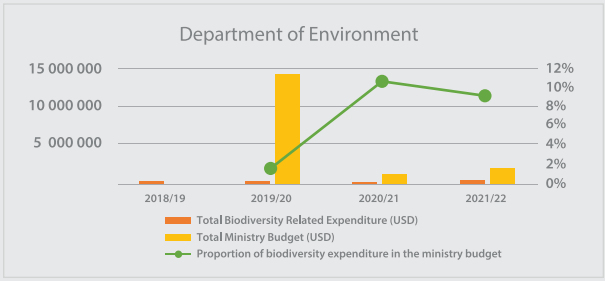
Examples of analysis of Biodiversity Expenditure Reviews from Zanzibar, Tanzania, Fiji and the Philippines

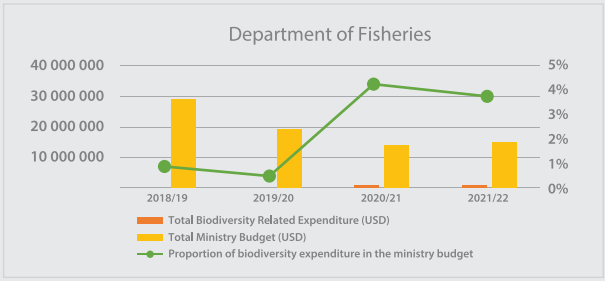


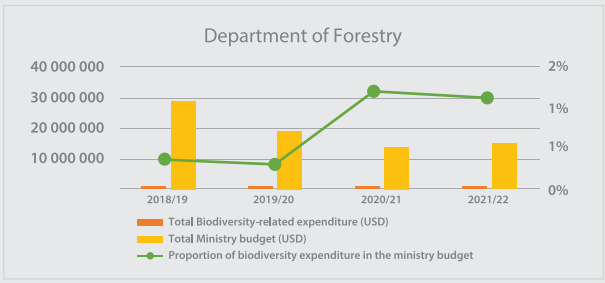
The Biodiversity Expenditure Review in Zanzibar, Tanzania

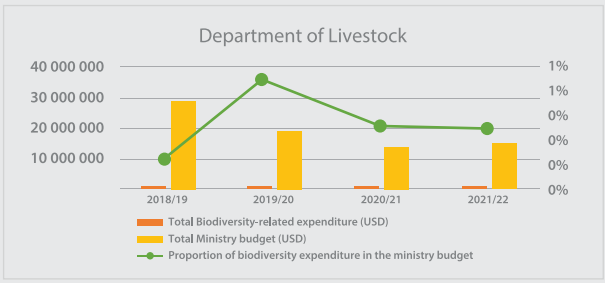
BIOFIN Zanzibar, Tanzania analysed biodiversity-related expenditures of seven state entities for the years 2018/19 to 2021/22. The proportion of biodiversity-relevant expenditure is compared with ministries' budgets. Analysis indicates that biodiversity expenditure for the past two years is the highest in fisheries where it accounts for 12–14 percent of the Ministry of Blue Economy budget. The Department of Environment follows, whereby biodiversity-relevant expenditure is about 9–10 percent of the budget for the Office of the First Vice President. The proportion of biodiversity-relevant expenditure for the Department of Agriculture is 3–4 percent, Forestry 1–2 percent, and Livestock 0.3 percent of the budget for the Ministry of Agriculture, Irrigation, Natural Resources and Livestock.

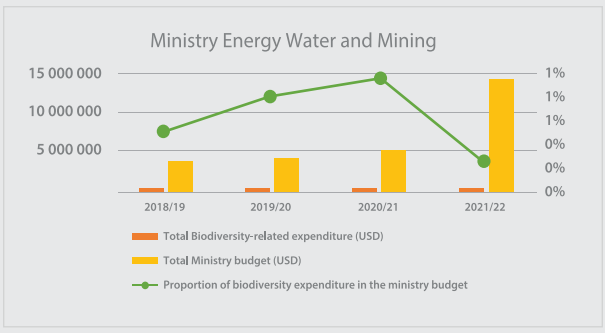
Annex Figure 1. Biodiversity-related expenditures compared to budgets of different ministries

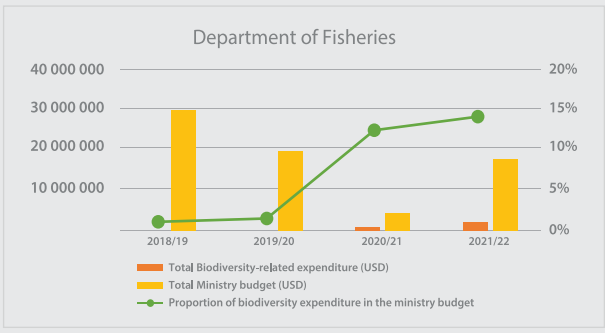


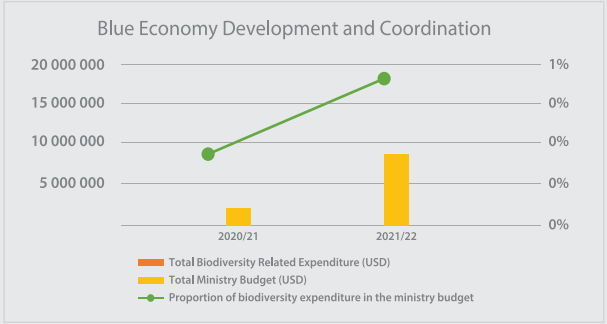








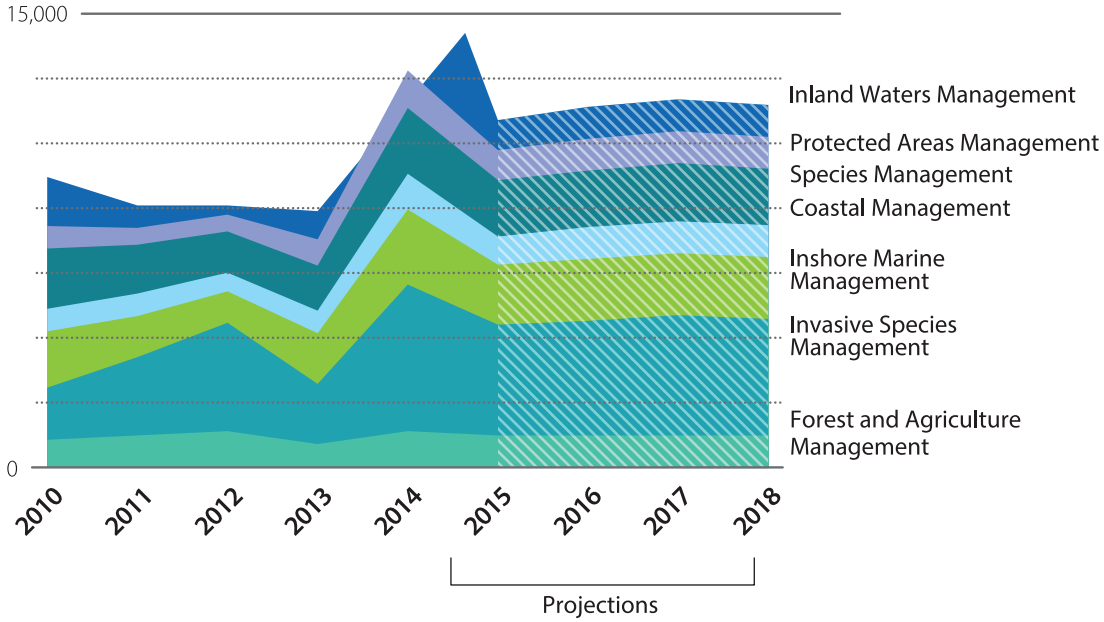




The Biodiversity Expenditure Review in Fiji

BIOFIN Fiji used a time-series forecasting method to predict biodiversity expenditure levels under a business-as-usual scenario.

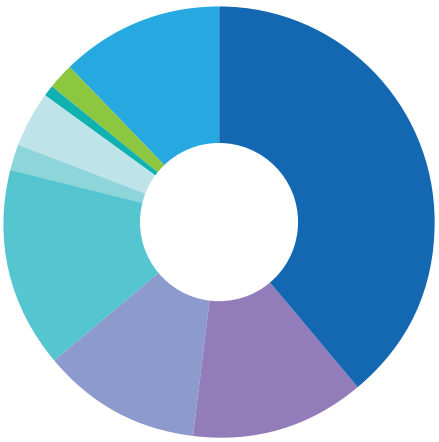
Annex Figure 2. Historic data and future predictions of expenditure for biodiviersity in Fiji (FJD '000)



BER in the Philippines

Annex Figures 3 and 40 show how BIOFIN Philippines disaggregated its BER data. Annex Figure 3 iindicates that the Department of Environment and Nature Resources has played an important role in the implementation of biodviersity programmes in the Philippines. Figure 4.10 illustrates how the country's coastal areas are the main spending priority, followed by wetlands and agrobiodiversity. The share of PAs stands only at 10 percent of the total.

Annex Figure 3. Philippines – Disaggregation of expenditures according to sources of funds



- **39%** → DENR and Attached Agencies
- **13%** → DENR ODA
- **12%** → DENR Locally Funded Projects/Loans
- **15%** → DA and BFAR
- **2%** → Others
- **4%** → Social Sector
- **1%** → Defense Sector
- **2%** → General Public Services
- **12%** → Local Governments

Annex Figure 4. Philippines - Disaggregation of spending according to sources of the National Biodiversity Action Plan, per thematic sector



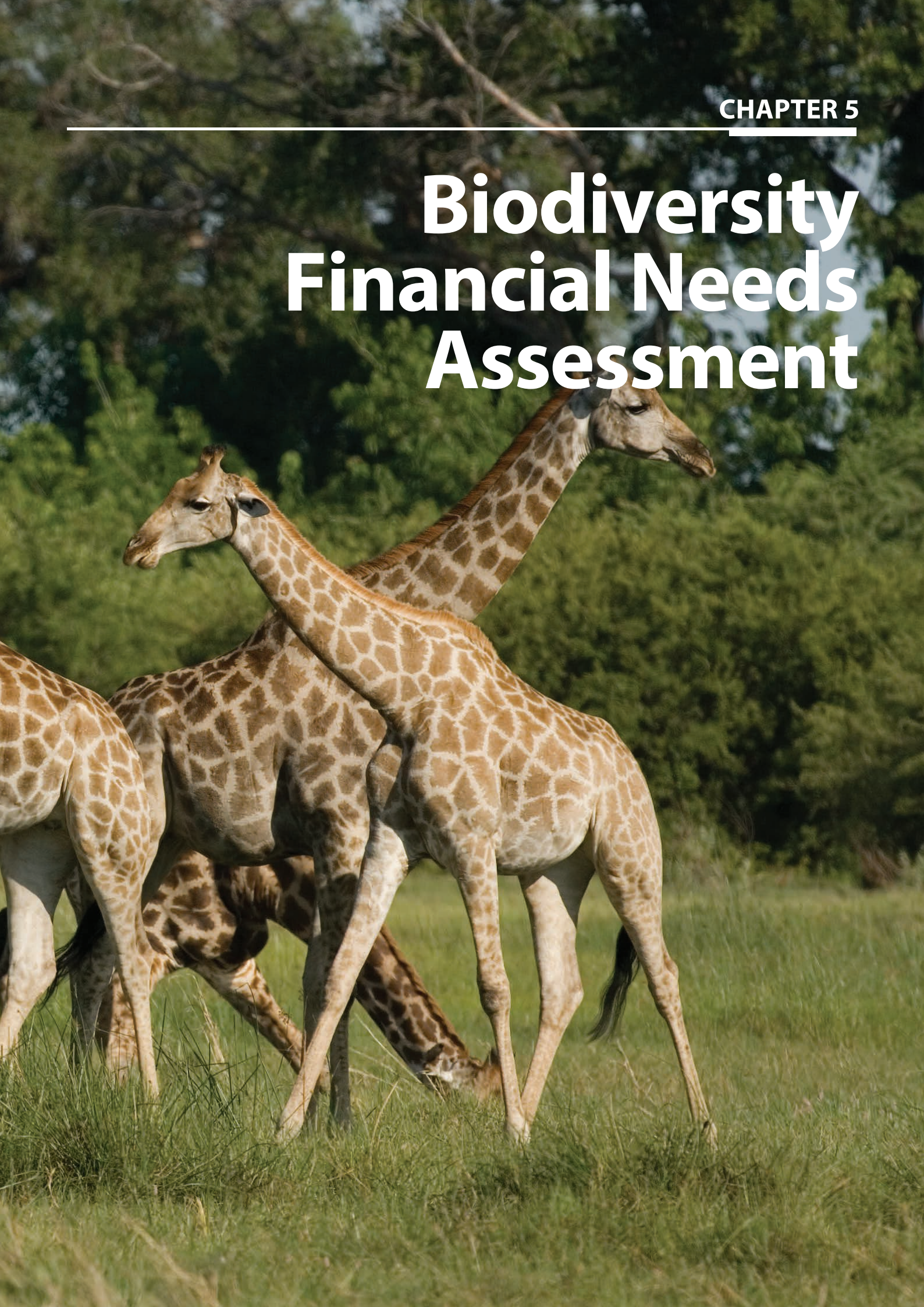
- **6%** → Access and Benefit Sharing
- **13%** → Agrobiodiversity
- **8%** → Caves
- **19%** → Coastal and Marine
- **10%** → Forests
- **12%** → Invasive Alien Species
- **15%** → Inland Wetlands
- **7%** → Urban Biodiversity
- **10%** → Protected Areas



Photo credit: Department of Wildlife and National Parks of Botswana

CHAPTER 5

Biodiversity Financial Needs Assessment



Introduction

This chapter provides in-depth guidance on undertaking a biodiversity FNA. This is a calculus of how much finance a country needs to achieve all its national biodiversity goals. It is organized in four sections. Section 1 describes the FNA's goals and objectives, overall process and links to other chapters. Section 2 covers costing terminology, principles and methods, and Section 3 describes the steps for implementing the FNA. Conclusions, recommendations and awareness-raising are described in Section 4.

5.1. Objectives

The aim of the FNA is to obtain a comprehensive estimate of the financial resources needed to achieve national and/or subnational biodiversity targets in the context of the GBF. National biodiversity targets are typically articulated in NBSAPs as well as in other key national planning instruments, such as national development plans, sectoral development plans and climate change national plans. The FNA compares these financial needs to projected biodiversity expenditures over a medium- to long-term planning horizon as part of an assessment of unmet finance needs.

The CBD produced high-level estimates of the financing necessary to achieve the GBF Targets on a global level (see Chapter 1). In contrast with this global assessment, the FNA is a bottom-up approach seeking to produce a detailed and realistic costing of the targets in national biodiversity-related strategies and action plans. This approach aims to answer the question: "*What financing is really needed for the country to achieve its stated biodiversity targets, and what are the likely sources of financial support to achieve them?*" It starts from zero and builds a costing estimate of the full set of human resources, capital investments and financial resources needed.

It is aspirational in that it identifies the necessary resources required for effective delivery, even if this may not be immediately achievable in practice.

Each country may have its own approach to medium- and long-term costing. The BIOFIN Process should seek to support existing approaches to ensure compatibility and alignment.

In many countries, biodiversity budget planning is not based on detailed cost estimates of the actions needed to achieve biodiversity-related targets towards economic, social and environmental outcomes. As a result, this limits obtaining the support required from ministries of finance, businesses, development and commercial banks, civil society and other financial decision-makers.

This has been particularly the case with NBSAPs, most of which never included detailed budgets or costing estimates. As a result, finance for NBSAPs was rarely adequate, and thus the biodiversity outcomes were not achieved. Hence, the CBD has encouraged countries to apply an FNA-type approach to develop a detailed and realistic resource needs assessment and budgets, followed by a BFP for their NBSAPs.

1. Clarify yearly actions in updated NBSAPs to describe 'costable actions' that link to expected biodiversity results in a logical framework that lends itself to detailed costing;
2. Cost actions by defining unit costs and quantities over the target time period to achieve the desired specific results;
3. Use this costing as a basis to develop detailed budgets to make a stronger case for biodiversity finance, linking the costs of achieving specific results to government, business and civil society finance, and to project or policy proposal processes;
4. Identify, at an early stage, potential financial solution mechanisms based on specific biodiversity and cost criteria and existing opportunities and initiatives to bridge the investment gap; and
5. Estimate unmet biodiversity finance needs.

5.2. The Financial Needs Assessment process

The FNA's objectives are not simply to generate the best costing for the NBSAP and other relevant national related strategies, but also to assess finance needs through a process, shown in Figure 5.1. This will be achieved by combining a sound methodological approach with the right timing,[1] format and partners, in a participatory manner. Key partners include the ministries of environment and finance, central planning agencies, and other key stakeholders identified in Chapters 2 and 3.

Financial needs should be estimated at the national level, linked to national economic development planning and public finance ('fiscal') management. It should be broken down to the level of the country's biodiversity results ('targets' or 'outcomes'), strategies and costable actions.

Subnational finance needs assessments could also be carried out based on relevant public policies and legislation related to biodiversity are in place.

- Finance sources and solutions to be identified, developed or redirected;
- Subsequent assessments of cost-effectiveness;
- Understanding of the required scale and timing of biodiversity actions.

Ideally, this detailed FNA methodology will encourage improved performance through more effective biodiversity planning, budgeting and fiscal management (see Box 5.1).

[1] Cangiano, M. M., Curristine, M. T. R., & Lazare, M. M. (2013). Public financial management and its emerging architecture. International Monetary Fund, Washington. D.C. www.odi.org/sites/odi.org.uk/files/odi-assets/events-presentations/1505.pdf

Figure 5.1: The financial needs assessment process

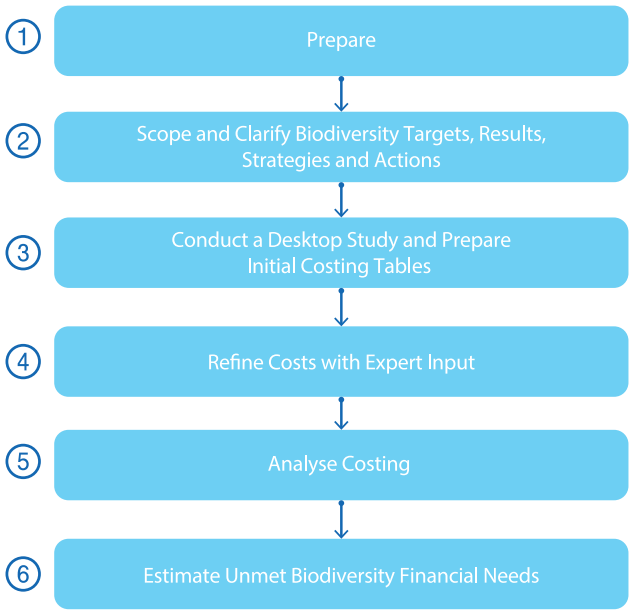




Photo credit: Gaurav Gupta

Box 5.1: BIOFIN and public financial management

In most countries, domestic public financial resources tend to be the primary source of finance for NBSAP and other relevant national policies' implementation. Public financial management covers several aspects of government planning, including both revenue and expenditure management. The FNA can be included in a country's public financial management and be aligned with any reforms underway in order to advance the mainstreaming of biodiversity finance into public finance and budgeting. The FNA should take into consideration the following planning and finance items (as identified under the PIR and BER, Chapters 3 and 4):

- Mid-term or long-term budget and expenditure frameworks
- Integration of the SDGs into national planning and budgeting
- Approaches to detailed performance-based and results-based budgeting
- Decentralization
- Responsibility, transparency, and other rules
- Fiscal councils and new fiscal risk management initiatives.

BIOFIN acknowledges that each country takes its own approach to planning, budgeting and fiscal reforms. As such, the FNA methodology seeks to provide approaches that can be employed in a wide range of country processes.

BIOFIN's approach is in line with international principles in public financial management and well-documented new trends in public finance.[a]

[a] Cangiano, M. M., Curristine, M. T. R., & Lazare, M. M. (2013). Public financial management and its emerging architecture. International Monetary Fund, Washington. D.C. www.odi.org/sites/odi.org.uk/files/odi-assets/events-presentations/1505.pdf

5.3. Links to other chapters

The FNA uses information and insights developed throughout the national BIOFIN Process. The FNA builds on and should be compatible with the national planning and budgeting practices and approaches that have been identified in the PIR (Chapter 3). The process also relies on the analysis of the NBSAP and other strategic national documents, strategies and priorities assessed in the PIR. The FNA helps refine and apply the system used for categorizing, attributing and tagging expenditures in the BER (Chapter 4), where possible. A sound process for estimating biodiversity finance needs, allowing comparisons of specific finance needs with available resources, can guide the prioritization, development and implementation of the BFP with sound finance solutions (Chapter 6) and its implementation (Chapter 7).

5.4. Principles and methods used for the Financial Needs Assessment

This section describes several principles and methods used to conduct the FNA. It starts with definitions, terminology and principles, and then considers costing approaches. Detailed implementation steps are described in the following section.

5.4.1 Terminology and principles

The terms used in this chapter commonly have established meanings within public finance, but they can mean different things to different stakeholders. This section clarifies key terms, and the Glossary defines others.

First, the detailed costing outlined in the FNA could be termed a 'bottom-up' approach, but the term 'bottom-up budgeting' can also refer to local administrative budgeting. The FNA focuses on **direct costs or financial costs** unless explicitly stated. This contrasts with an economic definition of costs, which, in addition to financial costs, can include indirect costs and welfare implications (e.g. 'opportunity costs'). While BIOFIN recommends the use of cost-benefit analysis (or other multivariate approaches) to build a case for biodiversity investments and to more accurately identify winners and losers from a policy or action, the FNA doesn't require it.

Activities, programmes or projects must be translated into detailed 'costable actions' to achieve the level of detail needed for accurate costing. Costable actions can be defined as specific actions or activities that seek to achieve a clear or quantified result, the estimated cost of which can be calculated based on their description, research, or expert opinion. In many cases, NBSAPs will not provide the level of detail and granularity needed to cost actions that will lead to the expected outcome. Thus, in some cases, assumptions and estimates must be used, based on existing information and expert discussions through a participatory process with relevant stakeholders.

BIOFIN encourages the use of the term 'investment' in biodiversity to highlight that resources allocated to biodiversity management are not simply costs without returns. However, the term investment also refers to capital expenses as opposed to recurring or operating expenses in the budget, and both are required for accurate costs estimates. Budget allocations to biodiversity management can protect or enhance natural assets that provide future economic benefits, similar to investments in infrastructure or health care.

BIOFIN encourages the FNA to be:

- **Comprehensive** – to cover the full spectrum of biodiversity conservation and sustainable management (Box 5.2), in many cases requiring to go beyond national biodiversity strategies to cover other biodiversity or related strategies (e.g. a PA expansion strategy, which may provide more detail than the NBSAP, or a blue economy strategy, which may expand on what is covered in the NBSAP).
- **Accurate** – to be based on justifiable costs and actions directed specifically at achieving identified results.
- **Detailed** – to organize actions under targets or results, and results under strategies.
- **Prioritized** – to rank activities or results in terms of:
  (i) importance for achieving more than one target;
  (ii) potential net benefits of the investment; and
  (iii) other national priorities.
- **Aligned** – to be compatible with national budgeting and public financial management provisions to enable effective results uptake.

5.5. Approaches to costing

Several approaches can be used to construct a cost basis (costing) for a strategy, proposed project, or programme; they all relate an input of costs allocated to certain activities to some output in connection with strategies/targets, and ultimately results (outcomes). Different costing approaches have different strengths and weaknesses and uses, and several are often used in combination. They are described here and summarized in Table 5.1.

Incremental budgeting

The incremental budgeting approach, perhaps the most common approach, in contrast to the FNA's focus on costing, focuses on budgeting yet budgets are constrained by available funding; the costing in the FNA aims at identifying realistic needs independent of available budgets. In incremental budgeting, the previous year's budget is taken as a starting point, and a percentage increase (or decrease) is applied. This approach is not recommended because it does not adequately address the basic principles outlined above.

Historical projections

Historical costs are used to project future costs. This could differ from incremental budgeting if it builds on detailed historical activity or results-based costs. Where detailed historical costs are known, these can be used to estimate future costs for specific activities. For example, the costs for replanting a hectare of mangroves in the past can be used to estimate the costs of replanting a targeted amount in a specific country or area in the future. When using historical costs, it is important to: (i) make sure that they are accurate and cover the entire cost of an activity; (ii) base the new costs on specific biodiversity management targets (i.e. number of hectares, days of ranger missions); and (iii) account for inflation, economies of scale, and any other issues that would affect future costs.

Cost modelling

In cost modelling, future costs are estimated based on quantitative models with input variables. The models are almost always used for costing and can be as simple as multiplying a unit cost by the number of units needed. However, this approach generally refers to complex, potentially non-linear, models with multiple variables. Cost modelling can be used to estimate and transfer costing coefficients from the past or from other situations or locations to the country, policy or project in question. It can serve as a first approximation for an initiative when time or expertise needed for independent costing is lacking and/or a reference point for such estimates relative to other locations or initiatives. For example, models for estimating PA costs based on their area, distance from cities and local purchasing power parity have been derived from historical costs and used to make future costing predictions.[2] Complex models supported by the academic and grey literature may be useful for the FNA, especially in cases where actions are new to a country with no available historical estimates.

Activity-based costing

In activity-based costing, budgets are estimated based on specific programmes and activities identified, and the costs related to these activities. Administrative overheads are tied to activities more closely than in traditional budgeting, which simply adds on administrative costs as a supplement. This approach is useful when details of biodiversity activities are well known and quantified, when tracking project or programme 'outputs' (immediate results of actions) is desired, and when the 'outcomes' (longer-term results) of activities are difficult to quantify or track. For this approach, it is useful to have a catalogue of unit costs to help cost activities in an integrated manner.

Results-based costing

Results-based costing is an expansion of activity-based costing, where all costs are associated with specific medium- to long-term results, so that the outcome of the activity is the budgeting focus and not the activity or short-term *output*. There is a strong push towards this type of costing in national and business budgeting. It is also called 'performance-based budgeting', because it allows the finance ministry and central planning agencies to more easily track performance. Results-based costing (RBC) is described in further detail in Box 5.2. This approach could also be framed as a finance solution to improve efficiency and cost-effectiveness in biodiversity spending.

Box 5.2: Moving from incremental to results-based budgeting - Peru

Peru's National Budget System Reform Strategy[a] promotes the use of results-based budgeting (RBB) to ensure that the Government provides people with the planned quantity and quality of goods and services. The RBB strategy demands the following:.

- Clear and objective definitions of the results to be achieved;
- Commitment by government entities to achieve these results;
- The delineation of clear responsibilities in implementing instruments and accountability of public expenditure; and
- Mechanisms to generate information on products, results and management efforts.

The Strategy is implemented by the Ministry of Economy and Finance through: (i) budget programmes; (ii) performance monitoring based on indicators; (iii) independent evaluations; and (iv) management incentives.

[a] RBB is governed by Law No. 28411, General Law on the National Budget System, specifically in Chapter IV "RBB" in Title III, "Supplemental Norms for Budget Management.

[2] De ned in Chapter 1 (Section 1.3) through the three objectives of the CDB: biodiversity conservation, sustainable use of biodiversity, and fair and equitable sharing of its benefits.

Table 5.1: Summary of the costing approaches

Costing Approach	Common Use	Opportunities	Challenges
Incremental Budgeting Approach	Annual increments allocated, most budgets	Gradual change	Limited vision, lack of connection with results
Historical Projections	Empirical data used for budgeting	Accurate, based on real experience	Not comprehensive, may not be optimal but based on limited budgets
Cost Modelling	Extrapolation from small cases, budgeting new activities	Alternative scenarios, understanding cost effectiveness	Lack of empirical data, country or geographic specificity
Activity-Based Costing	Project budgeting, programme budgets	Detailed bottom-up budgeting	Not necessarily focused on outcomes
Results-Based Costing	Planning by objectives, logframe and programme-based budgeting	Detailed best practices, focused on budget formulation, which resolves around a set of predefined objectives and expected results (outputs, outcomes or impacts)	Advanced approach, not used in most countries



Photo credit: Gaurav Gupta
The WHO estimates that biodiversity loss results in a global economic impact of $10 trillion annually, including healthcare costs from increased disease transmission and agricultural losses from pollinator declines.

BIOFIN encourages building up budgets from smaller costable actions and budget line items. Using a catalogue of unit costs is also useful in order to base activity cost estimations on well-defined categories such as human resources, infrastructure, equipment, inputs, consultancies and public consultations, among others. In the future, it may be possible to build refined models for future biodiversity management budgeting needs, based on data from a wide range of BIOFIN countries and biodiversity activities linked to strategies and results, similar to models currently used in health care and education. In all cases, unit costs should be based on government or business norms, research and published documents, and be peer-reviewed or validated. The economics and finance of biodiversity literature provides some useful cost estimates for particular actions such as reforestation costs, coral reef restoration and seagrass restoration (Box 5.3).

Box 5.3: Statistical modelling to estimate biodiversity management costs - Thailand

Cost models can derive cost estimates for defined actions. They can help introduce comparable unit costs for different actions that may be chosen to achieve the same objective. The options for coral reef restoration and coastal erosion prevention have been estimated by Thailand[a] using a modelling tool that may be adapted to other countries. Note that the cheapest actions are not necessarily the most efficient or cost-effective.

Coral reef restoration costs

Restoration Methods	Unit Cost (Baht/Rai)	Unit Cost (Baht/Ha)
Transplanting on concrete	106,400	17,024
Providing Artificial Reef	7,560,000	1,209,600
Floating Nursery	18,720,800	2,995,328

Coastal erosion prevention

Protection Measures	Unit Cost (Baht/Meter)	Durability and Effectiveness*
• Geo-bag, geo-tube, geo-container	9,300	++
• Bamboo wall	3,850	+
• Concrete Sea Wall	31,600	+++
• Revetment	13,300	+++
• Offshore Breakwater	200,000	+++
• Sand Sausage	30,000	++
• Groin (Groyne)	70,000	++
8. Gabion Box	18,000	+

* Note: Effectiveness depends to a large extent on the physical terrain of the site; different protection measures are suitable for different physical conditions. Cost-effectiveness is indicated by the + signs, i.e. the greater the number of + signs, the greater the effectiveness.



Photo credit: UNDP Thailand
BIOFIN and its partners in Thailand establish community-based social enterprises to improve the tourism.
A portion of tourism profits go to sustainably manage mangroves and coastal resources, creating a biodiversity fund.

[a] Thongtham, N., Panchaiyapoom, P., & Puangprasan. S. (2003). Coral rehabilitation in the Andaman Sea, Thailand. Report no. 1/2546. Thailand: Department of Marine and Coastal Resources; Coastal Resources (in Thai).



Photo credit: Gaurav Gupta

BIOFIN recommends results-based costing (RBC), or elements from it, in line with best practice in public budgeting. Working backwards from impacts to outcomes, outputs and actions is a common planning approach and is part of a logical framework methodology.

Many countries and businesses are using RBC concepts to improve governance and business performance.[3]

Early adoption of RBC-RBB reforms can help to improve efficiency or cost-effectiveness, and also identify priority institutions for additional budget allocations. The extent to which RBC is adopted or appropriate for the FNA will depend on each country's capacity and willingness, particularly of the finance ministry in the case of public finance.

5.6. Summary of the six steps of a Financial Needs Assessment



Prepare

Establish a team with appropriate skills and capacity to conduct the FNA, define key stakeholders and roles, establish a consultation plan, and begin consultations on methodology.



Scope and clarify the biodiversity targets, results, strategies and actions

Translate the NBSAP and other national priorities into a logical framework that converts the biodiversity results and indicators into 'costable actions'; and begin prioritization of biodiversity results to be achieved and strategies to be implemented.

2a Review and refine the scope
2b Use a logical framework to structure and clarify actions and results
2c Conduct initial Begin prioritization of biodiversity results and strategies.



Conduct a desktop study and prepare initial costing tables

3a Identify budget units and standard costs
3b Build cost tables.



Refine costs with expert input

Refine cost estimates and the results of the costing using individual expert consultations followed by a workshop; validate and determine quantitative details of costable actions, results and indicators; conduct a tagging exercise; refine initial models and assumptions.



Analyse costing results

Prepare a multi-annual direct cost statement, subdivided by strategies, targets, sectors and actors, etc., depending on stakeholder needs; compare costs to biodiversity priorities.



Estimate the unmet finance needs

Consider the detailed costing statements within the context of the projected available finance or estimated future expenditures for projects, programmes and policies, in strong alignment with those calculated during the BER (Chapter 5); analyse the unmet financing needs by national strategy or targets, BIOFIN Categories, organization, etc.

[3] www.focusintl.com/RBM062-RBB(2012)4_en.pdf

5.7. The six steps of a Financial Needs Assessment

Step 1: Prepare

During the FNA preparation phase, it is necessary to identify the most important stakeholders, experts and key decision-makers to whom the results of the assessment will be delivered. This stakeholder engagement effort builds on the work of the PIR (Chapter 3) and the BER (Chapter 4). National governments are likely to finance or facilitate most of the NBSAPs through their budgeting and management system. As such, the ministries of finance and planning should be considered principal decision-makers and actors involved in the costing. Other agencies, ministries, businesses and organizations should also be included to consider the broadest possible set of innovative finance solutions to meet the ambitious global and national targets set out by the GBF and other processes.

These partners should be kept in mind as potential 'owners' of the FNA, and their involvement can be aided by linking the FNA to existing fiscal management in a country (see Box 5.1). For example, in some cases, ministries of finance are willing to consider increased funding requests from ministries of environment only with further evidence and stronger data to understand the return. Identifying a funding gap for a national park system that provides globally important public goods may open the possibility for international financial flows or investments that were not previously made available[4]. Revealing the market potential for small and medium-sized enterprises or concessions in biodiversity-positive business endeavours may identify private sector or public private partnership opportunities to work toward bridging the biodiversity finance gap without increasing the fiscal burden to governments.

Other preparatory activities are:

- Form a working group containing experts to work in tandem with the national BIOFIN team.
- Draft a work plan including a timeline and stakeholder consultations. A series of consultation workshops with a variety of stakeholders from a wide array of sectors is recommended.
- Review the BIOFIN methodology and draw on lessons from other countries.
- Identify potential data sources through initial outreach to stakeholders.

Step 2: Scope and clarify biodiversity targets, results, strategies and actions

The scoping and clarifying of biodiversity targets, national strategies and specific action plans (including the NBSAP) required in this step go beyond the initial work described in Chapter 3, and include the following:

2a. Review and refine the scope.
2b. Use a logical framework to structure and clarify actions and results.
2c. Begin prioritization of biodiversity results and strategies.

Step 2a. Review and refine the scope

During the PIR (Chapter 3), there will have been a detailed review of the NBSAP and other key national biodiversity-related strategies. If the NBSAP was deemed insufficiently comprehensive for the costing exercise, other national plans and strategies should be included at this stage. The main documents to review alongside the updated NBSAP were identified in the PIR under the section covering the national biodiversity vision. The scoping will also assess how BIOFIN can support the refinement of the above strategies and plans, including clarification of quantitative targets and indicators to define costable actions. Many countries have used the NBSAP as the starting point, but some (e.g. Chile, Fiji, Malaysia) have expanded their analysis to better mainstream biodiversity into national development plans.

Each country should choose the most appropriate scope of the FNA based on:

- the comprehensiveness and quality of the NBSAP;
- greatest biodiversity impact potential; and
- the stated interest of important decision-makers and stakeholders.

NBSAPs and other strategic documents tend to include actions that are either difficult to cost or that are stated in general terms. If the action or target is too broad, it should be more specific activities that will contribute to achieve the stated results. A generic strategy such as "protect endangered species" would need to be linked to a specific result statement such as "decrease poaching incidents of elephants by 30 percent", and a related set of outputs and activities (e.g. increasing the number of rangers, strengthening the prosecution of illegal wildlife trade cases). Using a costing catalogue can help translate these actions into costable units. Also, not all activities or actions are costable; some are political or coordination decisions with zero or minimal costs attached. The team should decide if these actions should be included in the FNA; countries may prefer to include them even though achieving them does not depend on funding allocations.

It is important to link the FNA to results that are meaningful to decision-makers (e.g. water resources management, livelihoods), increase their likelihood of taking action. The FNA could become, when relevant, the baseline and guidance to develop an actual government budget, business product pipeline or project. This can be facilitated by using government or private sector budget categories and unit costs for the costing, building on existing national and subnational and private sector budgeting and planning, and engaging with the right stakeholders and decision-makers throughout the process. Here, a cost catalogue is a useful tool in this process (See Box 5.4a).

[4] Flores, M., and Bovarnick, A. (2016). Guide to improving the budget and funding of national protected areas systems. Lessons from Chile, Guatemala and Peru. United Nations Development Programme, New York. www.cbd.int/financial/guides/undp-rblc-pabg.pdf

Box 5.4a: Building a catalogue of costs to estimate finance needs

Mexico identified a set of questions to decide if NBSAP actions were feasible to cost, for example: "Does the action have concrete activities for its implementation?" and "Can the action be costed and assigned a particular unit cost?" By answering these questions, the actions were classified as 'highly feasible to estimate the cost', 'feasible to estimate the cost', or 'not feasible to estimate', after which the BIOFIN team decided how to proceed. The actions that could not be costed included political will, to which is difficult to assign a quantitative value. This process was validated with country stakeholders through validation workshops and expert consultations. Other actions were not costable because they required drafting a plan before implementation, but the plan was yet to be drafted. In that case, only the drafting could be costed.

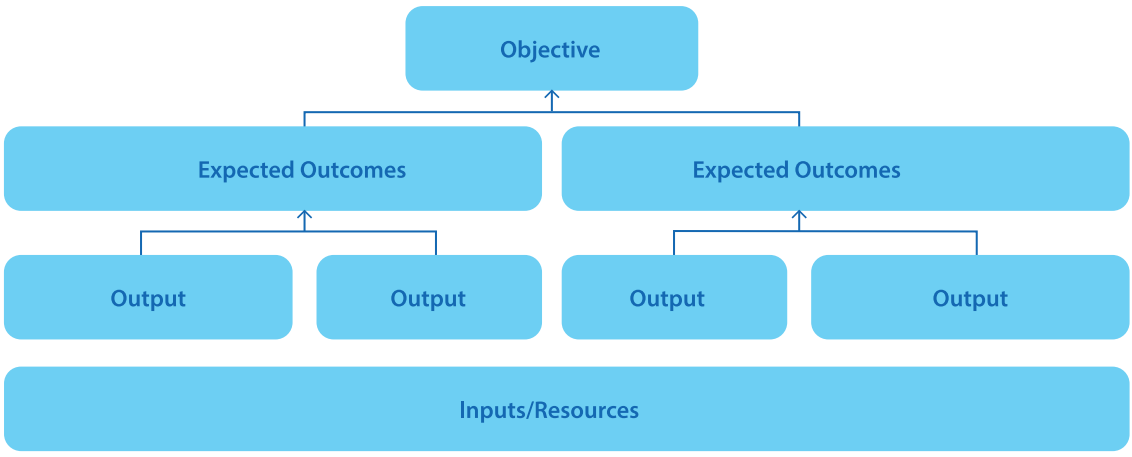


Photo credit: UNDP-Niue-2016_coral_conservation
More than 3 billion people depend on marine and coastal biodiversity for their livelihoods.
The marine environment is under threat, and we must act now to safeguard these vital ecosystems.

Step 2b. Use a logical framework to structure and clarify actions and results

Once the FNA's scope is agreed, biodiversity actions should be framed into a logical structure that is clear, quantifiable and written in appropriate language, i.e., accounting/finance jargon. To this end, all relevant biodiversity targets, strategies, results and actions should be identified and organized into a logical framework to assist with the costing exercise. The terms used in this framework to assist the costing reflect those used in results-based management (see Figure 5.2).[5]

Figure 5.2: Hierarchy of inputs to objectives



[5] Organisation for Economic Co-operation and Development. Development Assistance Committee. Working Party on Aid Evaluation. (2002). Glossary of key terms in evaluation and results-based management. Paris. www.oecd.org/dac/evaluation/2754804.pdf

The terms in Figure 5.2 may not be evident in an NBSAP or other action plan, but they can be derived by translating information from the plan's targets, strategies, sub-strategies and actions.

Table 5.2 provides some guidance on translating NBSAP terms into classic logical framework terms.

Table 5.2: Logical framework to structure NBSAP results for costing

National Biodiversity Strategy and Action Plan (NBSAP)		Links	Costing Structure Elements
Element	**Description**		
National Biodiversity Targets	High-level targets for the country to achieve the NBSAP and other national strategies.	The elements of the NBSAP may or may not translate effectively to the costing structure, but they should always be linked in a consistent order.	Targets (Results)
Strategies (and Sub-strategies)	NBSAP categories that lead to targets (ideally).		Outcomes
Actions	A description of how strategies and sub- strategies are implemented.		Outputs
Costable Actions	Disaggregation of actions into specific actions that can be costed with minimum ambiguity.		Intputs

Inputs or resources are commonly expressed as unit costs in the country budgeting. They include both recurring and capital costs. This can be valuable input for countries wishing to develop a budget based on the costing process.

It is essential to provide specific, quantified where possible, results for all main strategies. Some countries, like Mexico, identified key milestones to achieve the expected action or results in their NBSAPs and costed these milestones. This resulted in a simpler process, considering their NBSAPs did not have clear results or outcomes (See also case of Argentina in Box 5.4b and the EU in Box 5.4c). Once the results are defined clearly, the actions can be examined to ensure that they are the most appropriate to achieve those results. Putting content into the logical framework (Table 5.2) and defining quantitative outcomes and other results requires a consultative process with NBSAP stakeholders and other partners.



Box 5.4b: The Financial Needs Assessment at the subnational level: An example from Argentina

Adapting the Financial Needs Assessment (FNA) methodology in Argentina posed a unique challenge, particularly due to the decision to implement the BIOFIN methodology at the subnational government level. The main challenge faced was the lack of Biodiversity Strategies and Action Plans (NBSAPs) or equivalent biodiversity strategic plans at the provincial level. This absence hindered the creation of an official masterplan that could consolidate biodiversity objectives for budgetary purposes.

To overcome this challenge, a strategy was devised to identify various provincial plans containing biodiversity policies, goals and objectives. In the province of Misiones, for instance, successful collaboration took place with a diverse range of public organizations, including the Ministry of Ecology, the Secretariat of Climate Change, the Biodiversity Institute of Misiones Province, the Ministry of Agriculture and Production, the Secretary of Agriculture Family, the Secretary of Energy, and the water regulatory entity, among others. Information was requested from these organizations regarding their primary policies, plans, and actions related to any of the nine Primary Biodiversity Categories established by BIOFIN.

Drawing from the documentation provided by each organization, collaborative efforts were made with authorities to systematize all plans into feasible objectives and actions. This resulted in a consolidated document, representing the comprehensive biodiversity policies of the provincial government for the first time. This document can be linked to a provincial biodiversity strategy.

Box. 5.4c: EU finance needs estimations based on their BDS 2030

The European Union estimated its finance needs to implement the Biodiversity Strategy 2030 using the BIOFIN methodology:

To estimate financing needs, baseline expenditures on biodiversity that will occur even in the absence of their Biodiversity Strategy (BDS for 2030), and additional expenditure that will be incurred to achieve the specific objectives of the BDS for 2030. Financing estimates were then developed of the costs that are likely to be incurred to deliver on those objectives by all parties (the EC, Member State and subnational governments and non-government actors), after considering overlaps between objectives (whereby the delivery of one objective also delivers in part or in whole of another).[a]

[a] Nesbit, M., Whiteoad, K. et al. Biodiversity Financing and Tracking: Final Report. Institute for European Environmental Policy and Trinomics. https://ieep.eu/wp-content/uploads/2022/12/final_report.pdf

Step 2c. Begin prioritization of biodiversity results and strategies

A prioritization exercise should be implemented during and after translating NBSAP actions into costable actions. The exercise should identify strategies and activities that are: i) the most likely to achieve results; and ii) the most important for achieving the biodiversity goals and vision of the country. Prioritization criteria will differ among countries and can be elaborated by stakeholders through the consultation process described above, and converted into a scoring system. This initial prioritization is based primarily on the impact on biodiversity and less on the costs.

The output of the prioritization exercise is a list of the most important strategic priorities amongst biodiversity targets, strategies and actions. The list may be ranked, or simply grouped (e.g. into high, medium and low priorities). Higher priority strategies and actions may be programmed for earlier delivery compared to lower priority strategies, and this will influence the timing of the financial needs analysed in Steps 3-5. The proposed prioritization exercise does not seek to eliminate low priority actions.

To cost an action, it is necessary to understand various details about it, including the timeline, scale, location, responsible organization, etc. that help costing in Step 3. This detailed costing is the main objective of the FNA process. If the actions described in the NBSAP are too vague, and lack quantitative results or spatial definition, estimating budget costs will be arbitrary and indefensible, and thus risk rejection by finance decision-makers. In most countries, the FNA process has provided valuable input for decision-makers on how to better design biodiversity action plans that are oriented towards more concrete results and expected outcomes. This approach makes actions more traceable and costable, and, ultimately, can support a prioritization process (see Step 2). For example, in Table 5.3, alternative actions designed to reduce white rhino poaching are compared. Even before making detailed costs estimates, we can compare different approaches and assess approaches in a consultative manner. Argentina has taken this approach by costing environmental strategies and other relevant policies.

Table 5.3: Analysis of alternative actions to achieve a result

Expected Result	Optional Actions to Achieve Result	Analysis				
		Rapid Impact	Long-Term Impact	Cost	Most Cost- effective Short-term Option	Combination of All or Several Options
Decrease poaching incidents of white rhino by 30%	Public Education	Low	High	High		X
	Increase Patrolling Staff and Patrolling Equipment	High	Medium	Medium	X	X
	High Fine	Low	High	Low		X
	Legal Reform to Include Illegal Hunting of White Rhino as a Criminal Offense	Low	High	Low		X

The clarified actions and results are taken forward to detailed costing, starting in Step 3. Table 5.4 provides an example from Ecuador of turning a result into a costable action.



Photo credit: Mahtab Haider
Dusk descends on the Serengeti as a line of giraffes cross into safety.
Grasslands are critical eco-systems in sustaining biodiversity.

Table 5.4: Example of costing table based on expected outcomes and strategies – Ecuador

Prioritized Target and Outcome	Strategy	Costable Action and Key Performance Indicators	Cost Details
Outcome: Biodiversity costs are incorporated into national accounting systems, and national and decentralized development plans, in order to support poverty reduction and improvement of the new national productivity scheme.	Introduction of biodiversity values into policy formulation cycles	A dedicated unit to address Economic Valuation and Sustainable Finance (UVESF) will be established at the Ministry of Environment	Technical team of the UVESF: One senior economist, one finance expert, three junior accountants
		At least three valuation projects and other stand-alone initiatives are identified by the Ministry of Environment	Operational costs
		Key national environmental accounts are completed.	Research plan (studies)

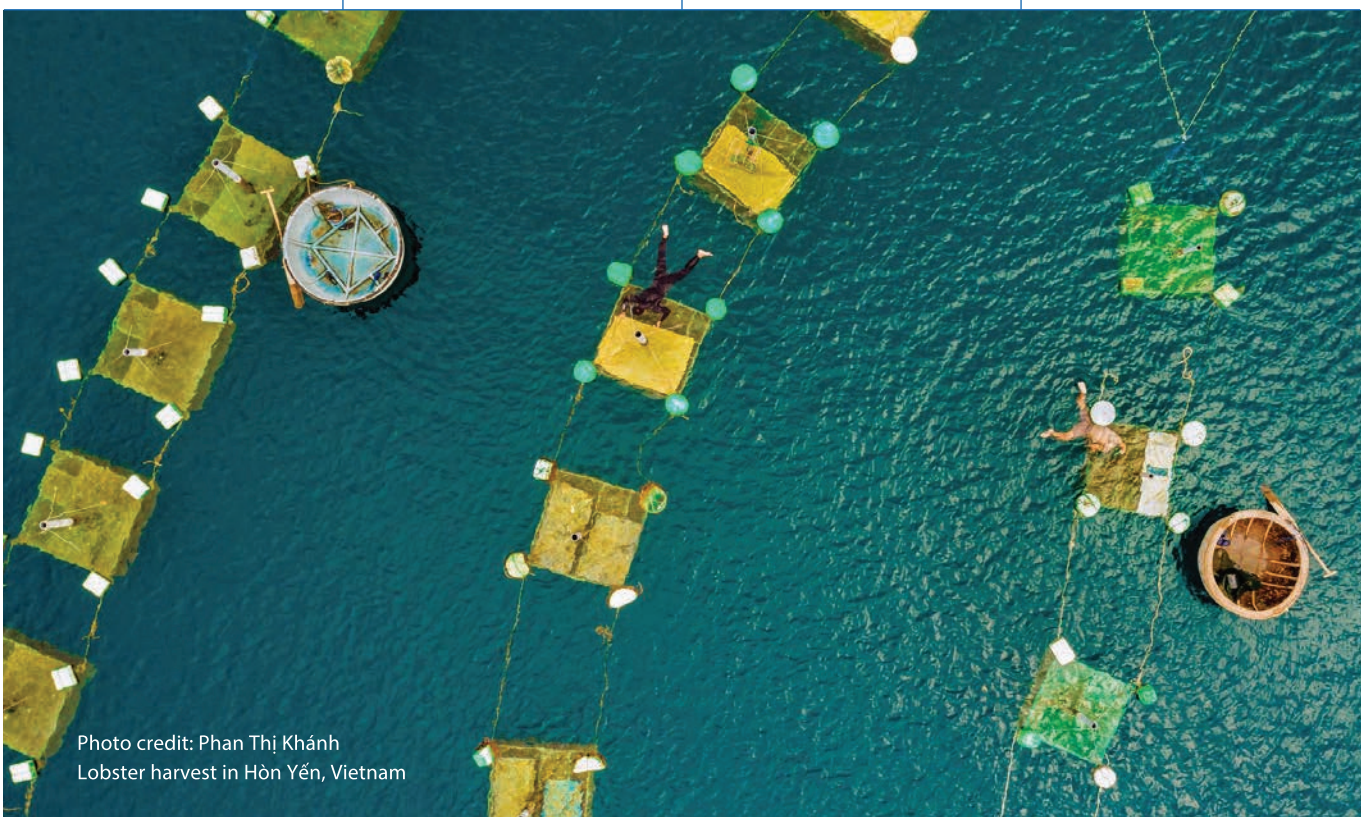


Photo credit: Phan Thị Khánh
Lobster harvest in Hòn Yến, Vietnam

Step 3. Conduct a desktop study and prepare initial costing tables

This step will result in the production of initial costing tables for the biodiversity targets. Specific substeps are:

- **3a.** Identify budget units and standard costs.
- **3b.** Build cost tables.

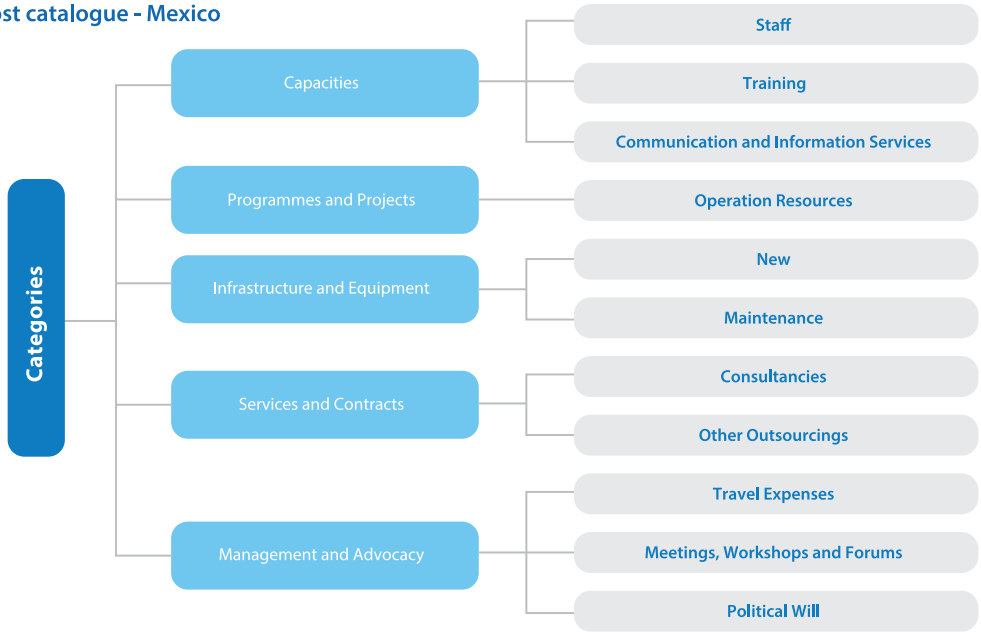
Step 3a: Identify budget units and standard costs

Each government has a standard set of budget (or cost) units and account codes. These may also be termed line items, budget categories or budget accounts. An FNA that abides by government practices and guidelines is more likely to be integrated into budgeting and, therefore, is strongly recommended.[6] Standard costs relevant to costing biodiversity targets, for example, salaries and vehicle miles (see Table 5.5) will usually be organized by these country references. Most budget structures are presented in a hierarchy, with summary categories divided into more detailed subcategories. For example, see an extract from the accounts for South Africa as well as the unit cost catalogue developed for the FNA in Mexico in Table 5.5 and Figure 5.3, respectively.

Table 5.5: Sample budget line items – South Africa

Summary of Categories	Subcategories
Administrative	Rent/Offices
	Audit Fees
	Bank Charges
	Communication
	Maintenance and Repair
Equipment	Motor Vehicles
	Audiovisual Equipment
	Computer Hardware and Systems
	Emergency/Rescue Equipment
	Office Equipment
Human Resources	Salaries and Benefits
Miscellaneous	Catering
	Venues, Events and Facilities
Professional Services	Permanent and Temporary Staff
Travel	Travel and Subsistence
	Transport for Public Events

Figure 5.3: Unit cost catalogue - Mexico



[6] Public accounting practices may differ from country to country and be fully or partially aligned to international standards. The United Nations Statistics Division and the International Monetary Fund provide guidance material on budget classification and formulation, which is relevant to costing.



Photo credit: Tracey Cumming

Standard unit costs can be identified from several sources:

- **Previous Budgets and Budgeting.** National or local plans and strategies have already been developed and budgeted. These budgets should be reviewed to scope for data, models, assumptions and approaches that have been used effectively. This includes a review of audit reports.
- **Standard government cost scales.** Unit costs of standard items can be determined from government salary scales, budget guidance notes, and other official and semi-official sources (e.g. regarding services, salaries, materials, operations, capital purchases, consultant days, miles travelled). These numbers may be checked with actual data (if available) from the BER to determine, for example, if the price of one salaried person is consistently costed in relation to pay scales.
- **Historical costs.** Costs of biodiversity management actions (reforestation, PA management, conversion of conventional agriculture to organic, cost of sustainable wood harvesting relative to clearcutting, etc.) may be available related to historical actions in the country or in similar countries.
- **Cost modelling.** This is based on past data from project modelling (see Box 5.3); these data should be broken down to the smallest detail possible.

Step 3b. Build cost tables

Once all costable activities are identified and initial unit costs determined, the costing spreadsheets can be built. Costs, when possible, should be divided into recurring (or operating costs) and capital expenditures (or investments). Recurring costs include salaries, fuel and other expenditures required on an ongoing basis and can be projected over time in proportion to changes to effort and number of units, plus inflation. Although recurring expenditures tend to be long-term, they may not be annual,[7] the timing of these expenditures should be determined by the NBSAP stakeholders during consultations. Capital expenditures can be one-off or periodic.

[7] For example, monitoring surveys on endangered species and/or habitats may be conducted less than annually, say every 3, 5 or 10 years, depending on practicality in the scarcity of the biodiversity in question.

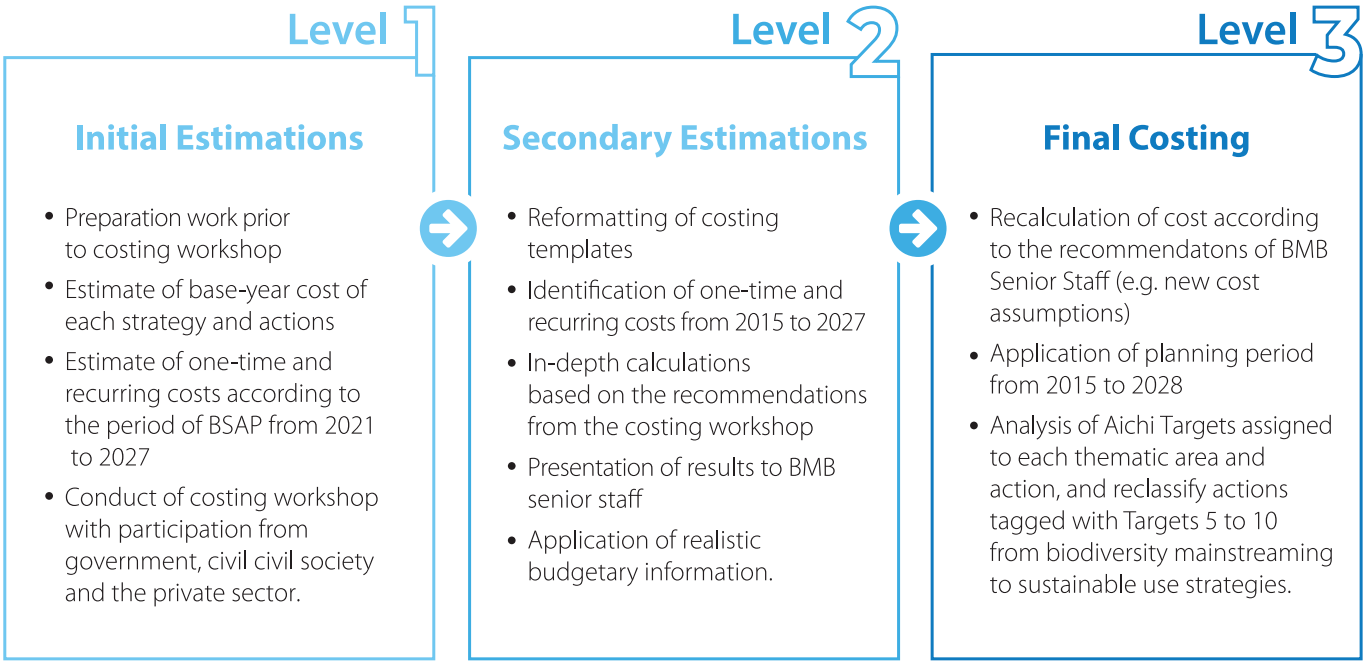
All costs should be linked to specific organizations or actors to which they can be earmarked. In some cases, costs are shared among actions (e.g. for a fleet of vehicles). To the extent possible, these costs should be subdivided and attributed to all the actions to which they are attached. Administrative costs should be attributed to actions and can be assessed as a percentage of total action costs or estimated directly. For example, if an employee performs duties for three major strategies (e.g. restoration, conservation and ABS strategies), then a percentage of the employee's salary should be allocated to each of these strategies.

Step 4. Refine cost models with expert input

Once the initial costing models are established, they can be refined through an iterative process. Consultations with experts can be used to refine costing assumptions, base costs and unit numbers. These discussions with experts can also assess the most cost-effective alternative actions and approaches to achieve biodiversity results. Following individual expert consultations, a workshop may be needed for specific actions. The workshop can be used to test, finalize and validate the assumptions, as well as the choices of costable actions, results, indicators, targets, etc. that were refined during the FNA process. Figure 5.4 summarizes an example of this multistage process from the Philippines, working through three levels of detail.

Note that in the future, more complex biodiversity costing models can be developed, with learning from other sectors (see Box 5.5).

Figure 5.4: Three estimation levels in the BIOFIN Process in the Philippines



Box 5.5: Future directions for biodiversity costing

Models for costing biodiversity results are less developed than in other areas of public policy. For example, the One Health Tool[a] is software designed to inform national health planning. It links strategic objectives and targets of disease control and prevention to the required investments in health systems. The tool provides a single framework for scenario analysis, costing, impact analysis, budgeting and financing of strategies for all major diseases and health system components. Its development in the last decade was overseen by the United Nations Inter-Agency Working Group on Costing (Joint United Nations Programme on HIV/AIDS [UNAIDS], UNDP, United Nations Population Fund, United Nations Children's Fund, World Bank and World Health Organization). Other similar tools have been designed to support costing and investment decisions in economic sectors, including infrastructure, trade and industry.

[a] World Health Organization (2014). Cost effectiveness and strategic planning (WHO-CHOICE). World Health Organization. OneHealthTool. www.who.int/choice/onehealthtool/en

Tagging biodiversity costs

In addition to reviewing and validating the costings, in this step all actions should be tagged to a range of additional categories that allow for further cross comparisons and analyses.

The recommended tags are:

- National biodiversity targets, themes or strategies
- Implementing organization – based on the organizations identified in the PIR
- Sectors – agriculture, forestry, fisheries, extractives, etc.; and the 9 Primary Biodiversity Categories.

Additional tags might include:

- The SDGs
- GBF targets
- SEEA categories.

By tagging each action to these categories, it will be possible to calculate the financial needs under each of them (see Step 5.5). Once the consultation process has been completed, the team working on the spreadsheets and tables can update the assumptions and results, and produce the final costing draft for validation by the report's clients.

Step 5: Analyse costing results

Costing results can be summarized and analysed in a variety of ways. First, the results should be summarized for stakeholders based on their organization and subdivided across BIOFIN and national categories. Then, more detailed analyses can be carried out. Three detailed analyses of the costs are described here: the relative amount of different costs; comparisons of ratio of costs to biodiversity priorities; and cost-effectiveness analysis. These analyses provide an input to the screening of finance solutions in Chapter 6.

The most efficient way to cost results is through annual cost projections (also called 'cost statements') for each of the main national targets, organizations, BIOFIN Categories and sectors. Present value calculations, annualized cost and sensitivity analyses should be calculated where appropriate.

Different forms of summary results should be presented graphically. These summaries will help stakeholders compare results and gain a better understanding of the distribution of future inputs (costs) required to achieve different outputs (i.e. biodiversity objectives) across organizations and types of activities.

Possible questions include:

- What are the most prominent costs by code/type (e.g. salaries) and institution?
- What is the balance between recurrent and investment costs?
- What are the most relevant cost drivers (e.g. increase in the number of compensation liabilities, price of land)?
- What are the expected trends in marginal costs? Are any economies of scale or diminishing returns identified?
- Are there any patterns in financial needs connected to the types of results/actions or by organization?
- What are the main risks related to the costing assumptions for the relevant period (e.g. currency fluctuations, price of certain services or goods, cost of capital)? This can be calculated using a sensitivity analysis.

This analysis should also include a reality check on the expected costs and the relationship between cost and desired results, and a quick review of whether there are alternative approaches to achieving the same results. For example, the Philippines initially explored the option of constructing ballast treatment facilities in all the country's major ports, but soon realized that the costs were prohibitive for the Biodiversity Management Bureau (BMB). Instead, they identified partner organizations that the BMB could train and provide technical support to in order to include ballast treatment facilities in future port upgrading plans.



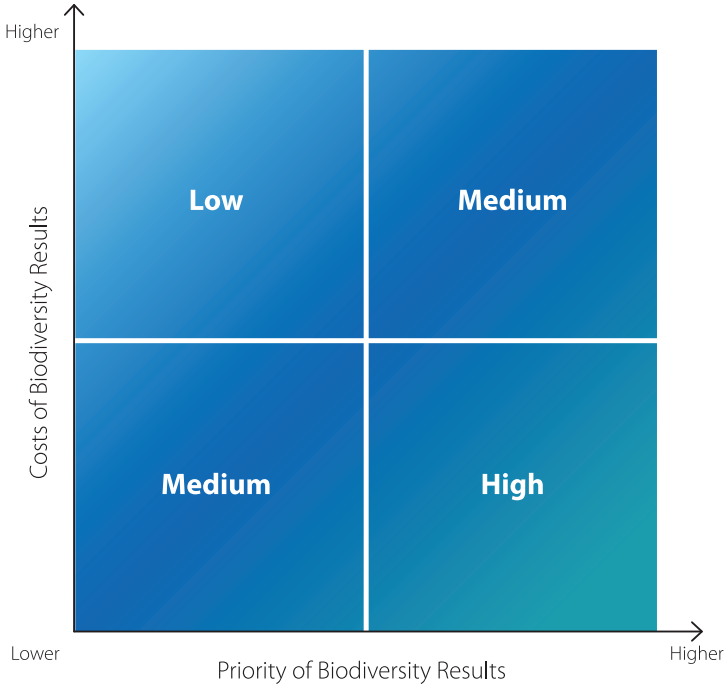
Photo credit: Nguyễn Ngọc Thiện, UNDP Viet Nam.
Raising ducks in Đà Rằng River

Comparisons of costs to biodiversity priorities

The costs of biodiversity results can also be organized according to their biodiversity priority score determined in Step 2. The prioritization criteria should be focused on specific results (or outputs or outcomes) to be achieved, and not the overall priority of the biodiversity issue in question. For this comparison, the biodiversity results costed can be mapped on a simple matrix with costs and biodiversity priority on the two axes (see Figure 5.5). This can help account for the relative importance of the different results costed from a biodiversity conservation standpoint.

Higher biodiversity priorities with relatively low costs may help identify the most cost-effective ways to achieve biodiversity goals. Also, this comparison can lead to questions such as how high costs for higher biodiversity priorities could be mitigated (e.g. through economies of scale; management strategies such as competitive outsourcing/bidding; central procurement). A further optional comparison of biodiversity results and costs may be useful to select finance solutions for the BFP (Chapter 6).

Figure 5.5: Sample priority and cost-comparison matrix



Step 6. Estimate unmet biodiversity finance needs

The FNA seeks to estimate the financing necessary to achieve targets of the GBF at the national level, although this methodology has also been used at the subnational level (e.g. China, Argentina and Mexico). Cost estimates for the GBF should be aligned with NBSAPs, and the associated costs should cover the three main categories of actions of the GBF, namely: (i) reducing threats to biodiversity; (ii) meeting people's needs through sustainable use and benefit-sharing; and (iii) tools and solutions for implementation and mainstreaming. Many of these costs are financed by governments, donors and private companies (see Chapter 1). Moreover, issues related to the GBF categories are discussed in Chapter 3 and addressed in Chapter 6, via the BFP. This section explores challenges and options related to estimating the biodiversity financing gap.

It is tempting to compare the results of the BER projections (Chapter 4) with the FNA results to determine the gap between financing needs and expenditure projections.

Although this approach may result in a financing gap estimate, the comparison may be misleading and likely to produce a false estimate of the gap. In a few cases, a 'surplus' may result from the comparison despite well-reported and substantial financing needs.

The BER and the FNA are unlikely to be fully comparable.[8] The BER seeks to estimate all biodiversity expenditures in a country, including secondary expenditures where biodiversity is not a primary objective. Although biodiversity strategies may include some secondary investments, such as pollution control in ecologically sensitive rivers, they are mostly limited to a subset of a country's biodiversity actions. In addition, many of the routine biodiversity management activities–PA management, environmental inspection, etc.–are not considered 'activities' in the NBSAP or in green national development plans, because the latter tend to focus only on incremental activities and changes to the status quo. Hence, while the BER seeks to capture the status quo, the FNA instead seeks to capture the additional costs needed to change it. These different approaches need to be reconciled for any meaningful comparison (Table 5.6).

[8] Most BIOFIN countries have been able to link expenditures with costs in the BIOFIN Categories but only at the highest levels.

Table 5.6: The 3 strategies to reconcile the incompatibility of the BER and the FNA

Strategy 1. FNA Reflects Unmet Needs	Strategy 2. FNA-based	Strategy 3. BER-based
Avoid comparison altogether (not recommended).	Make one-on-one comparisons for specific activities in the FNA (recommended).	Reduce the BER results to only those well-captured in the FNA (recommended only if BER data are of high quality).

Strategy 1. FNA reflects unmet needs–avoid comparison altogether

The most straightforward approach is to assume that the biodiversity strategies costed are incremental and thus, except for specific financing identified for specific actions, the entire FNA directly reflects unmet financing needs. To implement this approach, each activity is reviewed and existing funding sources are determined and quantified. Each activity is reviewed and costed based on cost norms/cost coefficients and targets. The gap is focused on each activity, and the total can be calculated once the exercise is complete. This approach would not lead to a true national biodiversity finance gap calculation, but rather a baseline measurement for a budget to fulfil NBSAP goals.

Strategy 2. FNA–based–make one–to–one comparisons for specific activities in the FNA

In this approach, the costs in the FNA and the expenditures in the BER (Chapter 4) are categorized by the FNA actions. For each FNA action, the BER can be examined in order to determine if there is a corresponding expenditure(s) closely tied to the given action. The expenditure(s) is then tagged to a specific FNA action. This approach will be most effective when the BER is organized by programmes and results. If the BER is based on agencies, FNA actions should also be tagged to agencies. Even with a close tagging of agencies, it is unlikely that the costs of FNA actions and the expenditures for the agencies will be well-aligned. Moreover, even with the most detailed programme budgets and expenditures, establishing how each programme may be linked to specific NBSAP actions can be time-consuming and difficult to defend, as programme descriptions do not conform to the NBSAP actions. This technique has the potential to produce good results and may offer a more robust planning tool if executed well. In an optimal scenario, the BER would be developed first, followed by the NBSAP (if it aims for a comprehensive national perspective and not only incremental activities) and finally, the FNA. This ensures strong alignment from the start. In practice most countries develop their NBSAP first.

Strategy 3. BER-based–reduce the BER results to only those fully captured in the FNA

An alternative to the above approach is to reduce the BER to include only the expenditures linked to the FNA. This is similar to the above approach, but the categories are based on the BER and not the FNA actions. Again, this solution is dependent on the quality and level of detail of the original data that informed the BER and on the quality of the BER tagging system. The use of BIOFIN Categories to link the BER and the FNA will be further explored, although it involves similar misalignment risks as those discussed above. This approach will probably narrow the types of solutions considered in the BFP and substantially underrepresent the overall level of investment required to meet biodiversity investment needs.

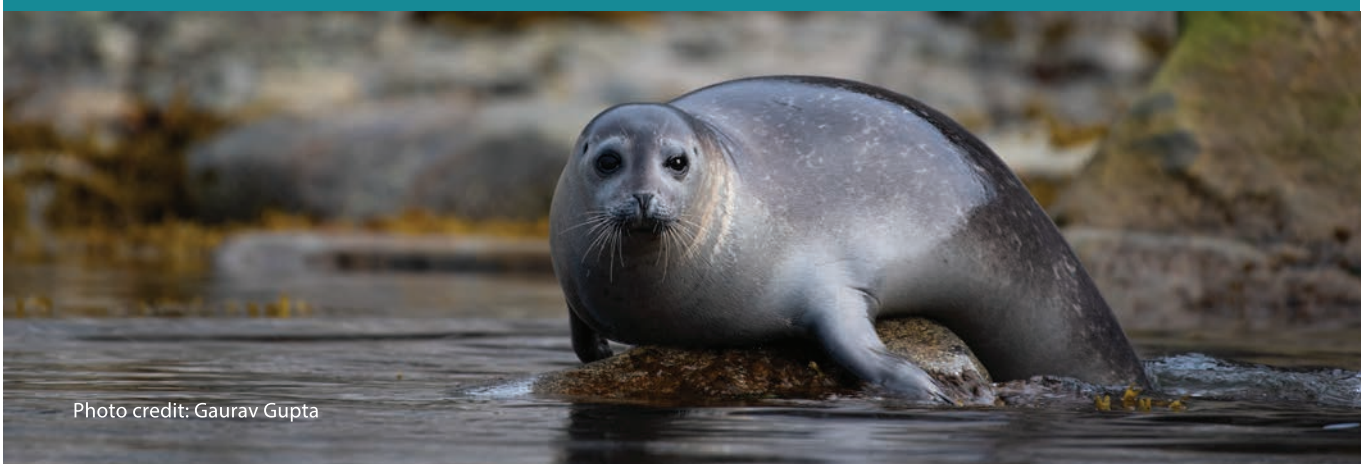


Photo credit: Gaurav Gupta

Budgetary costing

In comparison to the aspirational costing of the biodiversity targets, it may be useful to establish a more pragmatic or 'budgetary' costing. The actual or 'budgetary' FNA is a budgeting exercise that identifies what financial, human, physical and political capital are needed to implement the prioritized costable actions identified in the NBSAP, or other focal planning document, and, potentially, to be financed or addressed by finance solutions through the BFP. If the aspirational FNA is considered unrealistic or politically infeasible, then the conversion of the costing exercise into a budgeting exercise can produce a more realistic and marketable target amount.

This revised FNA can be used to trace a logical framework from results or actions back to the needed resources. However, the more reduced needs identified here are not likely to solve the national biodiversity finance gap, since it aspires to do what is politically feasible (realistic budget) and not what is ecologically sufficient or optimal.

Finally, available studies on the finance gap dwell on the difference between optimal and current spending in the case of PAs[9] or the gap between finance needs and financial resources. To close the gap, financial resources must be identified and mobilized. The BIOFIN methodology nurtures resource mobilization for biodiversity, but it suggests a unique narrative: closing the gap will involve not only the expansion of sources of finance, but also a reduction in future needs by improved prioritization of budgetary outlays, cost-effectiveness measures and preventive actions to avoid the need for future expenditures.

Bear in mind that even if the finance gap cannot be estimated, the evidence from the BER and FNA will be instrumental for the BFP formulation and continued monitoring of NBSAP implementation and finance.



Photo credit: UNDP Thailand.
BIOFIN is helping Koh Tao Island in Thailand improve waste management and restore coral reefs by raising funds from tourists.

Identifying potential finance solutions for early implementation

During the FNA assessment, potential finance solutions may emerge that can be implemented immediately without waiting for the BFP to be completed. Some examples of finance solutions that may emerge and the process for selecting and prioritizing them are discussed below.

During the FNA stage, the Philippines identified a finance solution for early implementation, integrating biodiversity costs into budgeting within core and non-core biodiversity agencies. The country team utilized accounting codes when costing personnel costs and operating expenses. Thus, the costing prepared for the coastal programme was fully utilized for budget proposals, and the programme was fully funded.

During the FNA process in Mexico, the finance gap for PAs was also updated, identifying the need to work with the Ministry of Finance to improve budget planning and efficiency PAs, leading to capacity building for technical and management units on the national budget cycle from planning to full execution. Years later, this information was used to negotiate with the Ministry of Finance the return of entry fees into the budget of the PA agency (National Commission of Natural Protected Areas [CONANP]).

These two examples provide ideas of the types of finance solutions that can be identified at the FNA stage, implemented at an early stage and integrated into the BFP.

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

Lessons learned and recommendations to improve updated NBSAPs

In order to better estimate finance needs for NBSAP implementation, clear outcomes and results need to be identified when updating the NBSAP. If available, consider previous estimations of finance needs during the updating and aligning of NBSAPs to the GBF, such as PA funding gaps. In many cases, countries' FNAs have resulted in a greater need for resources aimed at conservation vs. funding needs to promote and scale up sustainable use and production, which could provide insights on areas to improve the balance of NBSAPs goals and objectives across all GBF targets.

Integrating NBSAPs into national policies, public programmes and budgets across sectors will allow for better budgeting and planning for NBSAP implementation. **Linking** existing and proposed finance solutions to specific targets, organizations, potential finance solutions and results, etc. can support mainstreaming of the BFP into existing national planning instruments and budget planning.

BIOFIN developed guidance on how to connect the updating of the NBSAP with the development of a BFP.

5.8. Conclusions and recommendations

The conclusions section should present the main data, highlight which GBF Targets are the most underfunded, and emphasize the financing solutions identified in Section 5.3 that can help reduce the finance needs. It should explain what this finance gap means for the country and what might occur if not addressed.

The main output is a written report accompanied by a spreadsheet with detailed budget information. The FNA report should also be linked to the findings under the PIR, in particular those related to both positive and and negative incentives and/or subsidies having an impact on biodiversity, where the negative should be eliminated or repurposed and the positive should be increased and scaled up including Indigenous Peoples and local communities, women and youth. The aim is for the report to be adopted and the estimations included in official financial planning and budgeting across institutions. Pending the government's decision, FNA figures can be useful for many reporting frameworks, including CBD financial reporting. It is also important to communicate and disseminate the main findings to stakeholders. Therefore, in addition to the report, summaries can be developed for different audiences, such as briefings for high-level decision-makers.



Photo credit: Dolapo Adejumo

Suggested structure for the FNA report

- **A. Executive summary**
  Highlight main findings and recommendations in a clear and concise manner.
- **B. Acknowledgements**
- **C. Introduction**
  Include the links to other BIOFIN reports and the structure of the report.
  Keep the introduction brief.
- **D. Methodology**
  Briefly outline the FNA methodology. Explain the stakeholder engagement process and the main hypotheses. Describe sources of data. Detailed tables can be provided the appendices.
- **E. Results**
  - Present overall figures of the costing using the cost statement and gaps tables. Each table should be supported with a clear explanation and analysis of its contents.
  - Several cost statements can be prepared depending on the client's interests. Compare the costs and priority of different biodiversity results. Aggregate by categories, national priorities (targets), organizations and by sectors as relevant.
- **F. Biodiversity Investment Needs**
  This is the core of the report. Where do the data indicate the greatest needs, and how could biodiversity finance tools address them?
- **G. Conclusions and Recommendations**
  - Distil the main conclusions and recommendations, including policy and technical recommendations.
  - Include recommendations on how to embed the elements of FNA costing into the institutions covered; identify and prioritize finance solutions for early implementation.
- **H . Annexes**
  a. Detailed methodology
  b. Detailed data sheets
  c. Glossary
  d. Supporting detail for recommendations



Photo credit: UNDP.
UNDP, with support from the Tiger Conservation Coalition, launched the Tiger Landscapes Investment Fund, a financial tool designed to support tiger conservation.



Photo credit: UN Women/Nguyen Huu Tan
In Vietnam, BIOFIN and partners have launched seven community-based ecotourism tours on Hon Yen Island, offering visitors a unique glimpse into local culture and traditions. 15% of the revenue is channeled to coral reef conservation.



CHAPTER 6

The Biodiversity Finance Plan

Introduction

Chapter 6 outlines the objectives and steps to design the BFP. The three technical analyses, i.e. the PIR, the BER and the FNA need to be fully integrated into the BFP. The design of a BFP is based on an overall vision for biodiversity finance in the country and priority areas contributing to this vision, and then a 'long list' is prepared of the most suitable financing solutions. Then, these solutions will be further screened and prioritized into a shorter list of solutions that will ensure the right balance and risk profile that will best suit the country context.

6.1. Objectives

The BPF seeks to deliver an ambitious, context-based finance plan that supports the achievement of national biodiversity targets and ultimately the objectives of the CBD. The Plan is developed for the entire country, and should be owned and supported by the government, and ideally endorsed by key actors in civil society and the private sector.

6.2. The six steps in preparing the Biodiversity Finance Plan

This section outlines the six steps required to complete the BFP (Figure 6.1).

Figure 6.1 Steps for the Biodiversity Finance Plan



Step 1: Prepare

Preparing for the drafting of the BFP involves setting up a team, including the core team, and partnerships with relevant stakeholders. This might include the establishment of a technical advisory committee, if there is not one in place. As with the PIR, BER and FNA, the Steering Committee should oversee and guide the process. The development of the BFP would typically take 9-12 months from start to finish. Ideally, it would be developed in line with the revision of NBSAPs (see Box 2.7, Chapter 2).

Agreeing on the ownership and legal status of the Plan is key. Ideally, the BFP should be a formal government strategy, updated every few years, as needed. In addition, the BFP, or elements of it, may be integrated into other national policies or strategies, such as the NBSAP, the Integrated National Financing Framework (INFF) for all SDGs, or NDC for climate change (see Box 6.1). Determining the vision for this will help to clarify roles and responsibilities of the institutions involved.

Box 6.1: About Integrated National Financing Frameworks and Biodiversity Finance Plans

In 2015, world leaders adopted the Addis Ababa Action Agenda at the United Nations Third International Conference on Financing for Development. The Addis Agenda created a holistic and coherent framework for financing the Sustainable Development Goals (SDGs) through seven action areas covering all aspects of public and private finance. At the national level, member states envisaged implementing the SDGs through cohesive national sustainable development strategies supported by the **Integrated National Financing Framework (INFF).**

INFFs help countries finance their national sustainable development objectives and the SDGs. INFFs are voluntary and country-led. Through INFFs, countries develop a strategy

to mobilize and align financing with all dimensions of sustainability, broaden participation in the design, delivery and monitoring of financing policies, and manage risk. INFFs are embedded within national plans and financing structures, enabling gradual improvements and driving innovation in policies, tools and instruments across domestic and international sources of public and private finance.

To date, more than 85 countries have used and are using the INFF approach to strengthen financing for sustainable development at the country level. A total of 16 national and subnational governments now have an operational financing strategy, and over 50 countries are implementing more than 200 reforms to financing policies, instruments and institutions shaped through their INFFs, which are embedding sustainable development into fiscal policies, financial markets and private sector operations. They are also catalysing SDG-aligned investment and deploying new and innovative SDG-aligned financial instruments. Initial outcomes of INFF implementation are emerging – the analysis of reforms implemented by 17 countries has found that $16 billion in new finance has been leveraged for investment in sustainable development and more than $32 billion has been aligned with the SDGs.

Integrating the Biodiversity Finance Plans (BFPs) and INFF financing strategies offer opportunities to elevate biodiversity finance solutions within central planning and financing processes. Incorporating BIOFIN analysis and recommendations can better integrate nature into the INFF, such as by addressing financing with a nature negative impact. Mongolia is a good example of this. Having initiated BIOFIN in 2015, Mongolia has a national BFP, and is implementing three finance solutions, namely:

- enforcement of the implementation of natural resource use fees law;
- re-purposing biodiversity harmful subsidies; and
- strengthening the Billion Tree Fund to mobilize private finance.

The inclusion of these finance solutions within the INFF financing strategy served as a catalyst for their implementation, and results are already being achieved. Following the implementation of the finance solution on the nature resource use fee, total spending on environmental protection from Natural Resource Use Payment (NRUP) revenues increased by 170 percent in 2023 compared to the previous state average, reaching $11.92 million. It is expected to increase further to $22.43 million by 2024.

In addition, these funds leveraged the initial funding for Mongolia's new Nature Legacy Foundation (a conservation trust fund) incorporated in March 2024.

The key stakeholders in both INFF and BIOFIN Processes involved the same institutions, including the Ministry of Finance, the Ministry of Environment and Climate Change, and the National Chamber of Commerce and Sustainable Finance Association. Integrating the two processes can accelerate financing for nature, streamlining coordination, delivery and reporting on financing reforms and outcomes.

At UNDP, INFF and BIOFIN teams are working together to integrate the biodiversity financing and national sustainable financing processes in a number of countries.

For more information about INFFs, visit www.inff.org.



Photo credit: Marco Arlaud

Box 6.2: Cuba's formalization of the biodiversity finance plan

Cuba is a good example of the institutionalization of the Biodiversity Finance Plan (BFP). From the start of the process, the National Steering Committee was led by high-level delegates from the Ministry of Science, Technology and Environment (CITMA), the Ministry of Economy and Planning (MEP), the Ministry of Finance and Prices (MFP), National Statistics and Information (ONEI) and the Central Bank of Cuba (BCC). This level of engagement ensured that the Plan was context-driven and owned by key stakeholders.

After officially approving the BFP, the National Steering Committee assumed the responsibility of its permanent monitoring. The finance solutions of the BFP are integrated into the Financial Sustainability project under the Macro Programme for Natural Resources and Environment of the National Economic and Social Development Plan 2030. The Technical Secretariat of the Macroprogramme periodically reports on the progress and results of these solutions.

Chapter 6 outlines the objectives and steps to design the BFP. The three previous chapters: the PIR, the BER and the FNA, inform the BFP. The design of a BFP is based on an overall vision for biodiversity finance in the country and priority areas contributing to this vision, and then a 'long list' is prepared of the most suitable financing solutions. These solutions will then be further screened and prioritized into a shorter list of solutions that will ensure the right balance and risk profile that will best suit the country context.

When deciding on the finance plan's ownership and governance, consider the following questions:

- What will be the official status of the Plan?
- What formal processes are required for validation and approval?
- Who will own and implement the Plan?
- Will the implementors of the Plan have sufficient capacity, and if not, can this be mitigated?
- Are there any measures and recommendations that could be fast-tracked for implementation to retain and motivate a high level of interest among decision-makers during a lengthy formalization process?

The BFP formulation requires a range of technical capacities together with a coordinated effort from decision-makers in government, civil society and the private sector. Specialized expertise is required to elaborate on each prioritized finance solution. The team should include: a lead expert, ideally a natural resource economist or public finance expert; national and international experts; key government and civil society partners; and project managers.

When developing the BFP, ongoing advocacy is critical. Shared ownership of the document will be important for assuring implementation. The greater the outreach and engagement, the higher the chance that the BFP will become a true national plan. All previous documents produced by BIOFIN and related biodiversity finance initiatives (including any datasets), the NBSAP, green economy strategies, etc. should be gathered and shared among all BFP team members. If possible, the experts leading the PIR, the FNA and the BER should be consulted to ensure that key issues and opportunities are integrated into the BFP process. Stocktaking of the previous steps is critical at this point. Each part of the methodology directly feeds into the steps to consolidate the BFP, as described in Box 6.2.

Box 6.3: Inputs from the Policy and Institutional Review, the Biodiversity Expenditure Review and the Financial Needs Assessment

The previous three methodological stages of the BIOFIN methodology – the Policy and Institutional Review (PIR), the Biodiversity Expenditure Review (BER), the Financial Needs Assessment (FNA) – all provide valuable information that should in integrated into, and help guide, the development of the Biodiversity Finance Plan (BFP).

The PIR includes key stakeholders and institutions, relevant for ensuring engagement with the most appropriate stakeholders (Step 1). National biodiversity priorities and national development priorities are relevant for determining the BFP vision and focus areas (Step 2). Similarly, the main drivers of biodiversity loss should be taken into account when developing the BFP vision and focus areas (Step 2).

Many kinds of information contained in the PIR should be considered when developing the long list of finance solutions (Step3), as follows:

- the list of recommended finance solutions included in the PIR;
- policy and institutional gaps, such as a lack of biodiversity safeguards, not addressing potentially harmful subsidies, or not improving biodiversity finance capacity;
- existing finance mechanisms that may be scaled up or improved;
- drivers of change;
- national development priorities (e.g. to develop finance solutions with co-benefits);



Photo credit: Mahtab Haider

The BER includes key stakeholders that might not already have been identified in the PIR (Step 1). Baseline expenditures, the scope of biodiversity expenditure, and areas needed for improvement can help to inform the vision and focus areas of the BFP (Step 2).

Developing the long list of finance solutions (Step 3) Should take into consideration:

- the list of recommended finance solutions included in the BER;
- the existence of and opportunities for biodiversity tagging and Results-based Budgeting (RBB);
- major discrepancies between allocated budget and actual expenditure, which might indicate the need for finance solutions addressing implementation challenges;
- an unsuitable share of biodiversity-related funding at the national level versus the local level, which might indicate the need for improved budgeting processes or specific tools such as ecological fiscal transfers.

The FNA includes major funding needs, which should be taken into account when determining the BFP Vision and Focus Areas (Step 2). The long list of finance solutions (Step 3) should take into consideration what emerged from the FNA, as follows:

- any recommended finance solutions; and any comparative costing exercises. For example, the South African FNA considered different approaches to achieving the country's protected area target, and indicated the substantial cost savings of government;
- support to communal and private stewardship programmes versus outright government purchase and management of land. As a result, the BFP included a number of finance solutions that aimed to bolster these stewardship programmes;

Preparation should include a stakeholder analysis. Building on the PIR, this should identify the responsible decision-makers, i.e. the public, the private sector and civil society, as well as individuals who represent groups that will be affected by this Plan.



Photo credit: UNDP Zambia
Zambia secured its first-ever US$200 million tranche green bond registration in December 2023.



Box 6.4: Engaging with multiple stakeholders to ensure Biodiversity Finance Plan implementation

Zambia is a good example of how to include a broad range of stakeholders in the Biodiversity Finance Plan (BFP). In Zambia, BIOFIN has been working with the Government, non-governmental organizations, the private sector and the financial sector regulators to develop a green bond market and increase the use of proceeds from green bonds towards biodiversity conservation.

First, it was critical that the institutional structures be developed: green bond guidelines were gazetted; a consortium of the financial sector, a Green Finance Mainstreaming Working Group (GFMWG), was formed and meets regularly; a Green Finance Coordinating Unit was formed at the Securities and Exchange Commission (SEC); and green bonds were mainstreamed in the Capital Market Master Plan by the SEC. A Technical Assistance Facility for green bond issuers was also developed, as well as a portal for green bond issuers.

Once the institutional and technical structure was ready, positive incentives were created to ensure that the mechanism was attractive to investors.

The Government agreed on withholding tax on interest income for green bond investors zero-rated by the Ministry of Finance and National Planning, and a 50 percent discount on processing and registration fees for green bonds with the SEC and the Lusaka Securities Exchange.

A Green Bond Taxonomy for Zambia is under development to support the implementation of the mechanism. The BIOFIN team is also conceptualizing a derisking package to stimulate the green bond issuances.

This finance solution demonstrates the benefits of identifying and working with partners from different sectors early in the process, investing in continued awareness and capacity building, and in institutionalizing finance solutions for long-term benefits, as well as the importance of patience when working on institutional change.

Through the collaboration between sectors, Zambia already issued its first corporate green bond in 2024 with a first $50 million tranche becoming fully subscribed.[a]

[a] BIOFIN (2023). Footprints of the Biodiversity Finance Initiative (BIOFIN) in Zambia's Maiden Green Bond Issuance: A Win for Greening Zambia's Financial Sector. www.biofin.org/index.php/news-and-media/footprints-biodiversity-finance-initiative-biofin-zambias-maiden-green-bond-issuance

Step 2: Define the vision and focus areas

The BFP is the roadmap for improving the state of biodiversity finance. Creating a shared vision and articulating focus areas help create a BFP that responds to the specific country needs and challenges. Developing this initial framing with stakeholders allows for shared ownership and balances needs (see Figure 6.2).

Vision

The vision represents the broadest aspiration for a country to address biodiversity finance. When creating the vision, some guiding questions might help, as follows:

- Is the vision transformative and ambitious enough to support the achievement of the NBSAP and GBF goals?
- Is the vision expansive enough to cover the country priorities and address the main drivers of loss identified in the PIR?
- Is the vision inclusive enough to be shared by a wide range of stakeholders?
- Does the vision seek to sufficiently address the country's biodiversity finance gap?

Focus areas

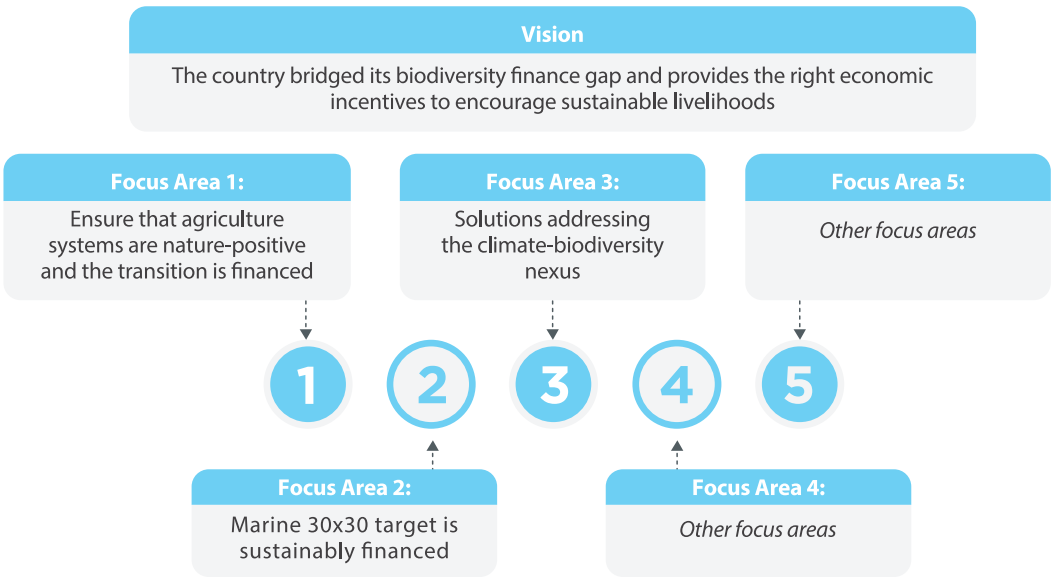
Under the vision, a number of focus areas can be identified. These areas should reflect the major targets and goals of the NBSAP, the main funding needs identified in the FNA, and the primary drivers of loss and gain specific to a given country. A focus area might be expressed in just a word or two (e.g. PAs, harmful subsidies, finance sector, improved efficiency), or a short phrase, such as:

- Sufficient funding to meet the marine 30 x 30 target[1]
- Address drivers of loss stemming from food systems, seeking win-wins
- Climate and biodiversity-positive solutions.

Some guiding questions to help shape and define the BFP may be:

- What are the prioritized NBSAP and GBF goals and targets for the country?
- What are the underlying causes of biodiversity loss or degradation identified in the PIR?
- Where are the major funding needs?
- Where are opportunities for co-benefits with other development objectives?
- What are the areas where impactful transformational change can and should be pursued?

Figure 6.2: Example of a BFP vision and focus areas



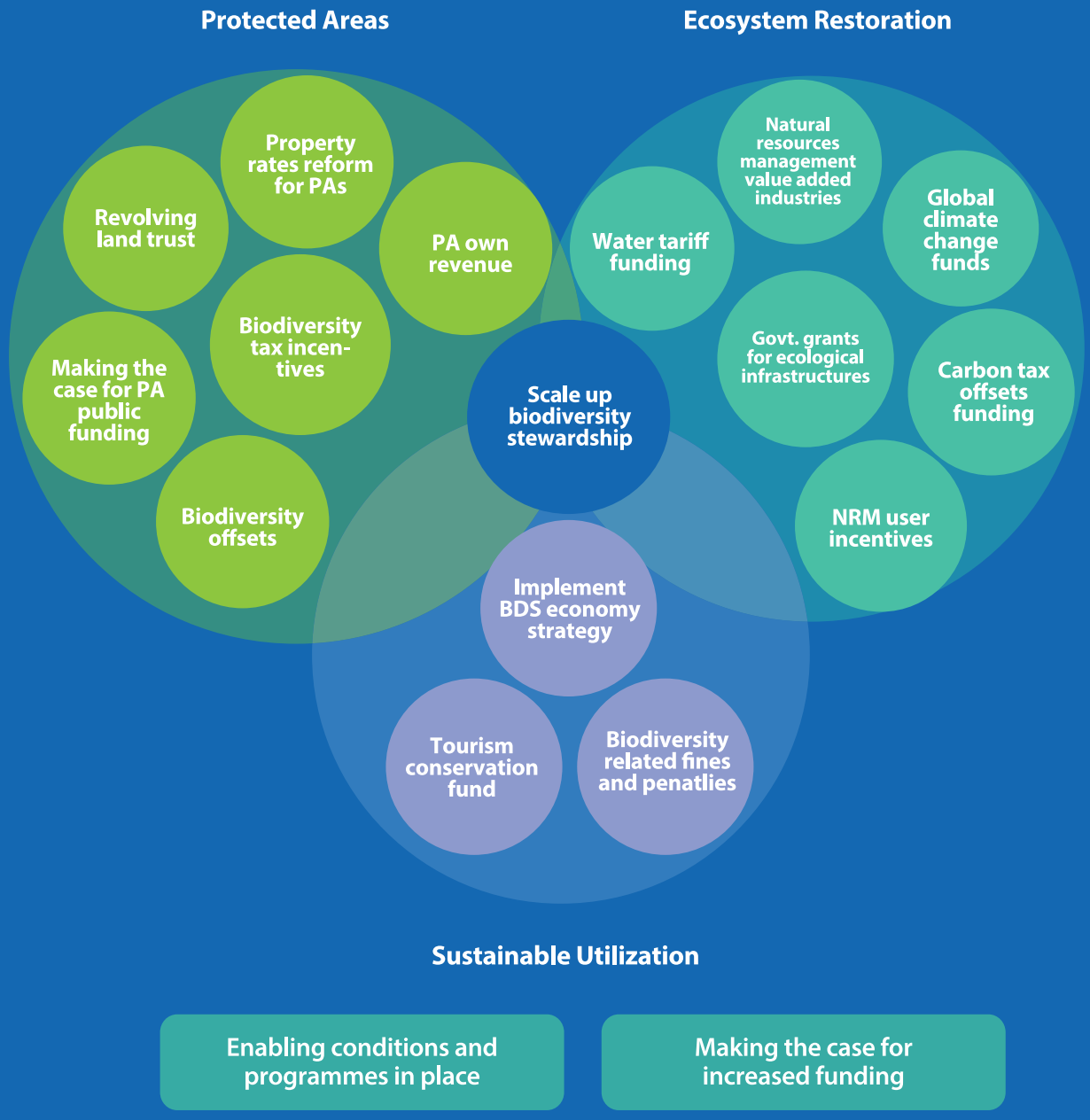
[1] This calls for the conservation of 30 percent of Earth's land and sea by 2030 through protected areas and other conservation methods. https://www.cop28.com/en/thought-leadership/The-30x30-Biodiversity-Goal-at-COP28#:~:text=The%2030x30%20goal%20aims%20for,through%20well%2Dconnected%20conservation%20systems

Box 6.5: South Africa's Biodiversity Finance Plan

South Africa's Biodiversity Finance Plan was framed around three overarching focus areas: Protected Areas, Ecosystem Restoration, and Sustainable Utilization, informed by the six strategic objectives of the NBSAP.

It also recognized that it is important to continuously make the case for biodiversity investment, and ensure that the appropriate enabling conditions and programmes are in place.

Figure 6.3 Focus areas of South Africa's Biodiversity Finance Plan and specific finance mechanisms identified per focus area



Step 3: Compile the long list of finance solutions

An initial 'long list' of finance solutions should be compiled, reflecting the vision and focus areas developed in Step 2. This list should include the finance solutions identified and recommended in previous methodological steps (PIR, FNA, BER), as well as new financial solutions identified by the BFP team and partners. The BIOFIN catalogue of finance solutions is an excellent starting point for brainstorming possible new finance solutions.[2]

There may be more than one finance solution for each focus area, finance solutions that contribute to more than one focus area, and strategic enabling activities that can support or later evolve into finance solutions. There is no prescribed number of finance solutions to be included in this list; countries included around 60-80.

Guidance for identifying finance solutions for long listing

List all finance solutions already identified in the PIR, BER and FNA. Add to this list any additional finance solutions from stakeholders and other expert input.

This can be guided by referring to the BIOFIN Catalogue of Finance Solutions.[3] A workshop setting is a good place to gather a wide range of input, generate valuable discussions and co-create ideas. Broad stakeholder engagement also promotes inclusivity and transparency. If feasible and useful, a number of workshops could be held to broaden input. Identifying finance solutions for long listing can be led by the BIOFIN team, or co-led by the BIOFIN team and government counterpart, such as the Ministry of Finance and/or Ministry of Environment. If at the same time, the NBSAP review is underway, the stakeholders involved should also be included in the identification of finance solutions.

In order to develop a balanced portfolio of finance solutions, **six guiding principles** (Box 6.5) are provided for identifying finance solutions in this step. These principles ensure that the portfolio covers the most important development and biodiversity challenges, seeks to achieve long-lasting transformative change, and is diversified to increase resilience.

Box 6.6: Guiding principles for identifying and prioritizing finance solutions

The following guiding principles should be followed in Step 3 when compiling the long list of finance solutions, and again in Step 4 when scoring is completed to ensure that the prioritized solutions remain diversified and address the most important issues.

1. **Ensure finance, policy and institutional outcomes that are positive for biodiversity:** The portfolio of finance solutions should lead to transformative change in three areas – policies, institutions and finance. The finance outcomes should cover all four of the BIOFIN finance results: better delivery, realignment of expenditures, avoidance of future expenditure (or future expenditure avoided) and generation of more resources (or more resources generated). All with the ultimate goal of affecting biodiversity positively (see Chapter 1).

2. Ensure a **good mix of private, finance and public sector finance solutions, such as working with different government ministries, functions and tiers:** A too narrow portfolio of finance solutions can be risky should country conditions change or finance solutions fail for some reason. A country's BFP should contain a diverse set of solutions anchored in different sectors with different stakeholders in order, to be more resilient to external shocks, delays, political shifts and institutional challenges.

3. Include a mix of **short-, medium- and long-term actions:** Some solutions, especially those aiming to achieve structural change, might require several years to achieve the desired results. The Finance Plan should take into consideration urgent biodiversity priorities and long-term goals, and include a mix of short-, medium- and long-term solutions.

4. Ensure that the finance solutions address the **main drivers of loss,** which are identified in the PIR. This may include repurposing harmful economic incentives.

5. Ensure that the main NBSAP targets are addressed, in particular those with the highest financial needs as indicated in the FNA.

6. **Align with broader sustainable development goals and ideals:** The Finance Plan should be framed within the broader context of sustainable development. At the very least, all finance solutions should have sustainable development safeguards, so as not to cause harm to vulnerable groups or result in a net loss for sustainable development. In addition, specific finance solutions should seek to: benefit Indigenous People and Local Communities; achieve gender-positive outcomes; and ensure climate change and biodiversity twin wins.

[2] BIOFIN Catalogue of Finance Solutions. https://www.biofin.org/finance-solutions

[3] https://www.biofin.org/finance-solutions



Photo credit: Tracey Cumming

Box 6.7: Addressing risk in the biodiversity finance plan

The development of the BFP addresses risk at two levels.

Finance solution portfolio risk
First, a diverse range of finance solutions that balance risk across the portfolio should be prioritized. The selection process is largely addressed by the Guiding Principles shown in Box 6.5, which seek to ensure that finance solutions are, for example, spread across different time frames, and build solutions with a range of different actors, both private and public, across different sectors and branches of government. For example, in countries that have a large fiscal debt, there is a real risk that the BFP will not achieve the expected results if all finance solutions are dependent on the government budget.

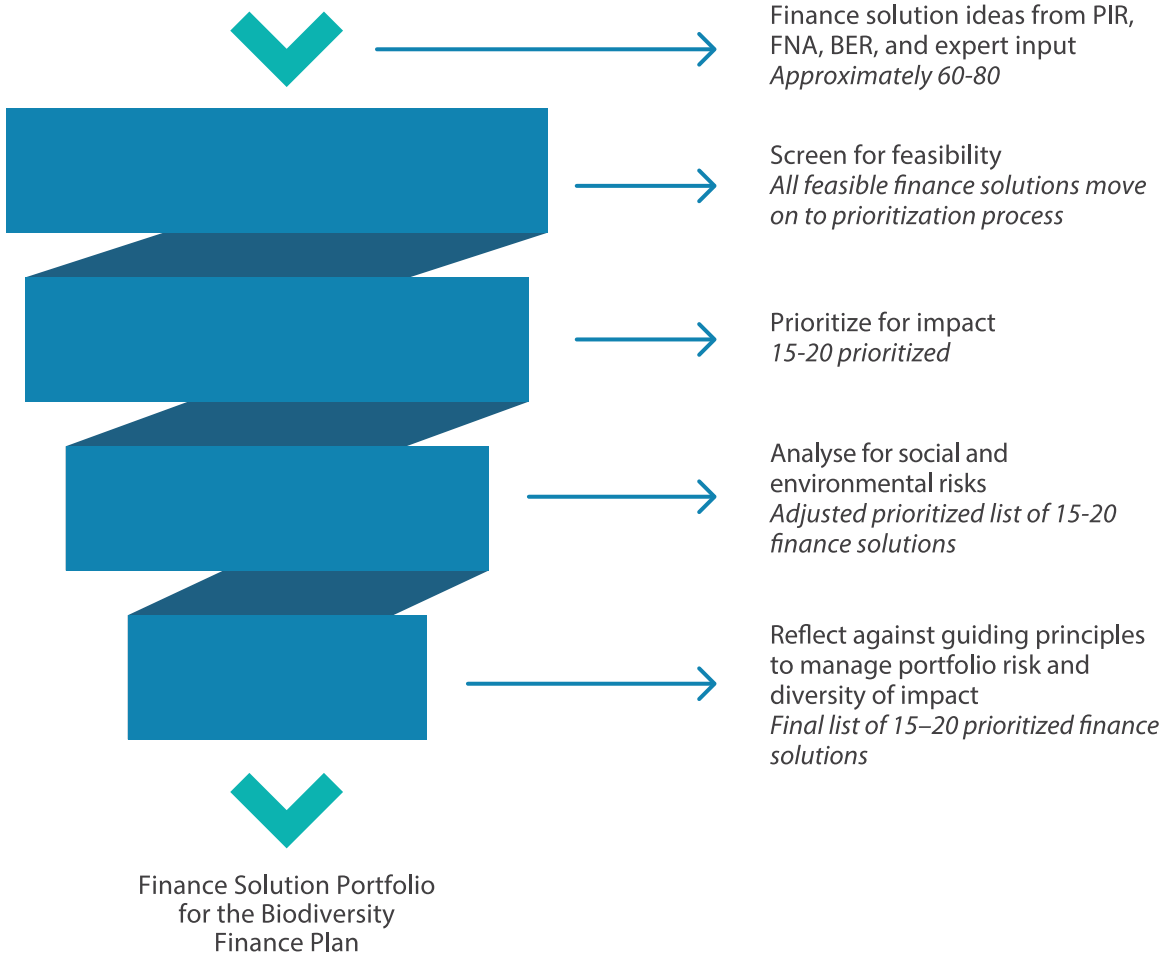
The team should, in this case, consider introducing private sector-led finance solutions to diversify the mix of opportunities for success.

Individual finance solution risk
Second, risk is addressed at the individual finance solution level, after the screening and prioritizing of finance solutions, as part of Step 4. This focuses specifically on social and environmental risk for each finance solution. Finance solutions with high risks that cannot be mitigated should be removed from this list and replaced with more viable options.

Step 4: Screen and prioritize finance solutions

Once the long list is created, the next step is for the long list of finance solutions to undergo a screening based on feasibility or 'likelihood of success', followed by prioritization based on the expected impact of each finance solution.

Figure 6.3: Finance solution selection process



Likelihood of success

The first filter, likelihood of success, can be seen as a rapid screening process, removing all finance solutions that are unlikely to be feasible based on the political environment, the economic context and capacity.

Any finance solution with a total score lower than 6 should be excluded. If a finance solution has a total score above 6 but scores zero on one of its criteria, it could be redesigned from an implementation finance solution to a programme of work focusing on awareness raising, capacity development, or other actions that would make it more appropriate for the country context.

Table 6.1: Questions and scores for screening finance solutions for feasibility

1: Is there a politically supportive environment for policy or institutional change? *Points to consider:* *Finance solutions that result in policy, legislative and institutional change are encouraged – this is what leads to the transformative change needed to close the funding gap. However, if there is no political will for the necessary change, or a low probability of the necessary policy or institutional change happening, then the likelihood of success is limited, and the finance solution should be given a lower score.*	0 = No, there is no political will and/or no likelihood of the necessary policy change
	2 = Moderate
	4 = Yes, there is a conducive political environment
2: Is there capacity in the country to implement the finance solution, and if not, could it be created in the short to medium term?	0 = No, there is a severe and persistent capacity gap
	2 = Moderate capacity gap
	4 = Yes, strong implementation capacity
3: Is the finance solution suitable for the country's economic context?	0 = No, the finance solution is not appropriate for the country's economic context
	2 = Somewhat aligned with the country's economic context
	4 = Yes, strongly aligned with the country's economic context

Photo credit: Mahtab Haider



Prioritizing finance solutions based on expected impact

After the finance solutions have been screened for feasibility, the next is to turn the reduced list into a prioritized, manageable and complementary portfolio. It is likely that more in-depth information will be required on each finance solution in order to achieve this effectively.

Five questions are used to score each finance solution, based on the expected impact related to nature, finance, institutional change, policy change and societal co-benefits (see Table 6.2).

Table 6.2: Questions and scores for prioritizing finance solutions

1. Biodiversity impact: Will the finance solution have a substantial positive impact on biodiversity? *Points to consider:* • *Consider the following when prioritizing the solution: the geographical extent of the positive impact; a focus on biodiversity priority areas; ecosystem connectivity; support of existing and new protected and conserved areas; and addressing the needs of threatened or endangered species and ecosystems.* • *Additional weighting should be given to positive impacts that are likely to be sustained over time.* • *The impact could be directly positive (e.g. increased coral reef protection) or indirectly positive (e.g. lead to reduced harm, reformed harmful subsidies, or improved fines resulting in decreased harmful activities).*	0 = None or very limited positive impact 4 = Moderate positive impact 8 = Substantial positive impact
2. Finance result: The finance solution is likely to: save, generate, leverage or realign a substantial amount of financial resources *Points to consider:* • *The finance result includes avoided cost, for example, reducing harmful actions that would otherwise require costly remedies to rehabilitate or restore nature.* • *Consider the cost of developing the finance solution when scoring.* • *If accurate numbers are available, the scores could follow these guidelines:* *0 = No, or insignificant finance result* *1 = 1 percent or less of finance gap* *2 = 1 to 5 percent of finance gap* *3 = 6 to 10 percent of finance gap* *4 = > 10 percent of finance gap.*	0 = No or insignificant finance result 2 = Moderate finance result 4 = Substantial finance result
3: . Transformed Institutions: Will the finance solution develop sustained institutional change? *Points to consider:* • *Low institutional change might be capacity building and awareness.* • *Moderate institutional change could be integrating biodiversity finance into institutional functions, such as budget tagging, organizational competence requirements or required staff outcomes.* • *High institutional change could be the creation of a biodiversity finance unit in government or changing the formal mandate of an institutions or unit. (In Chapter 7.2a, detailed institutionalization information is provided with criteria to assess how far countries have reached the institutionalization objectives).* • *Institutions might be government or private, depending on the finance solution. When scoring It is important to consider the impact on the system.*	0 = No sustained institutional change 1 = Low institutional change 2-3 = Moderate institutional change 4 = High institutional change
4. Transformed policy: Will the finance solution create positive policy or legislative change? *Points to consider:* • *For 'Informal', the finance solution might result in a guideline or another supportive national document.* • *For 'Formal', the finance solution would result in a formal policy change or legislative change.*	0 = No 2 = Informal 4 = Formal
5. Social and environmental co-benefits: Will there be positive social and environmental co-benefits? *Tips:* • *These co-benefits may include a positive impact on vulnerable groups, gender equality, Indigenous People and Local Communities, or youth, or addressing climate change mitigation and adaptation.*	0 = None or unknown 2 = Yes

Once the scoring is completed, the highest scoring finance solutions can be prioritized. The exact number of solutions selected ultimately depends on national factors, such as the size, diversity of ecosystems and biodiversity management issues, institutional capacity and complexity of the economy. Typically, 15-20 finance solutions should be selected. Additional finance solutions with slightly lower scoring finance solutions might be added if some of the prioritized solution do not pass the risk screening (Step 4) and need to be removed from the portfolio, or if the prioritized list as a whole does not align with the guiding diversification principles (Step 4).

Alternatively, the scoring could be carried out in a large workshop where either all participants score all finance solutions, or groups of participants score clusters of finance solutions, based on their expertise. While this would allow for a stronger sense of inclusion, it may result in bias towards favored finance solutions, or scores being assigned by participants who do not have sufficient information. To mitigate this, the team would need to ensure that all participants scoring the finance solutions understand all the relevant information, and design a facilitation process that removes the risk of bias as much as possible.

Whichever process is followed, it is crucial that enough information be gathered in order to inform the scoring.

Guidance on the finance solution selection

There are different approaches to stakeholder engagement and knowledge generation that can be taken for scoring, screening and prioritizing finance solutions. Fundamentally, the principles of transparency, inclusiveness, objectivity, and the best use of available information should be upheld. One way is through an expert review in which the core team gathers information from all relevant experts and available literature for all the finance solutions in order to score the finance solutions in a small, expert-driven meeting as opposed to a larger workshop scoring process that may result in bias and misuse of information. The downside of this scoring process is that stakeholders might feel left out, which would need to be addressed in other ways, such as ensuring full transparency on how the scores were determined, and holding a validation workshop. If this process is followed for Step 4, it is even more important that the long-listing (Step 3: Compile the finance solution long list) include a relatively large, participatory workshop in the process.

Finance solution risk and mitigation

Risk and the identification of mitigation measures for each prioritized finance solution should now be addressed. For each prioritized finance solution, questions to ask include:

1. Can identified social risks stemming from the finance solution be avoided or mitigated?
2. Can identified risks to biodiversity, stemming from the finance solution, be avoided or mitigated?
3. Could the finance solution create unintended perverse incentives?

Solutions that have high level of risks that cannot be mitigated should be discarded, and appropriate finance solutions that might have scored slightly lower during the prioritization process can be moved up to the prioritized list. UNDP's Social and Environmental Screening Procedure[4] can be drawn on for guidance.



Photo credit: Mahtab Haider

[4] United Nations Development Programme. (n.d.). UNDP's Social and Environmental Screening Procedure. www.undp.org/publications/undps-social-and-environmental-screening-procedure-sesp

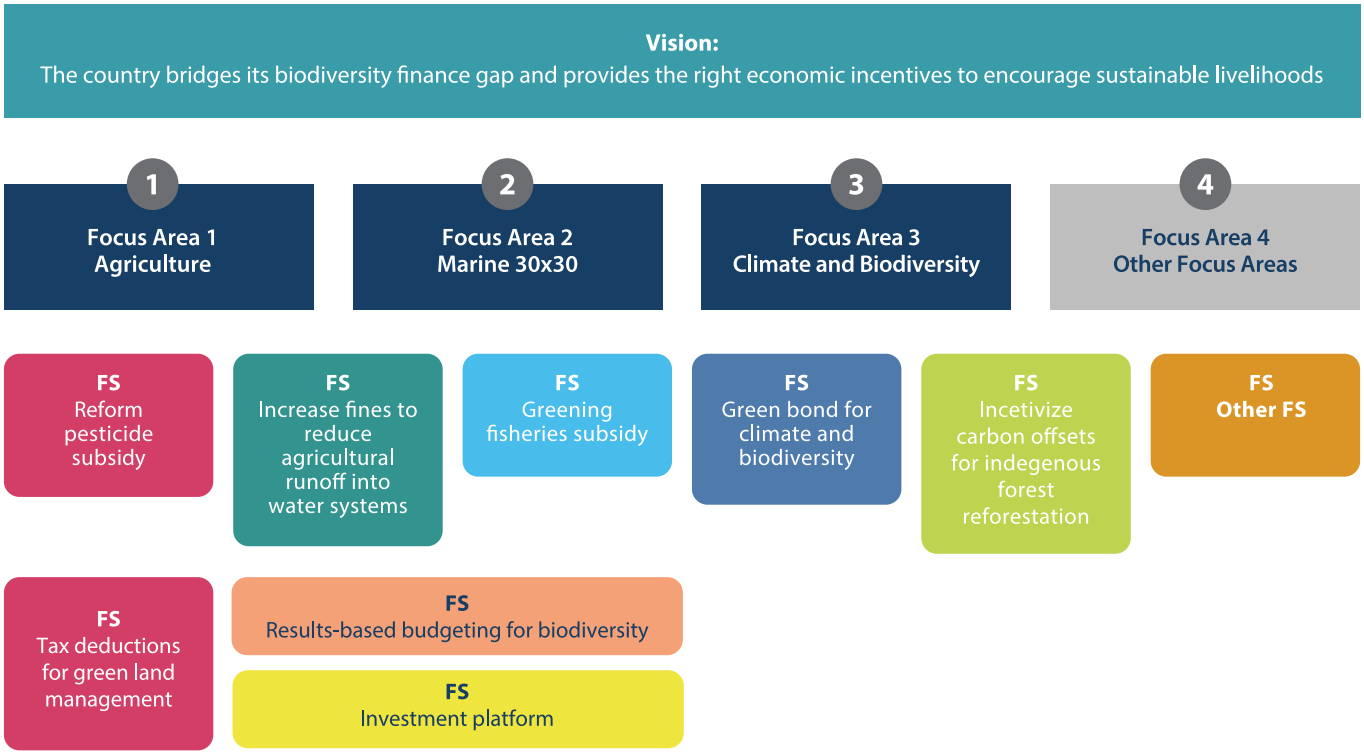
Revisiting guiding principles

At this point, the prioritized list of finance solutions should be reflected against the guiding principles (Tables 6.1 and 6.2) that were used to help develop the initial long list. These principles ensure a good mix of finance solutions, and help to mitigate risk across the finance solution portfolio. If there are any gaps in finance solutions in the prioritized list, there might be slightly lower scoring finance solutions that should drawn up into the prioritized list to better reflect the guideline principles and manage risk.

Step 5: Develop technical proposals for prioritized finance solutions

During this step, the initial design of the prioritized finance solutions should be developed (Figure 6.4).

Figure 6.4: Building a diversified portfolio: Illustrative example of allocation of finance solutions to the focus areas and the vision



The information gathered during the screening and prioritization, and the additional evidence from the BIOFIN assessments in Chapters 3–5 can be starting points for the analysis. The design should include defining core elements of the solutions, justification and rationale, expected financial results, sequencing, and risks and mitigation.

The lack of information and knowledge about a solution may require the commissioning of detailed research, which, depending on the complexity, may continue after drafting the Plan. The technical expert group set up to support the design of the BFP could be modified to provide inputs to specific technical proposals, or task teams with expertise on specific finance solutions could be convened.

Technical proposals for each finance solution should include the following:

1. **Finance solution summary:** The summary contains all the essential information that a high-level decision-maker needs in a concise format (ideally not exceeding half a page).
2. **Finance solution description in detail:** This section is the largest, and should consist of the following:
(i) expected outcomes; (ii) expected co-benefits and area of focus; (iii) key stakeholders and their roles;
(iv) sources of financing (if relevant); and
(v) financial instruments involved. For example, creating a trust fund might be a finance solution, but it involves multiple mechanisms such as revolving revenues, debt swaps or grants; all mechanisms used in the finance solution should be explained in detail. An example from Georgia shows the expected finance outcomes from a variety of finance mechanisms (Figure 7).
3. **Advocacy messages:** Key advocacy messages are briefly described for the finance solution.
4. **Assumptions, risk and mitigation:** These also include the expected risks and mitigatory measures, as much as possible.
5. **Enabling conditions:** These include policy and institutional reform and advocacy, as required.
6. **Market demand:** If the solution is a market-based finance solution, it is important to have at least an indicative understanding of market demand such as the willingness and ability to pay for the associated goods and services. Demand can be assessed through market research, interviews, surveys and comparative studies.

7. **Capacity requirements:** The human resources and institutional needs for success are identified, such as current and required technical and implementation capacity.
8. **Schedule:** A realistic timetable must be established for implementation, including key milestones.
9. **Cost projections:** These cover the design, start-up and operational costs as well as financing needs. Projections should be on a yearly basis, and even if estimated, should cover the years required to reach a financially viable state for the solution in question.
10. **Monitoring and evaluation:** Those responsible for overseeing the long-term sustainable monitoring of the solution implementation should be clearly identified.
11. **Findings and recommendations:** Summary conclusions including key opportunities and challenges. The recommendations should be very specific and provide guidance on design features if the planned finance solution is advanced to the next stage.

Each technical proposal for a finance solution should be included as an annex, while the summary and description are presented in the main text of the BFP.

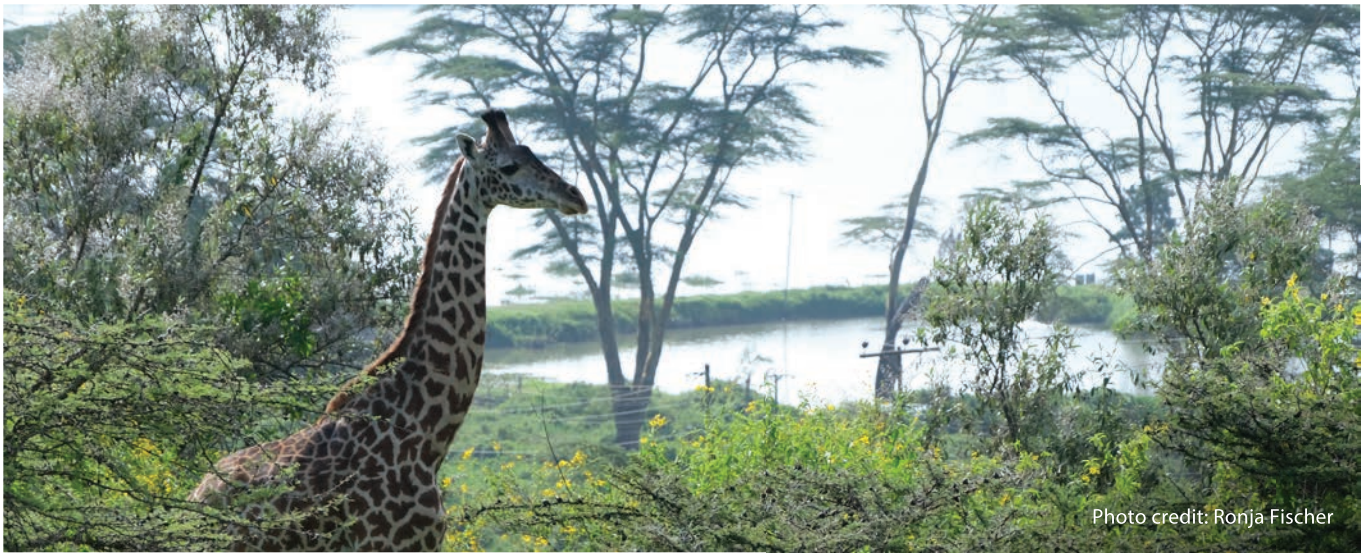
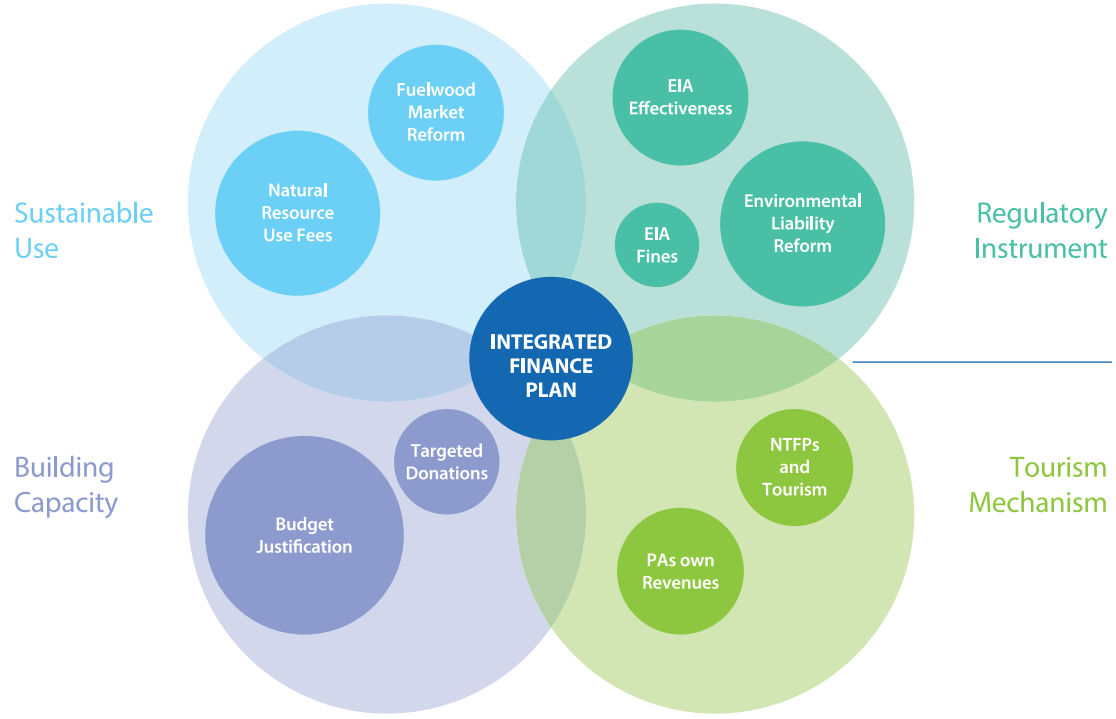


Figure 6.5: The main finance strategies identified in Georgia's BFP and specific finance mechanisms
Note: The size of the circles corresponds to the estimated finance potential of each biodiversity finance solution.



Legend: EIA = Environmental Impact Assessment ; NTFP = non-timber forest products ; PA = protected areas

Making the case for investing in finance solutions

The case for investment in a finance solution sets out the rationale for prioritizing biodiversity finance in a language that the target audience can understand. The investment case can be adapted to different perspectives and interests based on different target audiences, as follows:

- The **government** is usually interested in economic and social returns. This includes the impact on GDP and jobs, etc., as well as resilience and avoided social and capital costs (e.g. from improved flood risk management as a result of catchment rehabilitation). Hence, benefits are assessed against trade-offs and the needs of different interest groups and political constituencies.
- The **private sector** is concerned with natural resources due to its dependence on raw materials, water, energy, the disclosure regulations on their impact on nature (e.g. Taskforce on Nature-related Financial Disclosures [TNFD], Corporate Sustainability Reporting Directive [CSRD]), competitive advantage compared to other companies, operational risks (e.g. supply chain disruption) and market opportunities (e.g. new products, markets, leadership, growth).
- **Development partners** usually seek to support global and national public goals such as the SDGs. They consist of traditional donors, civil society organizations and faith-based organizations.
- **Philanthropists** usually seek to understand the social and environmental impact of the initiatives they finance. They also seek assurances on how the money will be spent and on transparency.

An investment case for a finance solution can be made up of two approaches: The first communicates the economic and social benefits of sustainable biodiversity management, which can link to the NBSAP, and the vision of the BFP; and the second is aimed at elaborating on why the specific finance solution has been chosen–i.e. *Is this the right approach to achieve the intended result?*

It is important to think about a case for investment not only as an economic argument, but also as a social and emotional argument that considers intrinsic values. This is particularly important for the first approach - making the case for investing in biodiversity and sustainable management. At the solution level, the investment case should include more technical and financial justifications to explain the selection and design of the prioritized finance solution. Some countries might want to organize the investment case for solutions by grouping some solutions as a finance package for a specific objective, such as PA financing.

If there are already data available from ecosystem valuation studies, a benefit-cost analysis (BCA) can be conducted to help motivate for the finance solution to be supported.

A BCA identifies, quantifies and compares expected benefits and costs of an investment, action or policy. In a BCA, both benefit and costs are expressed in monetary units, where the size of net benefits is the difference between projected net benefits and costs. If important benefits or costs cannot be measured in monetary units, they should be included as additional information to better understand welfare change.

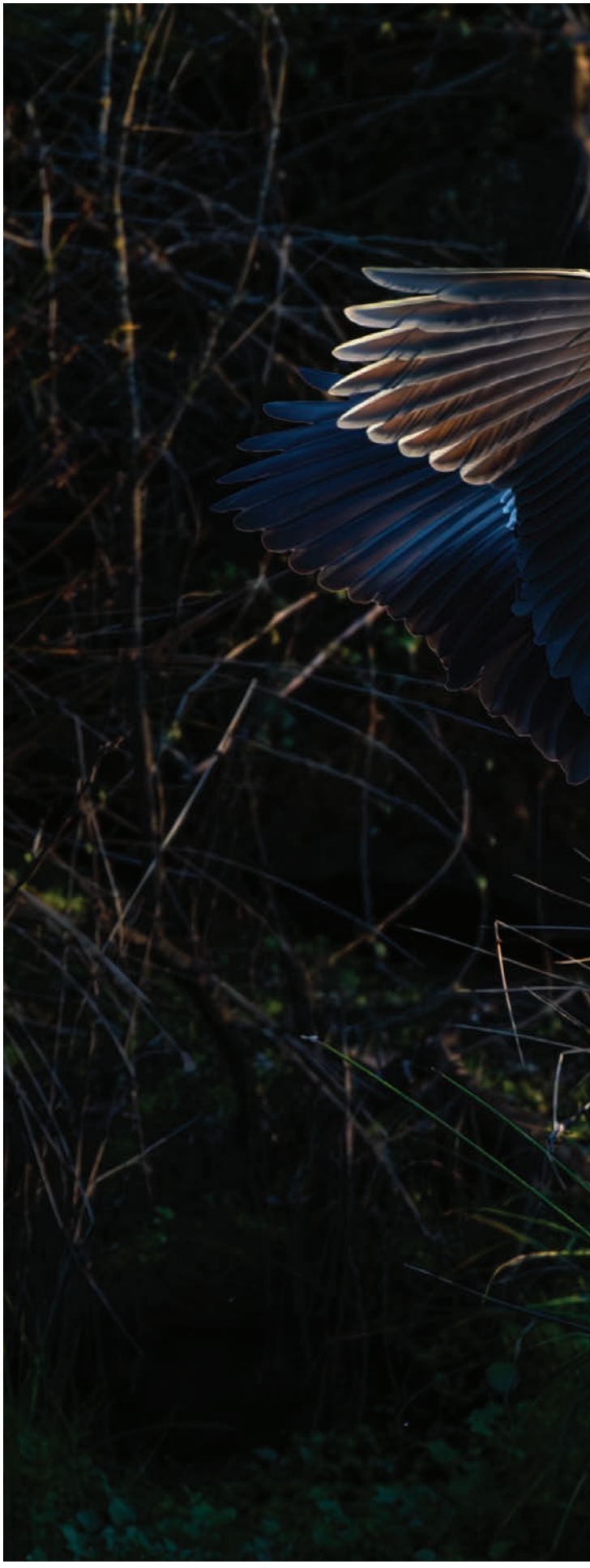




Photo credit: Gaurav Gupta
85% of wetlands are already degraded—and they can't function without wild animals.

For example, in the Philippines, finance solutions were built around the Philippines Biodiversity Strategy and Action Plan (PBSAP) programmes, each of which was presented with investment needs and prospective returns on investment. When monetary values were not readily available, these returns on investment were qualitative, as shown in Table 6.3a. When monetary and other quantitative data were available, they were included, as shown in Table 6.3b.

Step 6: Draft and validate the Biodiversity Finance Plan

The final step is drafting, validating and communicating the BFP. The BFP is the final output of the analytical stages, requiring the highest level of partners' engagement in its preparation, validation and endorsement.

The BFP should be seen as a formal policy document owned by the government, preferably adopted through a government order issued by the Ministry of Finance, Ministry of Environment or the Ministry responsible for national planning. Formal endorsement, if possible, may require the pursuit of lengthy national approval processes, the timing of which should be planned in advance. Finalizing the Plan also entails a transfer of implementation ownership responsibilities from the BIOFIN national team (if separate from government) to a permanent body or branch of government.

Table 6.3a: PBSAP programme 3 - Biodiversity and water resource management

Investment Needs	Prospective Returns on Investments
• Rehabilitation and restoration of inland wetlands and peatlands • Waste water management facilities • Baseline data collection • Shift to sustainable aquaculture in wetlands • Watershed protection and plantation management using native species • Urban waterways rehabilitation	• Source of potable water • Prevention of fish kills due to overstocking in freshwater ecosystems • Price premiums through branding, niche marketing, certification resulting from sustainable aquaculture practices • Provision of water supply for agriculture • Protection of wildlife • Reduction of flood hazards • Ecotourism receipts from recreational activities such as boating, swimming and bird tours



Photo credit: Ian Herbert

Table 6.3b: PBSAP programme 5 - Improving resilience, reducing vulnerabilities

Investment Needs	Prospective Returns on Investments
• $946 million to restore 56,000 hectares of coral reefs • $1.25 billion for reforestation • Development, piloting and roll-out of green sanitation technology • Vulnerability assessments • Rehabilitate areas with invasive alien species (IAS) infestations and ward off future IAS entry • Mainstreaming of investment needs into local and national plans	• $4.4 billion per year based on reef fisheries, tourism and willingness to pay for biodiversity associated with coral reefs • Food security for at least 1.3 million fishers and their families • Carbon sequestration valued at $10 bilion

*Average annual peso-dollar exchange rate is $1=Php45 in 2015

Suggested structure for the BFP

1. Executive summary

- Summary of the vision, focus areas, portfolio of finance solutions and expected impact.
- One paragraph summarizing each finance solution, including expected results.

2. Vision and focus areas

- An outline of the vision and focus areas.
- An explanation of how the BFP is linked to the country's priorities and national strategies, e.g. the NBSAP, green growth, climate change, poverty eradication and the SDGs.

3. Portfolio of finance solutions

- Introduction of the portfolio of prioritized finance solutions, highlighting the complimentary mix.
- Description of each priority finance solution (approximately 2 pages each) with the following subsections:
  - One paragraph summarizing the finance solution.
  - Context for the finance solution.
  - Objectives and expected results of the finance solution.
  - Description of the finance solution, for example, structure, and how it would achieve the objectives.

4. Summary and action plan

Establishment of the role of the different actors and the Action Plan's governance and implementation.

- Grouping of actions together in the detailed Action Plan in order to offer a landscape view of its components.
- Indication of the connectivity of different finance solutions – for example, one finance solution might be dependent on, or be strengthened by, another finance solution.
- Inclusion of an indicative budget and estimation of overall financial return on investment.

5. Annexes

Annex I. Detailed technical proposals for each finance solution developed in Step 5, consisting of:

- Finance solution summary.
- Finance solution description.
- Expected results.
- Advocacy messages, including, as relevant, business case, market demand, socio-economic benefits and policy alignment, etc.
- Risk and mitigation.
- Enabling conditions.
- Capacity requirements.
- Schedule.
- Cost projections .
- Monitoring and evaluation.
- Findings and recommendations.

Annex II. Overall Action Plan and Budget.

- A description of the actions contained in the Plan, including responsibilities and time-frame. For each action, describe the responsible organization and any necessary institutional changes/capacity development required to formally take up this mandate.
- Presentation of the budget required to implement the Plan. Indicate existing resources and gaps.
- Inclusion of any identified risks and mitigation.

Annex III. Resource Mobilization Strategy for the Implementation of the Action Plan

- If the Plan requires significant financing or if there are major gaps in funding, a short resource mobilization strategy is required. Its implementation will be one of the Plan's first steps.

Annex IV. Summary of the Biodiversity Finance Plan Design Process.

- Description of the process that led to the drafting and validation of the Plan, the prioritization process, the stakeholders and sources of evidence that provided inputs, and the final scoring of the prioritized finance solutions, and summarize the main findings of the BIOFIN assessments.



CHAPTER 7

Implementation of the Biodiversity Finance Plan

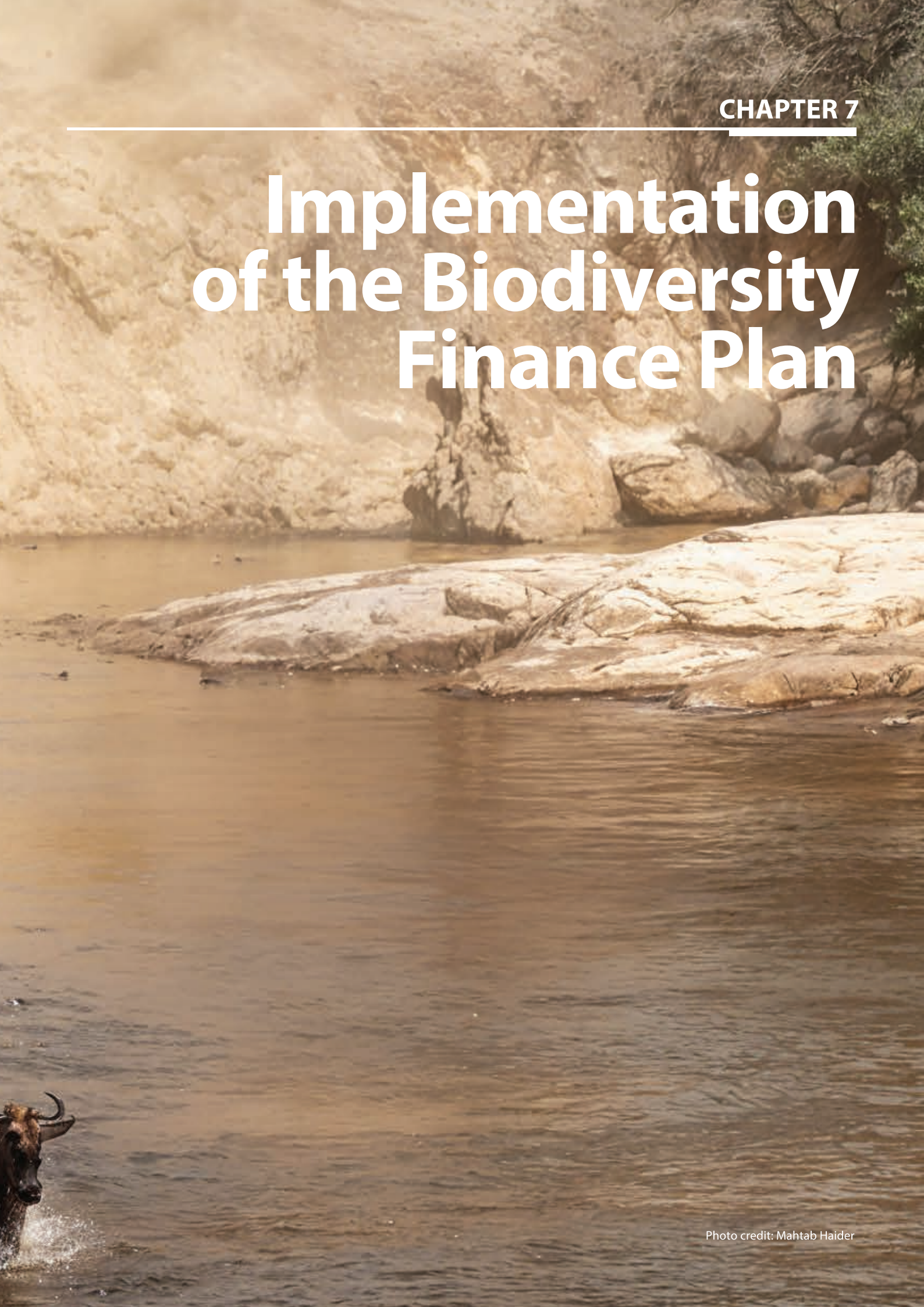


Photo credit: Mahtab Haider

How does this Chapter relate to other chapters?

Inception Stage	Diagnostic Stage	Planning Stage	Implementation Stage
Chapter 1/2	PIR/BER	FNA/BFP	Finance solutions

Sustainability / Institutionalization ----------→

Implementation of the BFP is the longest stage in the process (see also Chapter 1, Figure 1.5), in which the finance solutions identified in the BFP are operationalized. This stage is less linear than those in the previous chapters. Each finance solution becomes a project, with targets, activities and outputs, which should be managed under a national programme structure, continued to be guided by a national steering committee. The BIOFIN team, or the team designated to implement the BFP, should continue to lead coordination of biodiversity finance activities. In addition to these finance solutions, the team is expected to provide inputs into major biodiversity finance policy issues, whether or not they are a finance solution. Ideally, implementation of one or two priority finance solutions can start shortly after these were identified, while a more comprehensive implementation stage only commences once the BFP is finalized.

Each finance solution is a project in itself. Therefore, the main elements of a project management cycle are also present in the implementation of any BIOFIN finance solution, i.e.: initiation and planning, development, implementation, monitoring and evaluation, and sustainability, in lieu of the conventional 'project closure'.

This chapter is structured as follows:

- **Section 7.1** Implementing the Biodiversity Finance Plan and its solutions
- **Section 7.2** Integrating the BIOFIN Process into existing governance structures
- **Section 7.3** Safeguards
- **Section 7.4** Monitoring, evaluation and learning
- **Section 7.5** The future of biodiversity finance: 2030 and beyond

Figure 7.1 Getting the names right - programme vs. project

BIOFIN at the global level	BIOFIN at the country level	Finance solution
NAME Initiative, global community of practice  TIMING:	**NAME** Programme, portfolio of projects  TIMING:	**NAME** Project  TIMING:
10–20 YEARS	**5–10 YEARS**	**3–4 MONTHS –5 YEARS**

7.1. Implementing the Biodiversity Finance Plan and its solutions

From a plan to a portfolio of projects

BIOFIN countries began implementing finance solutions in 2019, and there are currently 35 countries at various stage of finance solutions implementation. In this section, the lessons learned and best practices in implementation are discussed. Although implementation will vary according to the finance solutions and country context, there is a common four-step process that is similar to a standard project cycle, which should be followed: (i) initiation and planning; (ii) development; (iii) implementation; and (iv) monitoring and evaluation (M&E).

7.1.1 Lessons learned and best practices in implementing finance solutions

Leading the implementation process. The national BIOFIN team, or the team/unit that has been designated to implement BIOFIN in the country, changes its role in the BFP implementation stage. No longer will their primary focus be to collect and analyse data, or to generate new biodiversity finance figures; rather, it will be to oversee the design and implementation of specific finance solutions, and convene the required discussion space to keep the BFP and biodiversity finance at the centre of the country's attention.

Each finance solution should, to the extent possible, address major elements of sustainability from the design/feasibility stage, including activities to generate awareness, improve the institutional framework, and strengthen national capacities. The BFP should specify the lead or responsible agency for every solution. In many cases, this agency may be a public agency, but in some cases, the lead organization could be an NGO. Lead NGOs must ensure that there is sufficient funding and capacitated staff to implement the specific finance solution. Mechanisms to ensure good communication between NGOs and relevant governmental agencies are critical to the success of these finance solutions.

While the finance solutions constitute the building blocks of the BFP, the team leading its implementation needs to ensure that all related initiatives are well integrated and coordinated. The aim is to promote a shared vision on biodiversity finance and sustain platforms for knowledge sharing and learning, for example, by organizing webinars, convening working groups, or holding an annual biodiversity finance conference in the country. Enhancing national capacity on all aspects of biodiversity finance is a core function of BIOFIN in the implementation phase as well, embracing not only public agencies, but also private companies and civil society.

Adopting a systemic approach to implementation of finance solutions. To enhance the impact and relevance of results, countries need to adopt a systemic approach to finance solutions. This requires moving beyond one-off interventions such as carrying out a feasibility study, developing legislation, or piloting a mechanism in a single location. The development or amendment of legislation, while a potentially lengthy task, often requires further work to embed the policy changes. This may include communication of the new legislative norm; training to enable the new legal regime to be enforced; and amendments to institutional structures, plans and policies, including budgeting, etc. The piloting of a mechanism should not be an end in itself – lessons learned from pilots (both successful and not successful) should inform policies or institutional changes, and successful pilots should be replicated and scaled up wherever possible.

Adapting to change in policy and institutional regimes. The BFP implementation will likely continue through multiple policy cycles. As highlighted by OECD, experience demonstrates that new policies usually need to be sustained and motivated over a longer period than may be expected as government priorities shift. This may also occur due to high turnover of staff at government institutions, or as champions of change move on to different roles. While the focus remains on public institutions, similar considerations are valid for the private sector, where levers of competition, shareholders and management may change, and markets and regulatory frameworks could evolve in different directions. Working with the media and civil society is also critical for maintaining the momentum and influencing wider public audiences and political movements, and ensuring that the rights and interests of indigenous and vulnerable groups are addressed.



Photo credit: UNDP Kazakhstan
Kazakhstan has tripled its budget for protected areas (2018-2024) thanks to improved management, strengthening biodiversity protection.

Financing biodiversity finance. Ensuring that sufficient human and financial resources are in place for implementation is necessary for both the BFP and individual finance solutions. The Plan needs a specific budget, which may be in kind if hosted in a public agency. This budget may be contained in the BFP and may need to be monitored periodically.

Monitoring and evaluation. Establishing an adequate M&E framework for the implementation of the BFP will guide implementation across multiple partners and support cohesion across multiple finance solutions.

BIOFIN country teams follow BIOFIN's M&E framework (more details on this framework are discussed in Section 7.2.3) and ensure consistency with United Nations monitoring frameworks and national planning frameworks.

7.1.2 Managing a finance solution as a project

Each finance solution can constitute a separate project on its own, with its unique dynamics regarding engagement, leaders and stakeholders, costs of implementation, political exposure and timeline. While drafted with the best intentions, the analysis produced might not be detailed enough to determine detailed steps for each finance solution. In the implementation phase, the critical task is to reach a sufficient level of detail to guide operationalization. The four development stages are as follows:

- **Initiation and planning**
- **Development**
- **Implementation**
- **Monitoring and evaluation**



Photo credit: Gaurav Gupta

Initiation and planning

Initiation and planning broadly sets the stage for implementation depending on country context. As part of the initiation and planning, **Bhutan** established three levels of project governance to drive the implementation of finance solutions. The first level consists of the Project Advisory Committee whose members are from the executive level of the Ministry of Finance (MoF) and the UNDP country office, which oversees overall project implementation. The second level consists of the Core Working Group, whose members are UNDP country office staff and the MoF. The third and final level consists of the Technical Working Committee (TWC), which includes a focal officer from the MoF and the National BIOFIN Coordinator.

The TWC is established for each financial solution and oversees project planning, budgeting, coordination, management, M&E, and reporting for each finance solution to ensure technical soundness and that the delivery targets are met.

Consultations with partner agencies are usually held during the planning phase, which might include selection of consultants and preparation and review of work plans. In cases where UNDP country offices and/or partner agencies are implementing projects with sustainable finance components, formal linkages and leveraging of funds are agreed on.

For many solutions, the formulation of the BFP should ensure its sufficient feasibility, and preliminary decision-making should already have been taken regarding the finance solution. For solutions still at a conceptual stage or requiring a detailed feasibility study, additional analysis can be conducted. For example, willingness-to-pay studies can be conducted to assess existing fee structures (Box 7.1). This entails gathering baseline data, such as cost-benefit data, legal requirements, capacity assessments for implementation and perception surveys covering potential investors. The result is a well-informed decision to either adopt the solution as it is or in an amended form, or to reject it. With time, the configuration of some solutions may also change, depending on endogenous and exogenous factors. **Thailand, Mexico and the Philippines** initiated finance solutions in particular sites by applying a localized BIOFIN methodology or by supporting development of a localized NBSAP. The Philippines is now working with two provinces, Negros Oriental and Negros Occidental, which have adapted their own localized NBSAPs and developed their own BFPs. Thailand applied a shortened version of the BIOIFN methodology to estimate the financing gap and pave the way for the detailed design of the finance solution. Lastly, in Mexico, PIR and BER studies paved the way for the design and implementation of finance solutions at the subnational level in the States of Guanajuato and Jalisco.

Box 7.1: Using willingness-to-pay surveys to assess biodiversity finance opportunities

Willingness-to-pay surveys are designed and often used to determine or review entrance fees to protected areas (PAs). They aim to determine the maximum amount that users are willing to pay for the benefits derived from the site.

The determination of entrance fee levels should also be balanced with a comparison of fees charged at other similar sites in similar circumstances and the analysis of the costs associated with the provision and maintenance of recreational opportunities.[a]

Fee recommendations that emerge from willingness-to-pay studies serve as useful benchmarks, especially on estimating finance flows, but should not, or cannot, replace or contravene existing legal provisions.

Willingness to pay can be estimated using two methods: stated and revealed preferences. The stated preference (or contingent valuation) is a survey-based technique asking direct questions about the value associated with the PA. For example, visitors could be asked whether or not they would still choose to visit the site if the fee were to increase by a specified amount. Preferences are revealed by studying the actual decisions people make; for example, how much visitors are paying in transportation costs to reach the site, or how much real estate pricing is affected by the PA.

The revealed preferences may be very different from the stated preferences. However, the stated preferences method generates information about market options that do not yet exist.

The Tanzania National Parks used willingness-to-pay surveys to review the existing entrance fees. Of the 6,000 respondents, international visitors represented 75percent of park users. The study found that, for the international visitors group, a $60 increase in the Serengeti conservation fee spread over several years would not seriously diminish visitation, and would raise an additional $14.8 million in 2020, equivalent to a 57 percent increase in total revenue from the park.[b]

Willingness-to-pay study results can contribute to the business case for specific finance solutions and the development of efficient communication tools, and can be the starting point of negotiations between policymakers and the community. However, local policies may have restrictions on certain fee impositions, which will take precedence over any results from willingness-to-pay studies. Koh Tao in Thailand is a good example showing where the willingness to pay yielded a higher value than the fees set by local ordinances.



Photo credit: UNDP Sey CRRP Curieuse UNDERWATER Dec 2021

[a] https://www.cbd.int/doc/nbsap/finance/Guide_Tourism_Nov2001.pdf

[b] http://conservation-strategy.org/sites/default/files/field-file/EN_discussion_paper_TANAPA.pdf

Development

Development of the solution includes drafting and adopting the required legal and policy documents, by-laws, charters, human resources policies, organizational charts and other regulations. Adequate safeguards and M&E need to be built in (see the next sections below). For many finance solutions, there is detailed guidance on how to design the solution step by step. Examples include the Biodiversity Offset Implementation Handbook,[1] which suggests eight steps for the design stage and 14 actions for implementation, and the Center for International Forestry Research guidelines in assessing the feasibility of payments for environmental services (PES, also known as payments for ecosystem services) projects.[2]

BIOFIN recommends the use of a specific template to plan the feasibility, design and implementation of finance solutions,[3] regardless of their unique characteristics. External experts and decision-makers should assess the completed template, which must contain a clear case for the investment. The template mirrors the distinction between finance solutions that are in the feasibility stage and those at the development and implementation stages.



Photo credit: Mahtab Haider
The remarkable Spoonbill Sandpiper makes an annual 8,000km journey to winter in South Asia. Sadly it is at the brink of extinction. Only 300 remain in the world today.

Implementation

This phase consists of executing and operationalizing the finance solution as planned. A formal agreement to commence implementation is usually required, especially when partnering with units of government, civil society, other development projects or the private sector. It is not uncommon for a formal event to be organized around the commencement of an activity. The BIOFIN implementation team composition is defined, which might include responsible parties or detailed/ seconded staff working within local institutions. Activities, outputs and outcomes are usually defined in a results-based framework, and the operational plan is represented by a multiyear workplan that is approved by the national steering committee.

This phase produces measurable finance results, and/or policy and institutional results. In some cases, biodiversity impacts may also be achieved. M&E mechanisms should be in place and should provide insights into adaptive management, for example, a conservation trust fund that shifts its focus to nature-based adaptation projects in response to funding opportunities from climate facilities. Lessons learned are drawn and shared with a wider group of stakeholders.

This section features successful examples of finance solutions implemented in BIOFIN countries and describes the process undertaken and finance results.

[1] Fripp, E. (2014). Payments for Ecosystem Services (PES): A practical guide to assessing the feasibility of PES projects. Bogor, Indonesia: Center for International Forestry Research (CIFOR). doi:10.17528/cifor/005260: www.cifor.org/publications/pdf_files/Books/BFripp1401.pdf

[2] Business and Biodiversity Offsets Programme (BBOP) (2009). Biodiversity Offset Implementation Handbook. BBOP, Washington, D.C.: www.forest-trends.org/wp-content/uploads/imported/biodiversity-offset-implementation-handbook-pdf.pdf

[3] This Finance Proposal template used by BIOFIN teams aims to explain the rationale for the solution, main activities, the expected outputs and outcomes (including finance outcomes), and the required budget.

A. Selecting low hanging fruits: Finance solutions embedded in policy

The PIR, BER and FNA are rich sources of potential finance solutions that may be classified as 'low hanging fruits'. These may be policies that already exist but that are not implemented properly or not at all. The PIR lists mechanisms that generate revenue from fees and charges, which may provide some insights on possible earmarking or revenue retention. Some policies may have explicit mandates relevant to biodiversity that are not implemented or underfunded, based on the BER.

Examples of implementation include revisitation of fee systems that are outdated as in the case of **Botswana** and implementation of a law on natural resource use fees (NRUF) in **Mongolia.**

Botswana: Protected area entrance and user fees

Botswana's PA entrance and user fees are set by national legislation. These fees had not been adjusted since 2000, including for inflation, which was estimated at an annual average rate of 4.94 percent from 2000 to 2021, resulting in decreased real revenues over time. In 2020 and 2021, BIOFIN and the Botswana Government reviewed all of the 25 types of park fees for each of the parks, considering the different amenities, access, attractions and local stakeholders. These fees were compared with similar offerings in other countries in the region. Based on this work, a new fee structure came into effect in April 2022, updating national legislation to reflect revised fees.

The approach taken sought to encourage an increase in tourism to some of the less popular PAs, as well as maximizing revenue from the most visited PAs. Different prices were set for locals, regional visitors and other international visitors to ensure that local and regional visitors would not be priced out. Many fees were increased, but some were decreased when compared to a realistic benchmark. In the 2022/2023 fiscal year, the revised fee structure resulted in a doubling of the amount compared to what was collected in the 2018/2019 fiscal year (before the COVID-19 pandemic impacted tourism), an increase of $3.6 million in that year alone.

Mongolia's natural resource use fees

In Mongolia, an Integrated Budget Law was enacted in 2011, which provides for scal decentralization. Central to the decentralization is the natural resource use fees (NRUF), which includes fees derived from industrial/household use of water, hunting fees, natural plant use fee and forest use fees, which should then be allocated to local governments. A supplemental law was enacted in 2012, providing for a minimum percentage share of these revenues to be spent on conservation and restoration.

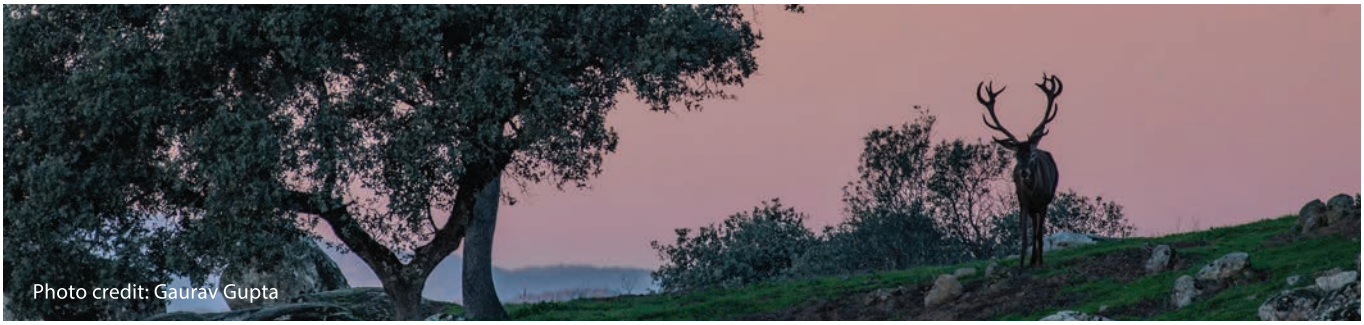
BIOFIN was responsible for the review of the by-law, which regulated revenue generation from user fees as well as expenditures and reporting on local measures for nature protection and rehabilitation. Also, a critical component of implementation is the establishment of a database on environmental planning and budgeting (operational since May 2022), full-scale remote training (46 local trainers), awareness raising and training field missions (through 12 **aimags**[4] and 16 **soums**[5]). All of these efforts resulted in an almost 75 percent increase in the implementation of the NRUF compared to the historical average of 34 percent and a $2.37 million increase in revenues on top of an average of $4.55 million in 2016–2022.

The Philippines' expanded protected area law

BIOFIN may also be centrally involved in policy development as in the Philippines. During the early years of BIOFIN implementation, the Philippines participated in advocating for the passage of the Extended National Integrated Protected Areas law (E-NIPAS). The ENIPAS Act declared 94 national parks as new PAs with a regular annual budget. The Act also allows for the collection of funds from environmental compliance certificates and special use permits from industries operating within the PAs and imposes stricter fines for violators. These funds go straight to a trust fund called the Integrated Protected Area Fund, which is then channelled back for conservation projects.

The BIOFIN team worked with Congress through the office of Congresswoman Josephine Ramirez-Sato, a BIOFIN champion, for the passage of the law and eventually, consultations related to the drafting and approval of the implementing rules and regulations.

Several workshops were organized to ascertain the funding needs of the PAs, which informed the estimation of the financing gap and contributed to the development of the concept for the investment programme for PAs in 2019 – similar to a programme called the National Greening Program, which is a massive government reforestation programme. Within the Department of Environment and Natural Resources (DENR), the term 'investment programme for PAs' gained traction – and this became a major selling point to Congress. In 2020, the General Appropriations Act budget showed that the PA sector had rapidly grown to $51 million. Since this legislated budget was short of $500,000 based on BIOFIN calculations, the team continued to advocate for additional funding. A summit was organized with BIOFIN support, involving DENR and Members of Congress to request that the leadership of Congress and Senate provide the additional budgetary funds, which was approved.


Photo credit: Gaurav Gupta

[4] An aimag is a prefecture-level subdivision.

[5] A soum is a subdivision of an aimag.

B. Creating an opportunity out of a crisis: Crowdfunding in the time of COVID-19

BIOFIN launched a global campaign called 'Keep Conservation Heroes in their Jobs' in order to support local communities and rangers who lost their incomes due to the COVID-19 pandemic. And in 2020–2021, four national campaigns, in the Philippines, Thailand, Ecuador and Costa Rica, were successfully launched.[6] Individuals impacted by COVID-19 due to park closures and the cessation of tourism activities included: the wardens and rangers of Mount Iglit-Baco in the Philippines, who patrol the habitats of the endangered tamaraw; 500 tourist boat operators and women's livelihood groups of Koh Tao island in Thailand; tourism-dependent inhabitants of Galapagos Island in Ecuador; and women from the Northern Zone of Costa Rica (see Table 7.1 for a summary of crowdfunding parameters).

As can be observed from Table 7.1, most of the campaigns aimed to replace lost income, all of which was indirectly related to biodiversity management. The lack of income may increase threats due to the lack of patrolling and enforcement of laws, and campaign beneficiaries may exploit biodiversity at an increased pace to augment their incomes. The slogans of the campaigns were as follows:

Philippines: Together for Tamaraws
Thailand: Koh Tao, Better Together
Ecuador: Save Galapagos Island and Empower its People
Costa Rica: *Huella del Futuro* (Footprints for our Future).

Table 7.1: Comparison of crowdfunding campaigns launched and/or planned in five BIOFIN countries

Country	Site	Goal (% secured to date)	Type of payment	Estimated number of people who directly benefitted from campaign
Thailand	Koh Tao Island (marine and coastal)	$64,000 (143%)	Income replacement through restoration work	500
Philippines	Mindoro Island (terrestrial)	$22,980 (139%)	Income replacement for ranger work, equiptment	59
Ecuador	Galapagos Island World Heritage Site (WHS) (marine and coastal)	$100,000 (84%)	Income replacement, alternative job training	No estimate available
Costa Rica	Northern Costa Rica (terrestrial)	$2M (85%)	Job creation, reforestation costs	600
Belize	Hol Chan WHS (marine)	$17,000 (pending)	Income replacement for ranger/disease management work	300 (expected)

Source of data: Seidl, A., Wallace, K., Cruz-Trinidad, A., Ogena, A., Nirannoot, N., Plantilla, A., Mora, A., St Luz Martinez, H., Salazar, S., Orozco, A.L., and van den Heuvel, O. (2023). Crowdfunding marine and coastal protected areas: Reducing the revenue gap and financial vulnerabilities revealed by COVID-19. Ocean and Coastal Management, Vol. 242. https://doi.org/10.1016/j.ocecoaman.2023.106726



Photo credit: Gregg Yan UNDP Philippines
In 2020, BIOFIN Philippines raised $32,000 to support rangers safeguarding the critically endangered tamaraws - funding patrols, field allowances, and vital equipment. (please add a dark gradient in the corner to make the text more visible)

[6] The Belize crowdfunding campaign started preparations in 2021, but as of writing the launch is still pending.

As a specific solution, all stages of the project cycle were adhered to by the crowdfunding campaigns based on learning and technical advice provided by the Istanbul-based Alternative Finance Lab (AltFin Lab) and the UNDP's Bureau of External Relations and Advocacy (BERA). The first phase was planning, i.e. the storyline was developed by answering the following questions: What is the issue? Who is the beneficiary? What are the financial requirements? And who will donate resources?

All campaigns capitalized on a compelling and emotionally charged story about how COVID-19 was impacting lives. After crafting the main message, the team decided on the financial targets and whether they were achievable, as well as on a time frame for the campaign and the main donors. Even before the campaign was launched, the golden rule of ensuring at least a 30 percent donation was adopted. The planning phase also included identifying the payment platform. Although UNDP promotes only the 'Classy Platform',[7] some countries were able to utilize local platforms to receive donations.

The second phase consisted in launching the campaign and massive communications. Despite the challenges posed by COVID-19, the virtual launches were hugely successful events, where campaign champions graced the event, including a Congresswoman from the Philippines, Costa Rica's Vice President, the former Environment Minister of Ecuador, a Resident Representative of Thailand and the Mayor of Koh Tao Island). Tapping social media influencers and artists, and granting interviews in radio and TV are some of the effective techniques to drum up support for the campaign. Creative forms of fund raising emerged with the formation of the Tamaraw Society in the Philippines, where members committed to a fixed amount through selling of food, old clothes, digital music and photography.

In **Thailand,** the campaign was supported by Krung Thai Bank, which provided the 30 percent donation and has also committed to developing the payment platform through the Bank's ATM machines. The *Huella Del Futuro* initiative is a much broader initiative than the crowdfunding campaign, partnering with the Presidency of the Republic of Costa Rica, the Ministry of Environment and Energy, the National Forest Financing Fund (FONAFIFO), the Environmental Bank Foundation and UNDP. *Huella del Futuro* aimed to reach $1,977,200. Its largest donor and partner, the Green Development Fund – jointly established by the *Comisión Centroamericana de Ambiente y Desarrollo* (CCAD, Central American Commission for Environment and Development), the environmental body of *Sistema de la Integración Centroamericana* (SICA, Central American Integrated System), Gesellschaft für Internationale Zusammenarbeit (GIZ) financed by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the European Union – provided $717,000 as seed investment for the initiative.

The third phase is a critical step in crowdfunding campaigns. After the money has been raised, the campaign needs to ensure that the campaign promise is kept. Payments or other benefits in kind were transmitted to the beneficiaries in line with the campaigns' time frame. Indeed, the campaigns were initiated to alleviate worsening economic conditions caused by COVID-19, which are very time-sensitive.

Reporting back to the donors was also an important step to ensure their trust in the campaign and that UNDP BIOFIN would function as an honest and effective broker. All forms of audits and financial reconciliation within UNDP systems were also adhered to before announcing closure of the campaign.

C. Local implementation of finance solutions

Several BIOFIN countries such as Mexico, Guatemala, Nepal, Thailand and the Philippines are implementing finance solutions at the subnational level. Finance solutions at the subnational level mirrors the range of options available at the national level, for example, increasing budget allocations, supporting results-based budgeting (RBB), or instituting new revenue mechanisms such as fees and charges. The presence of local BFPs facilitates the implementation of finance solutions at the subnational level.

In **Mexico**, the work focused on supporting Mexico City to improve resource efficiency in the management and use of the Public Environmental Fund. BIOFIN also replicated the BER and PIR studies in Jalisco and Guanajuato, which eventually led to the development of dedicated financial solution plans, mirroring the federal process. These processes were also based on the biodiversity strategies of many Mexican states, making the financial conservation plans easier to direct for specific biodiversity gaps.

BIOFIN Mexico's investments in improving the management of public environmental funds bore fruit in early 2023, with Guanajuato applying a capitalization strategy proposed by BIOFIN and improving capacities to manage the fund. As a result, the fund obtained an additional $150,000 for operations and projects. BIOFIN is also supporting the state to modify its legal framework to enable direct acceptance of private funds. In Jalisco, the Green Investment Office (GIO) is fully operational with dedicated personnel and objectives.

In Guatemala, 10 municipal corporations benefited from capacity development activities for RBB, which helped increase and/or reorient the budget for biodiversity management. The training focused on developing project proposals for managing natural and environmental capital, and on the sustainable use of natural resources for producing ecological goods and services. The total estimated amount of the project proposals is $330,000, which allowed access to additional financing through the National Public Investment System. In addition, a strategic advocacy route was developed to prioritize the inclusion of biodiversity and the environment in the investment regulations for municipal projects. BIOFIN in Guatemala also continued support in preparing proposals to restructure and update municipal fees focused on charges for vehicles entering the municipalities, tourism, park admission and waste management.

Similarly, in the **Philippines**, work at the provincial level is anchored on developing annual investment plans that are certified by the national planning agency. By integrating biodiversity into investment plans, the expenditures by provinces are assured. This strategy is even more timely due to the expanded devolution of national functions and budgets to local governments. Since both provinces of Negros Occidental and Negros Oriental have their own BFPs, the finance solutions to be implemented are highly contextualized.

[7] Classy from GOFUNDME. Crowdfunding websites in minutes. www.classy.org/crowdfunding-campaigns

Occidental has already yielded a $800,000 budget allocation for a key biodiversity area in Northwestern Negros. With the formal signing of the Memoranda of Understanding with the provinces, an additional $300,000 was allocated by both provinces for watershed management, the construction of a wetlands centre and the establishment of a biodiversity programme in Negros Oriental.

In **Thailand**, BIOFIN focused on the fiscal budget preparation of local administrative organizations (LAOs). The successful adoption of such guidelines will enable LAOs to produce sound budget justifications, utilizing local budgets to increase the biodiversity impact, and to achieve the Bio-Circular-Green (BCG) Economy Model. A comprehensive online survey, which will inform the design of a training curriculum, was disseminated to 7,850 LAOs through the coordination of the National Municipality League of Thailand. In **Nepal,** the finance solution focused on capacity building and consultations with FUGs as well as review of existing community forestry financial guidelines based on an analysis of biodiversity expenditures.



Photo credit: Ronja Fischer

D. Payments for environmental services

PES are payments to farmers or landowners who have agreed to take certain actions to manage their land or watersheds to provide an ecological service. Given that the payments provide incentives to land owners and managers, PES is a market-based mechanism, similar to subsidies and taxes, to encourage the conservation of natural resources.[8]

Several BIOFIN countries have already been implementing PES programmes even before BIOFIN started. Costa Rica's pioneering PES programme began in the 1990s. This programme allowed for farmers who owned forests to receive payments for the benefits their forests produced, and people who benefited from those services were expected to pay for them. BIOFIN built on the existing PES programme and developed a new PES model using proceeds from fossil fuel tax.

Viet Nam's payments for forest environmental services (PFES) has been implemented by the Ministry of Agriculture and Rural Development since 2010 and has resulted in significant achievements. PFES focuses on forest ecosystem services and does not include other ecosystem services such as wetlands and coastal ecosystems, despite the legal precedent to do so. BIOFIN Viet Nam has supported new PES legislation (2021) and aims to pilot a PES in Hon Cau MPA to extend support to the stewardship of marine PAs, wetlands and coastal zones in the country.

[8] International Institute for Environment and Development. (n.d.). Markets and payments for environmental services. www.iied.org/markets-payments-for-environmental-services

BIOFIN supported development of PES schemes in Colombia and Sri Lanka. An analysis carried out by the BIOFIN team in Colombia shows some problems that PES could solve, i.e. conditions of degradation and deforestation in strategic ecosystems, conflicts over land use in these areas, as well as the need to generate options for agricultural producers to improve the provision of environmental services. The analysis also reveals that public and private stakeholders are motivated by common interests in the management and financing of actions associated with the preservation and restoration of strategic ecosystems, particularly related to water ecosystem services. BIOFIN recommended various sources of financing to pay the farmers: infrastructure works for taxes; 1 percent of the current income of the territorial entities that must be invested in the environment; royalties; and carbon tax. Since 2021, the BIOFIN Colombia team has been supporting the implementation of the district PES programme for the protection and restoration in the strategic ecosystems that guarantee the provision of water to 7.8 million people living in Bogotá. This is the first PES mechanism implemented in a capital city that recognizes ecosystem services provision from nearby rural areas.

To date, the mechanism has mobilized $31.8 million mainly from regional and local resources, in addition to the established national financing sources.

Sri Lanka also promoted PES under BIOFIN. As a country with an ancient tradition of water management and proliferation of mini-hydropower operations, PES was identified as a priority finance solution in the BFP. The proposal noted that no water fees had been imposed on the private sector, including on mini-hydro operators and on downstream users. However, current watershed management practices, especially in plantation areas, threaten the provision of water services. BIOFIN secured one mini-hydro operator with payment commitments to upland forest communities, resulting in the reforestation of 500 hectares (ha). The COVID-19 pandemic and the political upheaval overturned the gains made, but in recent months, there has been interest in corporate PES and expanding the concept to other water-consuming industries such as beverage, textiles and drinking water bottles manufacturing.



Photo credit: Raimondo Jereb

E. Ecological fiscal transfers

The Ecological Fiscal Transfer (EFT) is described as "a government fiscal policy measure that applies budgetary management mechanism for the purpose of distributing state revenues among different budgetary levels (revenue sharing and inter-budgetary transfers) according to the agreed ecological indicators and indices".[9] EFTs are measures to reallocate funding but also act as incentives or alternative sources of income for the subnational or local government, and/or compensation for opportunity costs incurred by limiting other types of land development that could potentially generate more direct income.

Since the 1990s, five nature-rich countries in different geographical locations have established, adopted and implemented the concept of EFT: Brazil, Portugal, France, India and China. The BIOFIN countries that promote EFTs as finance solutions are Malaysia and Indonesia.

In **Malaysia**, the EFT was highlighted as one of the priority finance solutions with a high potential of success for national implementation as per the BFP. BIOFIN supported preparatory studies on the EFT. In 2018, UNDP Malaysia prepared a policy paper titled "Ecological Fiscal Transfer for Biodiversity Conservation – Lessons, Opportunities and Way Forward for Malaysia", which was submitted to the Ministry of Finance as an input to the budget speech. The Government of Malaysia announced the EFT in 2019 and 2021 with a combined budget allocation of more than $31 million, which were transferred to the states for protecting and expanding nature forest reserves and PAs. The overall budget allocation for EFT for the 2019–2024 period reached $120 million, with a corresponding biodiversity impact of 350,000 ha of new PAs including 250,000 ha of marine PAs.

Further work is being carried out to strengthen the effectiveness and institutionalization of the EFT through enhanced policy and/or regulatory instruments. This is to be achieved through the inclusion of: (i) appropriate biological and ecological criteria in the formula for the fiscal transfer; and (ii) clearer operational guidance to encourage the recipient states to earmark EFT for conservation purposes. BIOFIN's work to further develop this mechanism will focus on developing a medium- to long-term policy rationale and legislative pathway to maintain and increase annual allocations, building capacity and engagement with the states, and piloting EFT-funded conservation actions.

[9] BIOFIN (2023). Malaysia Advances Ecological Fiscal Transfer for biodiversity conservation | BIOFIN



Photo credit: UNDP Costa Rica
The Indigenous Tourism Raíces Incubator Program in Costa Rica has boosted employment and local economies in Indigenous communities, contributing to national and global biodiversity goals.

In **Indonesia**, EFT is designed as a transfer within subnational levels of government, i.e. from the province to the district and/or from the district to the village The scoping looked at possible provinces with an existing memorandum of agreement with the BAPPENAS (the national planning agency) and the preparation of position papers that can inform policy, i.e. more specifically, a revision of the Regulation of the Governor of Central Java Province concerning Financial Assistance. BIOFIN has developed technical criteria for determining EFT allocation including parameters for land cover and biodiversity (50 percent), pollution (20 percent) and natural disasters (15 percent). The land cover and biodiversity criteria include sub-criteria such as green space, biodiversity parks, and the existence of a land rehabilitation programme.

F. Ensuring inclusivity in finance solutions implementation: Focus on gender and empowerment of indigenous communities

BIOFIN teams are aware that women, men, youth and indigenous communities equally play key roles and responsibilities in the division of labour, and rights, ownership and access to, and control over, biodiversity and natural resources. Some BIOFIN finance solutions have explicitly included social objectives as outcome indicators and embedded activities related to gender, youth and local community benefits in the design of finance solutions. Other teams have investigated the establishment of outreach programmes, geared at strengthening the awareness of the importance of women, youth and indigenous communities in the sustainable use and management of biodiversity, as well as the equal sharing of benefits arising from the access and use of natural resources.

In **Costa Rica**, for the First Strategic Sector Plan for the Environment, Energy and Seas, BIOFIN developed an analysis on gender equality and women's empowerment. This contribution is part of the 'More Women, More Nature' programme, offering a baseline analysis of policy and legal framework to strengthen the intersectional gender perspective in the upcoming Strategic Sector Plan of the Ministry of Environment and Energy that will also guide national budget allocation for gender in biodiversity related sectors.

Indonesia's zakat (faith-based fund) finance solution supports livelihood activities that enhance biodiversity for the poor and the needy. The work focuses on supporting cocoa plantation and cocoa-based production programmes that align with the ecotourism development business in the national park. Due to prevailing poverty, local communities encroach into the peripheral areas of Lore Lindo National Park, thus threatening biodiversity through its wanton use in the area. The faith-based financial solution is also designed to embrace gender equality with the involvement of women as key beneficiaries.

In the **Philippines**, the crowdfunding campaign dubbed "Together for Tamaraws" worked with the Indigenous People's group, the Mangyan, whose members also served as tour guides. The Mangyan elders agreed to develop a habitat restoration plan that expanded the strict protection zone in the Mount Iglit-Baco Natural Park by 2,500 ha, ensuring greater area for the tamaraws to roam freely and multiply.

India's finance solutions on access and benefit-sharing, CSR and disclosure reporting apply gender lenses ranging from benefit transfers to women at the community level for use of genetic resources to partnering with top women corporate leaders in CSR work.

In **Sri Lanka**, the tourism certification process has recently included small and medium-sized enterprises led by women, as per the United Nations' 'leave no one behind' principle.

Lastly, in Peru, BIOFIN **Peru** coordinated with the Agro-Rural Program led by the Ministry of Agriculture and Irrigation to develop strategic planning tools for rural businesses in peasant and indigenous communities. This includes mobilization of resources for the maintenance of water harvesting facilities and the rehabilitation of soils and ecosystems to support biodiversity.

Box 7.2: Raíces: An indigenous tourism incubator in Costa Rica

Raíces is the first business incubation programme in Costa Rica exclusively focused on supporting and consolidating startups for sustainable tourism in indigenous territories. By prioritizing the recognition of indigenous identity and strengthening the economic autonomy of women, the programme addresses the threats of cultural and natural capital loss, wildlife poaching, illegal logging and the expansion of agriculture frontiers.

The Financial Needs Assessment (FNA) and the Biodiversity Finance Plan (BFP) showed a substantial financial gap for National Biodiversity Strategy and Action Plan (NBSAP) goals that were prioritized by, and for, indigenous groups in Key Biodiversity Areas currently under threat.

The finance solution mobilized funds from the *Sistema de Banca para el Desarrollo* (SBD, Development Bank System), a second-floor banking system created by law for development purposes in Costa Rica. SBD is financed through a special fee applied to transactions in private and public banks, as well as a percentage of annual revenues of public national banks (National Bank of Costa Rica, Bank of Costa Rica and Popular Bank).

The SBD funds 21 annual grants and technical assistance for the Raices Incubator Program for Indigenous Territories through an authorized implementing agency, Impact Hub.

The numbers:

- 21 startups incubated annually
- mobilized funds annually, (over $1 million expected to 2026)
- 7 indigenous territories
- 60 percent led by women
- 1,429 ha under sustainable management



Source: https://raicescr.com/english
https://youtu.be/JJ3tSpYqF1s

7.2. Integrating the BIOFIN Process into existing governance structures

When a BFP is validated and implementation starts, this presents a key moment to revisit the insitutionalization of the overall process and specific elements within that process. To match a country's financial biodiversity needs, a long-term commitment is required, often crossing multiple political and public planning cycles. For transformational change to occur and last, the BIOFIN function needs to graduate from aid- funding and become embedded into government and private sector structures. Institutionalization aims at this transition. The guiding question is: How can we ensure the various elements of the process continue in a sustained manner once they are no longer supported by activities and budgets under the national BIOFIN Programme?

The BIOFIN programme and the various finance solutions are designed to outlive the funding period and lifetime of BIOFIN as a programme.

Project closure does not occur when funding ends, and this overall ambition is embedded throughout the BIOFIN Process. During the project lifetime, the team should be mindful of designing finance solutions that are sustainable and that institutionalization of programme functions are planned way in advance and executed purposefully. This includes setting up formal structures within government offices, developing policies that formalize and assign resources for these functions, capacity building for identified experts within organizations or re-tooling existing staff, and strengthening coordination platforms.

Sustainability is achieved in parallel across three levels, as shown below.



Photo credit: UNDP Mongolia
Over 1.6 billion people depend on forests for their livelihoods, relying on them for food, medicines, firewood, and building materials.

a. The policy framework consists of laws, policies, plans and budgets as well as codified public finance management practices. This is the highest level of institutionalization achievable by BIOFIN in the short to medium term. It concerns reshaping national development priorities to include biodiversity in the medium and longer term. Work in this area consists of the following: amending formal documents (policies, plans, budgets, etc.); improving implementation (enforcement, accounting, reporting, etc); or developing new policies where gaps exist. All BIOFIN Phase I reports should help identify gaps in the policy framework and suggest an action agenda to address them.

b. The organizational framework concerns organizational mandates, structures, capacities, and the way they are interlinked. Gaps and inconsistencies are likely to be identified throughout the BIOFIN Process. BIOFIN teams should advocate for capacity enhancement and institutional coherence on a needs basis or in the context of a specific finance solution. Even a small amendment in an organizational mandate such as adding functionalities related to biodiversity finance, or a change of responsibilities of a unit or division, or of the terms of reference of a certain critical post can make a difference.

For example, many environment ministries lack finance and economics experts capable of spearheading the implementation of multiple finance solutions. Formal training and apprenticeship with BIOFIN teams can facilitate the 're-engineering' of staff functions.

c. Change in perceptions of, and behaviour regarding, biodiversity and biodiversity finance is the last building block of sustainability. In the realm of dynamic relationships, effectiveness, engagement, trust-building and cultural change (e.g. perceptions of stakeholders and decision-makers, behavioural and attitudinal changes) matter. Normative and organizational reforms need to be underpinned by a broad-based change in perceptions and behaviours. It is critical to build a cohort of biodiversity finance experts due to changing policy and institutional regimes. Patience and well-designed capacity-building activities and constant awareness raising can facilitate a better understanding and willingness to accept the functions of a biodiversity finance unit. This must include effectively managing and addressing resistance to change.

7.2.1. How BIOFIN implementation influenced the policy framework for biodiversity finance

All of BIOFIN's diagnostic studies including the BFP, and certain finance solutions should already contain recommendations for the amendment and enhancement of specific policies and regulatory frameworks. The continuous mapping of the policy development cycle and stakeholders' engagement should have similarly provided critical insight to propose reforms to the policy landscape. A profound understanding of a country's political economy is necessary to identify the progress that it has made in its approval process of biodiversity finance policies, who the main actors are, and where there are opportunities for engagement.

Policy reform can be approached as finance solutions themselves or as pathways to achieving finance outcomes. Some policies directly result in finance outcomes (PA fees, tourism charges, payment for environmental services), while others address regulatory frameworks that manage drivers of biodiversity loss (Environmental Impact Evaluation Systems), or how to improve the effectiveness of spending (RBB), and still others support the development of enabling frameworks (certification schemes). A growing number of BIOFIN countries is developing policies together with the finance sector with the aim of controlling harmful finance flows to biodiversity and incentivizing positive finance flows.

Box 7.4: How Kazakhstan catalysed finance through legislative changes

Since 2015, BIOFIN Kazakhstan has been actively working on improving the legislative framework to promote biodiversity finance and address drivers of biodiversity loss. One of the most significant initiative was BIOFIN's contribution to the revision of the new Environmental Code in 2021. Below are the highlights of legislative changes from 2015 to 2022 in terms of finance solutions implemented in the country.

A. Strengthening of protected area management planning for improved financing

In Kazakhstan, protected areas (PAs) traditionally received limited funding. This was addressed by combining a change in the national legislation with work on the ground on protected area management plans. In 2017, BIOFIN helped introduce an Article into the Law on Protected Areas stating that funding should be allocated to protected areas in line with their management plans.

This amendment resulted to increased state funding for protected areas. Later in 2022 the by-law regulating the development of the PA's Management plan was prepared and approved by the Ministry of Ecology and Natural Resources. As a result of legislative changes, the average annual increase in budget funding amounted to 20.5 percent for all PAs. In 2024 alone, the single year increase amounted to $30 million.

B. Biodiversity offsets

In 2017, Kazakhstan introduced the first prerequisites for biodiversity offsets into its Law on Protected Areas. Later, in 2021, in the new Environmental Code, this mechanism was fully reflected in a separate section. The legislation prepared by the BIOFIN team includes the terminology and mechanism of biodiversity offsets.

To implement the legislation on biodiversity offsets, a by-law regulating the rules of implementation of compensation for biodiversity loss was developed and approved.

To implement the legislation on biodiversity offsets, a by-law regulating the rules of implementation of compensation for biodiversity loss was developed and approved. To comprehensively cover the biodiversity offsets mechanism, additions to the EIA guidelines were developed and approved to include measures to prevent, minimize, mitigate and offset biodiversity losses. Biodiversity offsets legislation is a significant achievement of the national BIOFIN team, which has long-term implications because it creates a platform for the protection of Kazakhstan's nature from short-term economic gains.

C. Development of ecological tourism in Kazakhstan: the introduction of a certification system

Previously, the concept of 'ecological tourism' was used in the country's legislation, but without a clear definition. Within the BIOFIN framework, experts, drawing on international experience and according to national rules, agreed on a clear definition of ecotourism, which was included in a new by-law and introduced into legislation.

In addition, the by-law regulating tourist visits and business activities in national parks was revised. One of the most significant changes was the introduction of certification for legal entities carrying out commercial activities in the territories of national parks.

The implementation of the certification system will provide direct financial benefits to the certified business by attracting more local and foreign tourists.

The use of ecotourism principles in national parks will allow to achieve 'no net loss' of biodiversity and ecosystems. The following ecotourism principles are included in the by-law:

- regulating the number of tourists;
- using ecological means of transportation;
- avoiding harm to biodiversity;
- informing tourists about the places to be visited;
- minimizing solid waste generation;
- involving local communities to benefit from tourism development.

D. Other contributions to national legislation
Payments for forest ecosystem services have been introduced into the Forest Code as a new mechanism for financing the forest sector. The mechanism allows PAs and forestry institutions to attract additional funding from the private sector for the conservation and restoration of ecosystems and biodiversity.

The new Environmental Code approved a norm that allows the Ministry of Ecology and Natural Resources to develop and approve a method for calculating greenhouse gas emissions. Additions to the forest legislation were prepared for the implementation of forest carbon projects.



Photo credit: Marco Arlaud

Box 7.5: Results-based budgeting initiatives in Kyrgyzstan and the Philippines

Kyrgyzstan supported the adoption of a ministerial decree that endorsed results-based budgeting (RBB) guidelines for protected areas (PAs) and forest enterprises (FEs). BIOFIN provided support to the Department of Biodiversity Conservation and Protected Areas under the Ministry of Natural Resources, Ecology and Technical Supervision, and the Forest Service under the Ministry of Agriculture, in implementing RBB. As a result of this support, the guidelines for the preparation of the programme budget for the PAs and FEs were developed and approved by the Ministries' internal decrees, and requisite training of staff from 23 PAs and 33 FEs was conducted in 2022.

In the Philippines, the Seal of Good Local Governance (SGLG) is a much-coveted icon that local governments aspire to obtain. It is a recognition given by the Department of Interior and Local Government (DILG) to provinces, cities and municipalities based on various good governance criteria.

- wetlands and water management initiatives contribute to biodiversity conservation and enhancement, focusing on inland wetlands and water bodies;
- establishment or maintenance of public parks and green spaces; and
- strengthened wildlife law enforcement.

The inclusion of these indicators in the SGLG is a highly strategic accomplishment because it provides directions for biodiversity investments by local government units (LGUs). Through Republic Act 11292 (i.e. the SGLG Act), the "Seal is an institutionalized award, incentive, honour and recognition-based programme" that aims to boost LGUs' commitment to continuously progress and improve their performance in various governance areas.

In both examples, clearly-stated outcome indicators for biodiversity serve as overall guidance for investment planning.

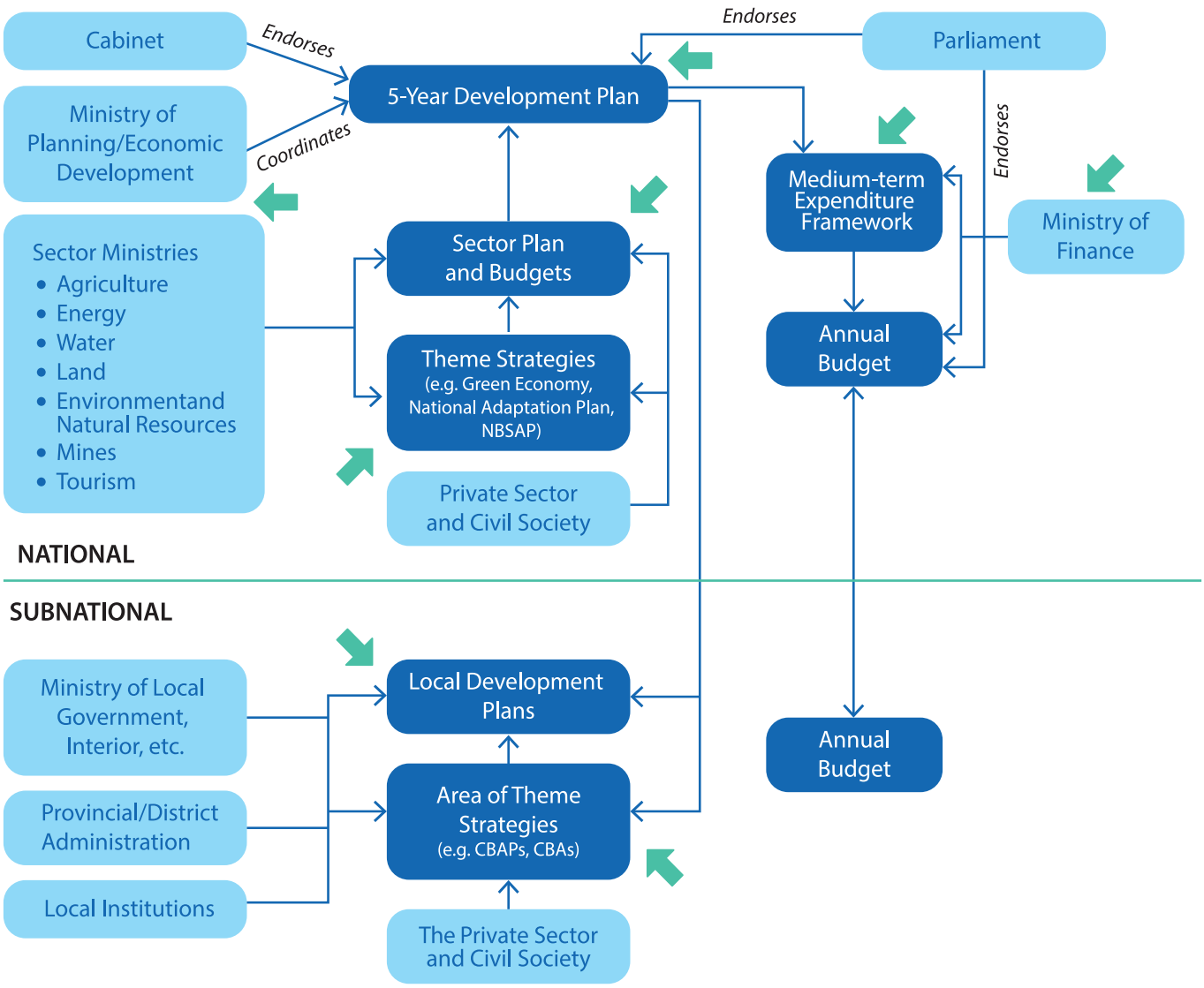


Photo credit: Mahtab Haider
The Spotted Deer, photographed in the Sundarban mangroves of Bangladesh. Tidal forests such as mangroves are critical in keeping humanity within the planetary boundaries, sustaining immense biodiversity, and serving as carbon sinks.

The lessons learned from mainstreaming biodiversity into national policies demonstrate the need to address the entire spectrum of a country's planning cycle, including laws, national development strategies, national biodiversity plans, sectoral strategies and subnational plans. This not only concerns influencing macro-level planning, but also working on the preparation and design of the underlying policy documents and budget proposals (Figure 7.1). Positive change can be achieved through the BIOFIN methodology and different stages of the BIOFIN Process: **Malaysia** has integrated biodiversity finance into the five-year Malaysia Plans (in particular, the 10th and 11th Malaysia Plans) and informed the annual budget speech for budget allocations in biodiversity conservation, while **Fiji** has helped to develop a results-based framework for its NBSAP.

The BFP's chances of success can be increased by formally adopting it as a public document. In an ideal scenario, the BFP becomes a new national policy, anchored in national legislation. At a minimum, it should be formally adopted through a government order after being validated through a wide stakeholder consultation. To achieve this, it is necessary to focus on the institutionalization of the BFP from the beginning. The BFP can be informed proactively by a political road map for its institutionalization. Thus, the Plan would empower an institution or a coalition of institutions to take ownership of, and leadership in, steering implementation of the BFP. The Ministry of Finance can provide stronger policy leverage if it has a leading role. Countries may also opt to keep this role with environment ministries to ensure a clear biodiversity focus.

Figure 7.2: Integrating biodiversity financing into national and subnational planning cycles: an example from Malaysia



Box 7.6: Zambia's green bond guidelines and minimum investment threshold

Zambia developed the green bond guidelines and listing rules in 2021. Large-scale awareness raising and capacity building of finance regulators, notably the Securities and Exchange Commission and the Lusaka Securities Exchange, preceded the policy adoption due to lack of capacity to structure green bonds. In 2022, the Government of Zambia passed a new bill to attract more local investment in nature-positive businesses across the country. Due to an amendment to the Zambia Development Agency Bill, the investment threshold was reduced from $500,000 to $50,000.

This change will allow biodiversity conservation projects, as well as others earmarked as priority sectors by the Government, to enjoy fiscal and non-fiscal incentives. Some of the incentives have a minimum investment threshold such as allowances, exemptions and concessions for companies. It is expected that this latest policy development will attract investments that enhance biodiversity conservation, such as those in the small and medium-sized enterprise sector. Opportunities for green enterprise investments in Multi-Facility Economic Zones, industrial parks, rural enterprises and priority sectors under the Zambia Development Agency Act are entitled to fiscal and non-fiscal incentives. This is seen as beneficial to biodiversity conservation initiatives because they generate more social than financial returns; however, this makes it difficult to raise commercial financing that privileges on financial returns. With the cost of capital in excess of 25 percent, it is important to incentivize this sector so that it can easily attract funding, even from impact investors with lower ticket sizes.

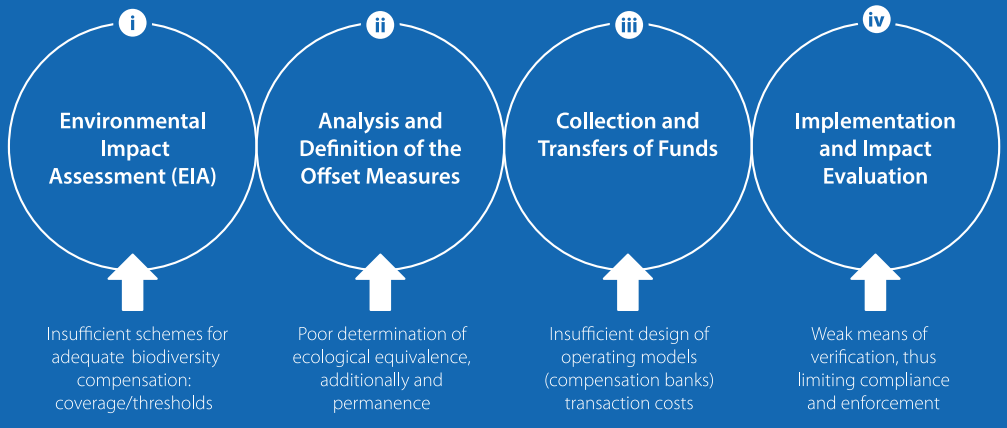


Photo credit: Marco Arlaud

Box 7.7: Improving the biodiversity offset framework in Chile

In Chile, biodiversity offsets are regulated under the Environmental Impact Evaluation System. The BIOFIN team conducted a study to assess 531 biodiversity offsets-like projects in the 2000–2017 period. Out of the total, only 78 percent of the projects estimated their impact on biodiversity and 29 percent contained commitments on compensation. The value of compensation was below 0.5 percent of the project investment costs.

The figure below illustrates the challenges in implementing biodiversity offsets. BIOFIN identified opportunities for improving the underpinning regulatory framework and the organizational management cycle to increase effectiveness. It is estimated that the optimization strategy will increase offset financing from 0.5 percent to 2 percent of the total costs.



7.2.1. Organizational framework integrating biodiversity finance functions

BIOFIN activities cover multiple functions, such as: advocacy and awareness-raising (e.g. nurturing champions); coordination and policy coherence; technical support for the design and implementation of finance solutions spanning from the public to the private sector; and costing and modelling biodiversity actions. The sustainability of the BIOFIN Process is influenced by how the activities are designed and managed. Government and stakeholder ownership, under the leadership of focal ministries, is no doubt critical. The aim is to empower and enhance the organizational capacity of national institutions to promote and manage biodiversity finance now and in the future.

Some metrics used to measure the level of institutionalization are a dedicated biodiversity finance unit with its own source of funding and a set of defined functions and an operational plan. These functions might include providing strategic directions to continue implementing biodiversity finance solutions and ensuring that multi-stakeholders' fora are engaged. Integrating BIOFIN finance solutions as regular functions also support the institutionalization (see examples of climate and biodiversity tagging for Indonesia and the incorporation of the BER process within Mexico's statistical agency). Ideally, a monitoring system should be installed to track biodiversity financing including private sector contributions.



Box 7.8: How to assess the degree of institutionalization of the biodiversity finance programme

No evidence of institutionalization: 0 points

No staff or focal point has been designated to work on biodiversity financing.
Funding is completely project-based.
Multisectoral arrangements may be absent or limited to project related meetings.

Initial steps towards institutionalization: 1–2 points
Scoring Scheme :

1 point = any 3 parameters from the list
2 points = all 5 parameters

1. Staff may be designated to supervise and implement biodiversity finance activities, but assignments are generally discontinuous without long-term commitments.
2. Policy support is at the lower levels of a ministry such as a division or bureau. Staff are mainly coordinating project implementation. Staff turnover rates are high.
3. Funding is completely project-based.
4. Multisectoral arrangements may be absent or limited to project related meetings.
5. A monitoring and evaluation system is still being developed.

Advanced institutionalization: 3 to 5 points
Scoring Scheme :

3 points = #1 and #2 as mandatory parameters plus an additional parameter from the list
4 points = #1 and #2 as mandatory parameters plus 2 additional parameters from the list
5 points > 4 parameters including the mandatory parameters

1. **(Mandatory parameter)** Staff may be designated to supervise and implement biodiversity finance activities, but assignments are generally discontinuous without long-term commitments.
2. **(Mandatory parameter)** Policy support is at the level of an executive issuance, which shows institutional support but is likely contingent on priority programmes of the administration and may be constrained by finite political cycles.
3. Funding is available but still dependent on project-based finance support.
4. Multisectoral arrangements involving the ministries of environment, planning and finance, and possibly, finance regulators are maintained, but are sporadic; decisions are made relative to project directions and lack focus.
5. Capacity-building platforms exist but are largely project-driven and lack recognition or endorsement.
6. A monitoring and evaluation system is operational but project-driven, and the function is largely performed by project staff.

High level of institutionalization: 6 to 8 points
Scoring Scheme :

6 points = #1 as mandatory parameter plus 2 additional parameters from the list
7 points = #1 as mandatory parameter plus 3 additional parameters from the list
8 points > 4 parameters including the mandatory parameter

1. **(Mandatory parameter)** A dedicated biodiversity finance unit is formally established and staffed but it operates at the finance solution level. This unit is responsible for monitoring implementation of the specific finance solution, providing technical advice and coordinating specific initiatives; and generating new and innovative ideas for finance solutions relevant to the specific sector including replication, scaling up or integration.
2. There are requisite policies that clarify the mandate and functions of the biodiversity finance unit, and funding is provided for its operation. Policy is supported by statute or legislation or its equivalent, be it at the national or subnational level, and is more permanent.
3. Multisectoral arrangements involving the ministries of environment, planning and finance and possibly, finance regulators are maintained whose main focal point for coordination focuses on the continuous and/or improvement in implementation of the finance solution.

4. Capacity-building platforms are formalized, funded and promoted within the civil service or offered as academic programmes ensuring a constant cohort of biodiversity finance experts. Private sector representatives also participate.
5. A monitoring and evaluation system is developed and functional. This system monitors the volume of finance assigned to biodiversity according to its sources and organized/ tagged according to work areas relevant to biodiversity.

Comprehensive institutionalization: 9 to 10 points
Scoring scheme :

9 points = #1 and #2 as mandatory parameters plus an additional parameter from the list
10 points = all parameters in the list

1. **(Mandatory Parameter)** A dedicated biodiversity finance unit is formally established and staffed. This unit is responsible for: monitoring implementation of the BFP; providing technical advice; coordinating all initiatives related to biodiversity finance; and generating new and innovative ideas for additional finance solutions. The biodiversity finance unit is designed to address biodiversity finance issues at the programmatic level.
2. **(Mandatory Parameter)** There are requisite policies that clarify the mandate and functions of the biodiversity finance unit, and funding is provided for its operation. Policy is supported by of a statute or legislation or its equivalent, be it at the national or subnational level, and is more permanent
3. Multisectoral arrangements involving the ministries of environment, planning and finance, as well as civil society and the private sector are formalized, and policy and strategy discussions with respect to biodiversity financing are held.
4. Capacity-building platforms are formalized, funded and promoted within the civil service or offered as academic programmes ensuring a constant cohort of biodiversity finance experts. Private sector representatives also participate.
5. A monitoring and evaluation system is developed and functional. This system monitors the volume of finance assigned to biodiversity according to its sources and organized/ tagged according to work areas relevant to biodiversity.
6. Disclosure frameworks and sustainable finance taxonomies are institutionalized through finance regulators' functions, and financial reporting on biodiversity finance is mandated and complied with by at least 20 participants.



Photo credit: Mahtab Haider

Box 7.9: Institutionalizing the BIOFIN Process in Belize, Seychelles and Sri Lanka



UNDP Resident Representative of Sri Lanka, Azusa Kubota, ceremoniously opens the Sustainable Tourism Unit at Sri Lanka Tourism Development Authority in January 2023 (UNDP)

BIOFIN
The Biodiversity Finance Initiative

SUSTAINABLE TOURISM UNIT (STU)

When BIOFIN started, no government entity in the Seychelles was mandated to work on biodiversity finance. Its Biodiversity Finance Plan (BFP) contains provisions for establishing a new unit to work exclusively on biodiversity finance. The biodiversity finance unit, which became operational in 2020, was set up to institutionalize the coordination of all biodiversity-related projects and their mainstreaming into the economic planning and annual budgetary planning, to facilitate resource mobilization for biodiversity projects, and to coordinate the implementation of the BFP.

The Sri Lanka Tourism and Development Agency (SLTDA) established the Sustainable Tourism Unit (STU) on 23 June 2022 through a special board paper to its board of directors, with the requisite funding and staff. This is deemed critical for monitoring the impacts of the certification scheme on tourism and on nature-positive investments among the hotels, destinations and tourism services providers who have been duly certified and compliant with the sustainable tourism metrics. In addition, the Ministry of Tourism agreed to establish district-level units attached to the STU assigning the same staff. The combination of the Ministry of Tourism and SLTDA in establishing the national- and provincial-level STUs will strengthen the outreach of certification programmes to micro, small and medium-sized operators in remote areas of the country. This will further enhance the potential to generate additional resources for biodiversity financing through the tourism sector as closer monitoring and assistance could be provided to identify such opportunities.

Belize opted for an implementation structure featuring the creation of two new government positions within the core national BIOFIN team. As members of the team, the officials took part in each step of the BIOFIN Process. The two posts will be retained and funded by the Government of Belize once the UNDP-BIOFIN project ends. One of the team members became the Head of the National Biodiversity Office, and another was appointed as the country's Vice Minister. This ensures that critical capacities are built into the leading agency, a guarantee of contribution beyond a project's life cycle.

7.2.2. Systematization of biodiversity expenditure reviews and finance needs assessment

To enable countries to regularly conduct BERs, a rapid assessment can be conducted to ascertain the required capacities. Ideally, this assessment is conducted before the first BER or during an update. The BERs can be institutionalized by introducing biodiversity budget tagging or coding in public finance management software and practices. The tagging system will flag expenditures partly or fully allocated towards biodiversity, thus enabling the production of regular biodiversity expenditure assessments and lowering transaction costs. Budget tagging was successfully applied for climate change and is currently being piloted for biodiversity in Bhutan, the Philippines and Indonesia.

Indonesia has shown that it is possible to institutionalize a BER by adopting a tagging system in the national public finance management software. Through the software it is possible to mark the relevance of each expenditure towards climate change mitigation. Subsequently, automatic reporting can be produced. The tagging system resulted in the issuance of the first sovereign $1.25 billion *sukuk* (the Arabic name for financial certificates), which relied on it for the identification of eligible projects. One project that can be tagged completely to biodiversity is the Maluku Parrot Conservation Project, which received $2.8 million from the proceeds of the sukuk offering.

From 2023 onwards, **Mexico's National Institute of Statistics and Geography (INEGI)** will annually publish the results of the BER, which has been fully institutionalized based on the System of Environmental-Economic Accounting's (SEEA) Environmental Protection Account. Since 2015, INEGI and BIOFIN have been working on a harmonized methodology a harmonized methodology to estimate the public expenditure of national and subnational governments for biodiversity conservation actions. Historically, the BER was externally published by BIOFIN, with INEGI's technical endorsement (see also Chapter 4). Another unique feature of the BER work in Mexico is the extension of the calculation methodology at the subnational level. Among the results, there have been advancements in three areas: Mexico City, Guanajuato and Jalisco.

Systematization of the Financial Needs Assessment

Once the initial costing data are produced, reporting templates developed, and lessons documented, future costing exercises are likely to require less effort. To increase the use of the FNA in the national planning cycle, alignment with government expenditure accounting practices is crucial. Ideally, the FNA should generate data that can be used for medium- and long-term planning frameworks as well as annual budget proposals. **Bhutan** is one of the countries guaranteeing full compatibility. Its FNA directly provided baseline data for the 12th Five Year Plan (2018–2023). The **Philippines** incorporated the unified accounts code structure when developing costing templates, thus making it convenient for the Government to simply utilize the costing done for the coastal and marine sector, for example, and use the estimates to develop an expenditure programme.

An FNA, while necessarily a time-bound exercise, can reduce the costs of undertaking similar exercises in the future, including by identifying the most applicable 'costable actions' and unit costs, and developing costing models where possible. Costing exercises allow to compare multiple implementation models with different costs, which can provide vital information for planning and decision-making, and inputs for a more sophisticated cost-benefit analysis. Building sound costing practices into any organization brings rigour to planning exercises and eventually fosters cost-effectiveness in public planning.

Box 7.10: The institutional iceberg

When working on institutionalization, it is important to consider non-formal elements, such as organizational culture, norms and traditions. Whenever these aspects are not addressed, many desired changes in institutions are not achieved. For this reason, it is important to closely involve the relevant organizations and their people in any change process, and get them on board with the agenda rather than impose from the top down. Also, a long-term support plan is usually required to truly change the organizational culture.



The Iceberg that sinks organizational change

7.2.3. Behaviour and perceptions

Albeit a less tangible objective than changing policies or organizational structures, any finance solution's success must be anchored in the wide support and belief of core stakeholders. To measure perceptions around finance solutions, two major tools are available: perception surveys and political economy analysis (PEA).

Perception surveys are increasingly used to collect baseline information for policy reforms. They can gauge existing views on a finance solution before starting any work, and flag any concerns. Results demonstrate to what extent key stakeholders or stakeholder groups understand and support the concept. Effective perception surveys inform the activities and advocacy strategy for the solution. The Organisation for Economic Co-operation and Development (OECD) provides detailed guidance on the design and application of perception surveys.

Box 7.11: Six steps in designing a perception survey according to the OECD[a]

Step 1:

Define survey objectives and target group
Define the objectives
Define the final use of the results
Ensure that perception survey is the adequate tool
Define target groups.

Step 2:

Draft survey questions
Set up discussions with members of a target group to identify key issues
Translate those into question and answer categories
Draft simple and clearer questions
Keep the questionnaire short to maximize the response rate and concentration
Ensure respondents have the opportunity to report problems.

Step 3:

Pilot and readjust the questionnaire
Test the survey on a smaller target group to identify weakness in the survey design
Possibly ask volunteers to think aloud while answering questions and analyse what motivated their answers
Adjust the questionnaire if needed.

Step 4:

Select respondents and the data collection method
Select a sample by random sampling or other methods
Ensure that the sample size allows for a valid conclusion from the results
Choose the data collection method: personal interviews, telephone interviews, internet surveys, email, surveys, etc.
Maximize response rate through appropriate data collection method.

Step 5:

Run the survey
Ensure a high response rate through follow-up emails to avoid biased conclusions
Use trained interviewers to avoid unintentional influence on responses.

Step 6:

Analyse the results
Interpret results as perceptions rather than facts
Take into account the response rate. A low rate indicates that no general conclusions can be drawn
Take into consideration the number and the way respondents have been selected in the result analysis
Understand how results were reached as this is essential to draw policy conclusions
Attach documentation regarding Steps 1–6 to results and interpret them in combination with other data sources.



Photo credit: Ian Herbert

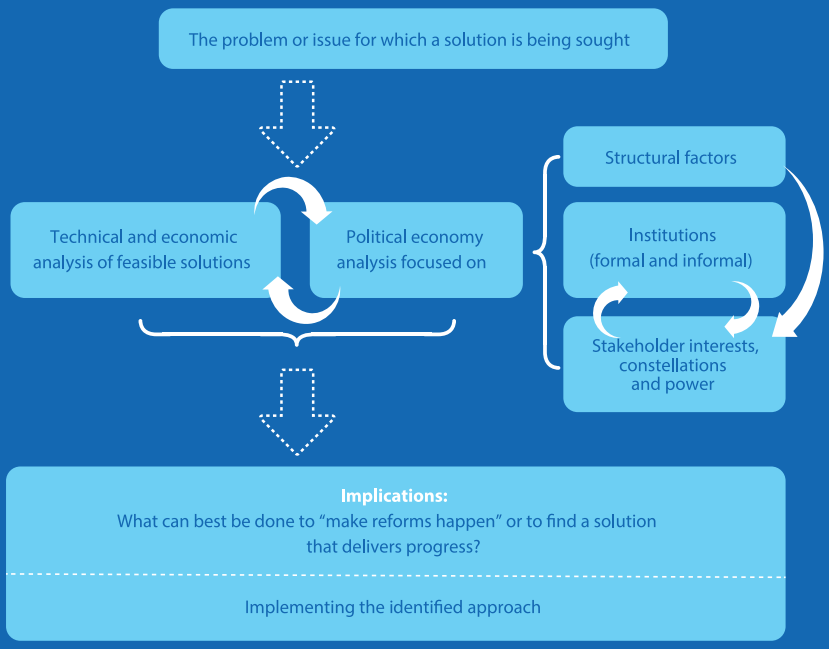
[a] OECD (2012). Measuring Regulatory Performance: A Practitioner's Guide to Perception Surveys. OECD Publishing, Paris. https://doi.org/10.1787/9789264167179-en

PEA is needed when strong technical approaches to address the challenges of development issues repeatedly fail. Additional elements must therefore be considered in planning and development investment. The World Bank's problem-driven PEA model is presented in Box 7.12.

It shows that, in addition to exploring the technical and economic feasibility of an approach, we should also explore three levels of the political economy: (i) structural factors; (ii) institutions; and (iii) stakeholder interests, constellations and power.

Box 7.12: Political economy analysis explained further

Since 2015, BIOFIN Kazakhstan has been actively working on improving the legislative framework to promote biodiversity finance and address drivers of biodiversity loss. One of the most significant initiative was BIOFIN's contribution to the revision of the new Environmental Code in 2021. Below are the highlights of legislative changes from 2015 to 2022 in terms of finance solutions implemented in the country.



Although a problem-focused PEA is appropriate for specific biodiversity trends, a PEA can also be implemented for a specific sector or finance solution. Some sample questions for conducting a PEA are provided below.

Roles and responsibilities

Who are the key stakeholders? What are the formal / informal roles and mandates of the different players? What is the balance between central/local authorities in the provision of services?

Power relations

To what extent is power vested in the hands of specific individuals/groups? How do different interest groups outside government (e.g. private sector, NGOs, consumer groups, the media) seek to influence policy?

Ownership structure and financing

What is the balance between public and private ownership? What are the financing arrangements (e.g. public/private partnerships, user fees, taxes, donor support)?

Corruption and rent-seeking

Is there significant corruption and rent-seeking? Where is this most prevalent (e.g. at point of delivery, procurement, allocation of jobs)? Who benefits most from this? How is patronage being used?

[a] Figure source: Fritz, V., Levy, B., & Ort, R. (Eds.) (2014). Problem-Driven Political Economy Analysis: The World Bank's Experience. The World Bank. Available from: https://openknowledge.worldbank.org/bitstream/handle/10986/16389/9781464801211.pdf;sequence=1

Service delivery

Who are the primary beneficiaries of service delivery? Are social, regional or ethnic groups included/excluded? Are subsidies provided, and which groups benefit most from them?

Ideologies and values

What are the dominant ideologies and values that shape views? To what extent may these serve to constrain change?

Decision-making

How are decisions made within the sector? Who is making the decisions?

Implementation issues

Once made, are decisions implemented? Where are the key bottlenecks in the system? Is failure to implement due to lack of capacity or other political and economic reasons?

Potential for reform

Who are likely to be the 'winners' and 'losers' from particular reforms? Are there any key reform champions within the sector? Who is likely to resist reforms and why? Are there 'second best' reforms that might overcome this opposition?[b]

Numerous resources are available online for PEA. The Governance and Social Development Resource Centre (GSDRC) Topic Guide is a good starting point.[c]

[b] DFID (2009). Political Economy Analysis How To Note. See also: ODI Analytical Framework for Conducting Political Economy Analysis in Sectors; World Bank Problem Driven Governance and Political Economy Analysis. Available from: https://www.odi.org/sites/odi.org.uk/files/odi-assets/events-documents/3797.pdf

[c] Mcloughlin, C. (2014). Political economy analysis: Topic guide (2nd ed.) Birmingham, UK: GSDRC, University of Birmingham. See: http://gsdrc.org/topic-guides/political-economy-analysis/



Photo credit: Mahtab Haider

7.3. Applying safeguards

There is a tendency to assume that biodiversity finance solutions will have only positive impacts, but this may not necessarily be the case. Imagine the impact that removing an agricultural subsidy can have on the income of farmers, or an increased entrance fee on tourism development of a region. To prevent adverse impacts resulting from implementing finance solutions, social and environmental safeguards should be in place. The concept of safeguards emerged in the 1990s, spearheaded by organizations like the World Bank,[10] to prevent potential negative social and environmental impacts from major investments in infrastructure, agriculture and similar projects. The concept has evolved over time, from 'do no harm' and 'compliance' approaches, to identifying areas for co-benefits across SDGs, such as that of Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+) programme safeguards[11]

Environmental safeguards generally follow the mitigation hierarchy,[12,13] and their goals are:

Strengthen social and environmental outcomes

Avoid negative impacts

Minimize, mitigate and offset negative impacts that are inevitable

Develop capacity for risk management.

Safeguards in biodiversity finance are thus measures for maximizing the protection of biodiversity and people's livelihoods while minimizing negative impacts or, preferably, producing co-benefits instead. Under the CBD framework, countries have committed to applying safeguards to all biodiversity finance mechanisms, as formally agreed at CBD COP 12 in the Republic of Korea in 2014.[14]

a. Appropriate and effective institutional frameworks are of utmost importance for safeguards to be operational and should be put in place, including enforcement and evaluation mechanisms that will ensure transparency and accountability, as well as compliance with relevant safeguards.

b. The role of biodiversity and ecosystem functions for **local livelihoods and resilience**, as well as biodiversity's intrinsic values, should be recognized in the selection, design and implementation of biodiversity finance solutions.

c. Rights and responsibilities of actors and/or stakeholders in biodiversity finance solutions should be carefully defined in a fair and equitable manner, with the effective participation of all actors concerned, including the prior informed consent or approval and involvement of Indigenous People and local communities, taking into account the CBD and its relevant decisions, guidance and principles and, as appropriate, the United Nations Declaration of the Rights of Indigenous Peoples.

d. Safeguards in biodiversity financing mechanisms should be **grounded in local circumstances,** be developed consistent with relevant country-driven/specific processes as well as national legislation and priorities, and take into account relevant international agreements declarations and guidance, developed under the CBD and as appropriate, the United Nations Framework Convention on Climate Change, international human rights treaties and the United Nations Declaration of the Rights of Indigenous Peoples, among others.



Photo credit: Ian Herbert

[10] World Bank. (n.d.). Environmental and Social Policies. World Bank Group. www.worldbank.org/en/projects-operations/environmental-and-social-policies

[11] UNFCCC. (n.d.). Safeguards / REDD+. UNFCCC. https://redd.unfccc.int/fact-sheets/safeguards.html

[12] The decision-making cycle that prioritizes each project's reviewing options for avoiding negative impacts, and if not possible, minimizing and rehabilitating biodiversity loss. If those options are exhausted and biodiversity loss is considered inevitable, deploying biodiversity offsets is a valid, but last resort option.'

[13] Business and Biodiversity Offset Programme (BBOP). http://bbop.forest-trends.org/pages/mitigation_hierarchy

[14] CBD 12th meeting (2014). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity. XII/3 Resource Mobilization. www.cbd.int/doc/decisions/cop-12/cop-12-dec-03-en.pdf

Which finance solutions require attention for safeguards? All of them. However, the degree of the application of safeguards and due diligence on risks vary. Cost-benefit analysis and impact considerations are measured differently across solutions. Some finance solutions, such as a tax reform, would not require compliance with safeguards, but would be recommended only after their impact is assessed, for example, on farmers' income. Instead, an impact investment in a certain area would require a project-specific assessment in line with UNDP or other guidance material. Several organizations, public agencies in countries where BIOFIN is implemented, have frameworks that can be used as reference. Some are legislated, requiring the conduct of strategic or environmental impact assessments. UNDP has developed a system of screening and managing social and environmental impacts that can be applied to projects and initiatives above a certain value threshold.

Any finance solution with potential impact on areas where indigenous or vulnerable groups live or that may have a significant impact on nature and ecosystems requires attention, for example, investments in sustainable tourism in remote locations. These finance solutions must be developed in consultation with local communities and adapted to relevant cultural aspects and language.

While the BFP should have screened all finance solutions to ensure that there is a positive impact on biodiversity, it is useful to continue monitoring this impact. Several solutions, for example, generic green lending facilities, may bring about positive effects but without a positive impact on conservation. **The ultimate aim is to improve the state of biodiversity, not to increase biodiversity finance for its own sake.** This is important when teams look at opportunities for financing under climate change, renewable energy and extractive industries.



Photo credit: Mahtab Haider

7.4. Monitoring and evaluation frameworks for individual finance solutions for biodiversity finance programmes

Each finance solution needs to have its own unique framework for M&E. At the time of writing, an estimated 427 finance solutions are being implemented by BIOFIN; while they vary greatly, a number of elements is universal and applicable for most finance solutions.

Safeguards as a finance solution

Applying biodiversity safeguards in the financial sector or other investment operations is a finance solution per se.

The application of biodiversity safeguards or the promotion of standards that include biodiversity standards (e.g. the Equator Principles) will ensure that biodiversity is not negatively affected by investments and that opportunities for positive impacts are explored. Examples include the integration of biodiversity safeguards in green bonds, energy funds and carbon offset schemes such as how BIOFIN Indonesia integrated biodiversity safeguards to the sovereign Green Sukuk.

Outcome targets

Applying biodiversity safeguards in the financial sector or other investment operations is a finance solution per se. The application of biodiversity safeguards or the promotion of standards that include biodiversity standards (e.g. the Equator Principles) will ensure that biodiversity is not negatively affected by investments

Output targets

The outputs are what can be 'controlled', i.e. the results from an intervention, and need to be defined as such. Examples of outputs may be draft legislation, draft budget proposals, diagnostic studies, or number of people trained.

Intermediate steps

A successful M&E system will include all the intermediate steps needed to achieve the main outcome target. For example, for a finance solution to work, a combination of sub-outputs usually needs to be achieved, such as improved awareness, enhanced capacities, additional legislative and regulatory documents produced, and diagnostic studies completed. This combination represents the theory of change of a finance solution.

Baseline information

Once the target is defined, it will be important to select the baseline. For most finance solutions this will include a quantitative number to reflect the 'before BIOFIN scenario'. When dealing with public budgets, it is recommended to look at recent budget trends, and where needed, select a multi-year baseline figure or avoid outliers, i.e. the years when budgets were cut due to the COVID-19 pandemic.

Attribution

It is important to be inclusive. Many financing solutions have benefited from inputs by multiple partners over a longer period. When reporting back, adequately reflect the contribution of all these partners. It is also critical to highlight whether BIOFIN or another team/programme has been the primary contributor. This aims to ensure against double counting of ODA results across multiple platforms. For example, when BIOFIN is not the primary contributor to access GEF/GCF funding, but rather another unit at UNDP, this should not be reported as a quantitative result. Instead, a description should be provided of BIOFIN's exact contribution.

Documentation

A step commonly overlooked is documenting evidence of a result. For example, if a budget increase was realized, it is important not to base this on verbal information but rather, to obtain a copy of the budget for records to verify any statement of results.

Reporting

Results of a finance solution need to be reported throughout its effectivity which may outlive BIOFIN implementation. For example, if a financial solution consists of changing a certain type of fee, this will need to be monitored for the following years provided that the revised fee is in place, and this should go beyond the lifetime of a project intervention. In such cases, the responsibility for reporting shifts to government partners or implementors. This process is known as ex-post monitoring . It is recommended that monitoring continue for at least five years after the last activities are completed.

Tracking tool

BIOFIN has developed a tracking tool that is tailored for monitoring the implementation of a BFP. It includes indicators for which data are monitored in each country, enabling comparison and aggregration of progress across countries.

Despite the great variety among the structure, sources and governance of the different solutions that exist, we recognize several generic M&E principles as vital guidance. The following questions are generic and can be adapted for a specific finance solution and complemented by other relevant queries:

Organizational

Are all operational procedures clearly defined and respected?
Do the required governing mechanisms operate as planned?
Are appropriate communication channels in place to inform stakeholders about the use of the funds?
Is there sufficient capacity to implement the finance solution? Is the right profile of team members available?
Are any gaps observed in terms of the national legislation, regulations and by-laws, terms of reference or other legal documents that are not included in the finance solution?

Finance

- To what extent are funds or savings actually allocated towards biodiversity objectives?
- Did any barriers emerge in disbursing/collecting the required finance?
- Are accountability and grievance mechanisms (e.g. auditing, inspections) operational?

Monitoring and evaluation

Are effective M&E systems in place?
Are proper social and environmental safeguards in place? Are the rights of indigenous groups and other local communities affected?
Is the solution informed by gender analysis and are gender-positive outcomes being achieved?
Are any other aspects observed that prevent the solution from succeeding? How can they be remediated?
Are there mechanisms in place to guarantee long-term sustainability, scaling up or replication?



Photo credit: UNDP Thailand

Box 7.3: National Biodiversity Strategy and Action Plan, and its financing

BIOFIN Philippines supported the Biodiversity Management Bureau (BMB) of the Department of Environment and Natural Resources (DENR) to set up a monitoring platform with the following objectives: (i) monitor the Philippines' National Biodiversity Strategy and Action Plan (NBSAP); (ii) mobilize resources; (iii) gather information on current actions on biodiversity conservation; (iv) educate platform visitors; and (v) track biodiversity-relevant financial flows. Some of its functional features are: multi-level access of information (provincial to regional to national) and entry with a validation mechanism; real-time information about biodiversity status, threats, interventions needed, public and private biodiversity expenditures and funding opportunities; statistics, interactive web maps, infographics and other forms of data visualization; categorization of project financing sources with links to crowdfunding campaigns and other resource mobilization activities; and the ability to communicate with other BMB information systems.

This system will be the first of its kind in the country and will be interoperable with other data systems within the Department of Environment and Natural Resources (DENR). It will be a very important tool to inform biodiversity conservation planning, programming, targeting and budgeting. Being a credible data source, it will also facilitate project development and funding from various sources. To optimize the platform, BMB collaborates with the Climate Change Commission (CCC) to complement it with their National Integrated Climate Change Database Information and Exchange System. The System serves as the primary enabling platform of the CCC in consolidating and monitoring data and information on climate change and climate action, as well as on biodiversity expenditures.

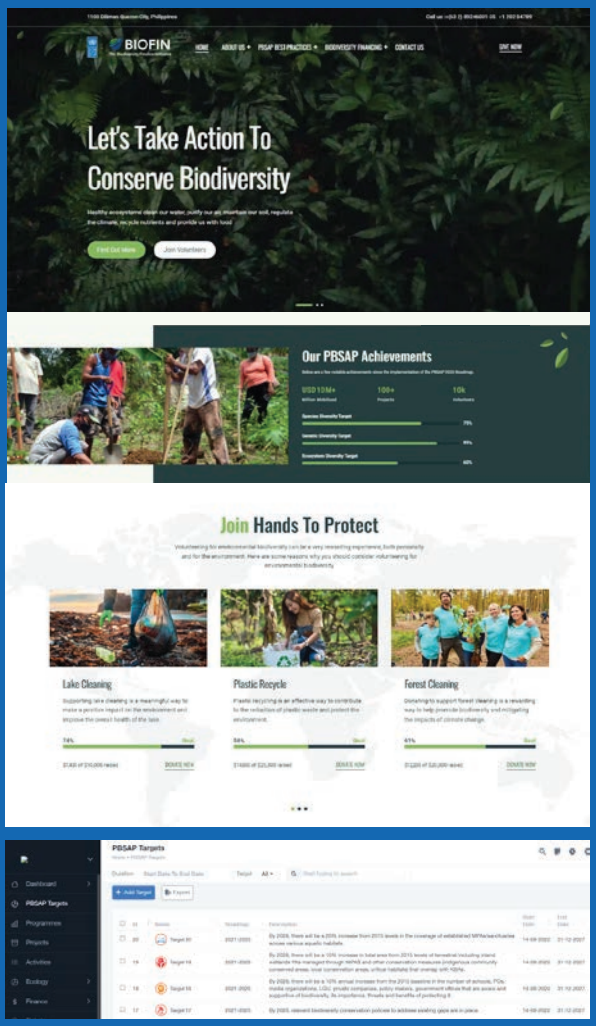




Photo credit: Stephen Hogg WWF Malaysia
The global wild tiger population has suffered a devastating decline in just over a century, losing more than 96% of their historic range. In 2024, UNDP and its partners launched the Tiger Landscapes Investment Fund, a financial tool designed for tiger conservation.

7.5
The future of biodiversity finance: 2030 and beyond

BFPs became part of the CBD in 2022. Around 140 countries started developing them and more may follow. It has been quite a journey from 2010, when the idea for national BFPs first emerged, to 2013–2014 when the first pilot projects began in 12 countries, and then to 2019–2020, when the first cohort of countries started implementation. Initial results from implementation are encouraging.

Countries have reported over $1 billion in finance results to date, using a variety of financing solutions such as PA budgeting, green bonds, green credits, ecological fiscal transfers, carbon offsets and fintech applications. Countries are increasingly monitoring biodiversity expenditures in a systemic manner, now tracking over $1 billion per year across countries that have adopted biodiversity budget tagging (e.g. Indonesia, Mexico, Malawi).



Photo credit: Mahtab Haider

The finance gap is still daunting at the global level, but it should be kept in mind that the number of the first countries that began implementing their BFPs represent only one-fifth of all global countries, and each of their finance gaps are commonly below $1 billion per year. The results to date demonstrate that a process strongly led by various national stakeholders can yield strong outcomes. But what lies ahead for the BFPs? The needed developments along five axes are described below.

1. Scale up the implementation of finance solutions

In most countries, the finance solutions in their BFPs are not fully funded and in 100 countries, which began developing new BFPs, it is essential that technical assistance be provided to them during the implementation stage. The Finance for Finance Network is an informal network within BIOFIN which was created for this purpose, and countries are encouraged to participate. This should ultimately result in a global compendium or platform highlighting underfunded biodiversity finance solutions.

2. Continue to institutionalize the plan and its solutions

Countries need to continue making progress to integrate the various elements of the BFP into their governance structures. To achieve this, they should maintain databases of their financing mechanisms and of harmful subsidies. They can adopt biodiversity budget tagging to institutionalize the BER. FNAs can be embedded further into national planning process. Systemic screening of subsidies to detect potential adverse impacts on nature needs to be enhanced in most countries. In the long term, national academic and civil service training centres must create strong curricula on biodiversity finance.

3. Periodically update the plan and its portfolio of solutions

Depending on the context, changes in the portfolio of financing solutions will be required at some point. It is essential that new financing solutions undergo the same design process of those already included in a BFP. It is unlikely that the issue of biodiversity loss will be addressed by 2030. Countries need to have a permanent structure in place to manage their portfolio of biodiversity finance solutions.

4. Expand the global community of practice

With over 150 types of financing solutions documented and counting, there is much that countries can learn from each other. They need to continue engaging in global conferences, regional dialogues and online platforms.

5. Continue to develop the BIOFIN Workbook and associated tools

The BIOFIN Workbook is a highly practical tool. In an ever-changing global context, it will always need updating. Priority areas include improving guidance on climate change adaptation and mitigation, and promoting gender equality. Supplementary guidance is helpful in many areas, complementing BIOFIN's guidelines –- "The Nature of Subsidies" and "Results-Based Budgeting for Biodiversity".



Photo credit: Mahtab Haider
The Long-tailed Potoo - a nocturnal bird species of South America - is also a master of camouflage, blending perfectly into the tree trunk it perches on during the day.

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