Building Transformative Policy and Financing Frameworks to Increase Investment in Biodiversity Management (BIOFIN)

Quick guide - V8

WORKING VERSION

This project is co-funded by the European Union

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Umwelt BAFU
Office fédéral de l'environnement OFEV
Ufficio federale dell'ambiente UFAM
Uffizi federal d'ambient UFAM

UNDP
Empowered lives.
Resilient nations.

INTRODUCTION

The world faces unprecedented and irreversible losses of biodiversity (MEA, 2005). Species extinction rates are approaching 1,000 times the evolutionary background rate (CBD, 2010a), and these rates may climb to over 10,000 times the background rate if present trends in species loss and climate change continue (May et al., 2002). As many as 70 percent of the world's known species are at risk of extinction by 2100 (Rosser and Mainka, 2002). These trends have profound implications for human welfare, particularly for the world's poorest communities, who depend disproportionately upon biodiversity and ecosystem services for the basic necessities of life (UNEP, 2010). In recognition of these losses, and the immeasurable value of biodiversity and ecosystems in sustaining human life, 193 of the world's governments agreed in 2010 to an ambitious set of 20 targets for biodiversity conservation, sustainable use and equitable benefits sharing, as part of the Strategic Plan for Biodiversity (CBD, 2010).[1] These targets, known as the Aichi Biodiversity Targets[2] cover a broad range of biodiversity-related issues that fall into five strategic goals: a) addressing the underlying causes of biodiversity loss by mainstreaming biodiversity across governments and society; b) reducing the direct pressures on biodiversity and promoting sustainable use; c) improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity; d) enhancing the benefits to all from biodiversity and ecosystem services; and e) enhancing implementation.

Target 17 calls for each country to revise their National Biodiversity Strategies and Action Plans (NBSAPs) in line with the Aichi Biodiversity Targets. One of the most important shortcomings of the first round of NBSAPs was that they did not clearly identify the costs required to implement the strategies and actions, and they nearly all lacked a robust resource mobilization plan (Prip et al., 2010).Target 20 calls for countries to assess the financial resource needs and to mobilize financial resources for effectively implementing the CBD Strategic Plan at a national level. In addition, Decision X/3 of the 10th Conference of the Parties (COP) of the CBD requests Parties to report on funding needs, gaps, and priorities related to national implementation of the resource mobilization strategy, and to prepare national financial plans for biodiversity. The BIOFIN Workbook provides tools and resources to help countries achieve Target 20 and associated COP decisions.

The approach to resource mobilization described in this Quick Guide follows the BIOFIN workbook and includes 3 parts. Part I is a review of biodiversity-related policies, institutions and expenditures. This information provides the basis for understanding a) the underlying policies and practices that drive biodiversity and ecosystem change; b) the key institutions involved, their role in biodiversity finance and planning, financing, and their capacities; and c) the baseline of existing biodiversity-related expenditures, with both positive and negative impacts on biodiversity, and the effectiveness of those expenditures.

Part II is an estimation of the full costs of implementing each of the biodiversity strategies within the revised NBSAP. These strategies are grouped into 5 main categories: a) biodiversity mainstreaming strategies (Aichi Targets 1 – 10); b) protection strategies (Aichi Targets 11-13); c) restoration strategies (Aichi Targets 14 and 15); d) access and benefits sharing strategies (Aichi Target 16); and e) enabling strategies (Aichi Targets 17 – 20). Part II also includes an assessment of finance gap, based on a comparison of the 'business as usual' finance scenarios versus the total estimated costs of implementing new biodiversity strategies.

Part III includes the identification and prioritization of potential finance actors and mechanisms, and the development of specific resource mobilization strategies and actions to fill the finance gap.

The basic steps in the NBSAP development process, shown below, correspond closely with the steps in assessing financial needs and mobilizing financial resources. The purpose of the BIOFIN Workbook is to provide step-by-step guidance in undertaking those steps that are directly related to assessing financial needs and mobilizing financial resources required to implement the NBSAP.

Steps in developing an NBSAP	Steps in developing a resource mobilization plan
1. **Get organized** – organize logistics and take stock of past NBSAPs	1. **Get organized** – organize the logistics of the team that will work on resource mobilization
2. **Engage and communicate with stakeholders** – identify relevant stakeholders and develop a communication and outreach plan	2. **Engage and communicate with stakeholders** – identify relevant finance stakeholders and engage them in discussions about the resource mobilization process
3. **Gather key information** – including status and trends of biodiversity; linkages between society and biodiversity; legal, institutional and policy environment; biodiversity finance; status of public awareness; and knowledge gaps	3. **Gather key information** -- based on information on status and trends in biodiversity; gather information about the policy and practice drivers of change (Workbook 1A); the key actors and institutions (Workbook 1B); and the biodiversity-related expenditures (Workbook 1C)
4. **Develop strategies and actions** – establish a national vision; set national targets; identify specific strategies and actions	4. **Develop costs for strategies and actions** – Based on the strategies identified by the NBSAP team, the resource mobilization team then develops a comprehensive view of total costs (Workbooks 2A and 2B)
5. **Develop implementation and resource mobilization plans** – identify specific actors, timelines and costs for each action; develop resource mobilization plan; ensure strategies are incorporated into national frameworks; finalize indicators and implement clearinghouse mechanism	5. **Develop resource mobilization plans** – based on the NBSAP implementation plan, and the results of Workbooks I and II, develop robust, realistic resource mobilization plan (Workbooks 3a and 3b)
6. **Implement the NBSAP** – Engage stakeholders; implement key strategies and actions; and mobilize financial resources	6. **Implement the resource mobilization plan** – implement the resource mobilization plan; mobilize financial resources
7. **Monitor and report** – Develop national reports; communicate the results of the NBSAP	7. **Monitor and report** – review the effectiveness of resource mobilization strategies and adapt the approach accordingly

[1] The Strategic Plan for Biodiversity 2011-2020 applies not only to the Convention on Biological Diversity, but also to other United Nations conventions (see Appendix B for more details).

[2] See Appendix A for the full set of Aichi Biodiversity Targets, and Box 4 for a summary version.

implementation; and review and adapt priorities based on implementation results	

The goal of this Quick Guide is to assist countries in transforming national biodiversity finance, and thereby enabling them to implement their NBSAP and achieve the Aichi Targets. NBSAPs are more than a set of plans; they are a pathway to national and global sustainable development, and they are our best hope for fully integrating biodiversity into sectoral development and poverty alleviation efforts, and for transforming the unsustainable trajectory of development. NBSAPs are the national articulation of the future vision that each country desires, and this Quick Guide describes an approach to help countries achieve this vision.

AICHI TARGETS

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

- **Target 1**: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
- **Target 2**: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
- **Target 3**: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.
- **Target 4**: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

- **Target 5**: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
- **Target 6**: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
- **Target 7**: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
- **Target 8:** By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.
- **Target 9:**:By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
- **Target 10**: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

- **Target 11**: By 2020, at least 17 percent of terrestrial and inland water, and 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider land- and seascapes.
- **Target 12**: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
- **Target 13**: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

- **Target 14**: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.
- **Target 15**: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and combating desertification.
- **Target 16**: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

- **Target 17**: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.
- **Target 18**: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

- **Target 19**: By 2020, knowledge, the science base and technologies related to biodiversity, its values, functioning, status and trends, and the consequences of its loss are improved, widely shared, transferred and applied.
- **Target 20**; By 2020, the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

PART I: Reviewing biodiversity policies, institutions and expenditures

Workbook 1A: Policy and Practice Drivers of Biodiversity and Ecosystem Change

Workbook 1A identifies the specific practices that result in both positive and negative trends in biodiversity and ecosystems, identifies the broader forces, policies and policy factors that drive these practices, and examines the broader overall policy environment within which these practices and policies exist. In completing Workbook 1A, planners should begin by keeping in mind the most important status and trends in biodiversity and ecosystems and associated human wellbeing. Based on these, they can then articulate the specific practices and policies that contribute to both positive and negative biodiversity trends, and identify the key factors within the broader policy environment that either promote or inhibit sustainable policies and practices related to biodiversity. As a result, planners will be well equipped to identify the specific actors and institutions responsible for these practices and policies as part of Workbook 1B.

BIODIVERSITY MAINSTREAMING POLICIES AND PRACTICES

Biodiversity mainstreaming is defined as "*the integration of biodiversity components and goals into key sectoral plans and policies, using specific mainstreaming instruments*." This section needs to provide answers to the following questions on policies and practices related to biodiversity mainstreaming:

- **Which economic and development sectors** are the most important in driving both negative and positive biodiversity trends?
- What are the **most important practices and policies** within each sector that are driving these trends?
- What are the **market forces and policy factors** that contribute to these sectoral practices?

This is a checklist of key sectors to consider when assessing mainstreaming policies and practices:

Integrating biodiversity…		**…into sectoral plans and policies…**		**…through a variety of approaches**	
Biodiversity goal	Components of biodiversity	Natural resource sectoral plans	Development plans, cross-sectoral plans	Policy and planning	Economic approaches and education
○ Minimize or mitigate threats ○ Restore, improve or maintain ecological integrity ○ Improve protection status ○ Ensure ecological resilience and adaptation	○ Genetic diversity ○ Species and species habitats ○ Populations ○ Ecological processes, functions Landscapes ○ Ecosystems	• Agriculture • Forestry • Fisheries • Freshwater management • Grazing, grassland management • Wildlife management	• Transportation • Poverty alleviation • Tourism and recreation • Energy • Climate adaptation • Manufacturing • Infrastructure • Mining and minerals	• Policy and legal reform • Protected areas, corridors, buffer zones • Management practices and policies • Strategic environmental assessments (SEA/EIA) • Spatial planning and land use planning	• Public-private partnerships • Market-based certification • Voluntary best practices • Economic valuation • Payment for ecosystem services • Technical support • Biodiversity offsets

BIODIVERSITY RESTORATION POLICIES AND PRACTICES

In this section, planners identify the extent to which existing restoration practices and policies affect trends in biodiversity and ecosystem change. Restoration is the process of intentionally returning a damaged species or ecological system to a stable, healthy, and sustainable state, either through active or passive management techniques.

Key questions for policies and practices related to restoration

- ○ Which restoration practices on government, private and community-owned lands and waters are the most important in driving negative and positive trends in biodiversity?
- ○ What are the most important social, economic and policy factors that contribute to these restoration practices?

Checklist of best practices and policies for restoration

Restoration of natural disturbances efforts:	***Control of harmful invasive species efforts:***
• Mimic the frequency and intensity of natural disturbances, such as fires, floods • Reestablishment nutrient cycling	• Are consistent with national invasive alien species plans • Aim at removing invasive species that threaten ecological integrity

• Maintain or reinstate cultural practices that contribute to ecological integrity	• Identify native species as competitors with invasive species • Focus on avoiding the introduction of invasive species
Species reintroductions efforts: • Focus on restoring components of food webs that foster resilience • Use native species in re-introduction programs • Are consistent with species recovery plans • Aim at sufficient genetic diversity to maintain viable populations	***Recreation of native communities or habitats efforts:*** • Allow areas to recover naturally where degradation is minor • Stabilize soil surfaces, stream banks and shorelines through re-initiation of natural processes • Favor a mix of species and genotypes that will facilitate establishment of other native species • Use native genetic material
Management of over-abundant populations • Aim at identifying and rectifying the cause of over-abundant populations • Duplicate the role of natural processes	***Hydrology restoration efforts:*** • Maintain or restore natural hydrologic flow regimes • Restore features, such as woody debris, gravel bars, pools Remove structures such as dams and artificial channels
Water and soil quality • Restoration efforts use in-situ techniques (e.g., phytoremediation) where practical • Restoration efforts restore quality of surface waters, groundwater and soil	***Efforts to improve the abiotic environment*** • Restoration efforts remove constructed features (e.g., roads, buildings) • Restoration efforts amend soil with local, natural organic material
Landscapes and seascapes efforts • Foster ecosystem connectivity and reduce fragmentation • Ensure redundancy at all trophic levels	

Source: Wong, M. 2009

BIODIVERSITY ACCESS AND BENEFITS SHARING POLICIES AND PRACTICES

Access and benefits sharing refers to the fair and equitable sharing of the benefits arising from the utilization of genetic resources. In this section, planners identify the extent to which existing access and benefits sharing (ABS) practices and policies affect trends in biodiversity and ecosystem change.

Key questions for policies and practices related to access and benefits sharing that need to be answered through the assessments:

- Which ABS practices are most important in driving negative and positive biodiversity trends and/or in driving inequitable sharing of benefits?
- What are the most important contributing factors to these ABS practices?

Checklist of best practices and policies for access and benefits sharing

Prior Informed Consent ○ Obtain and comply with all applicable laws and regulations regarding prior informed consent ○ Identify the national competent authority and determine ownership of genetic resources ○ Establish consultation processes with key stakeholders	***Mutually Agreed Terms*** ○ Comply with all applicable laws and regulations regarding benefit-sharing in the country ○ Ensure mutually agreed terms are established in a written agreement
○ Ensure that genetic resources are only used as outlined in the prior informed consent agreement ○ For *ex situ* collections, obtain prior informed consent from the competent national authority	○ Include any conditions, procedures, types, timing and mechanisms to be shared ○ Include the source of material, country of origin and provider of genetic resources, along with associated traditional knowledge
Benefit sharing ○ Consider possible monetary and non-monetary benefits ○ Determine benefit-sharing mechanisms jointly ○ Provide appropriate benefits to research and conservation groups ○ Identify opportunities in the collection location for participation in value-added processes ○ Seek the original provides for re-supplying material ○ Establish appropriate monitoring, tracking and reporting mechanisms in the legal arrangements	***Traditional knowledge*** ○ Establish a process to promote participation of indigenous and local communities ○ Identify all holders of traditional knowledge, local competent authorities and other key groups ○ Consider benefit-sharing mechanisms for knowledge stakeholders not participating in access negotiations ○ Suspend collection if traditional knowledge holders decide that the research is not acceptable ○ Demonstrate respect for traditional knowledge
Conservation and sustainable use • Assess the current conservation status of the species and populations to be sampled or collected, according to the IUCN Red List • Assess current habitat status and any critical environmental concerns, using a combination of scientific methods and local/traditional knowledge • Assess genetic diversity of species of interest for domestication and cultivation • Monitor the status of the resources to ensure harvest does not exceed sustainable yield levels	

Source: IISD, 2012

BROADER ENABLING FACTORS AND ENABLING POLICY ENVIRONMENT

The table below shows some of the many factors that planners might consider when understanding how broader enabling factors that influence policies and practices, which in turn influence biodiversity. Planners may also want to consider broader policy environment factors, such as political will, leadership, lobbying by interest groups, public media, inter-sectoral coordination, public participation and inter-agency alignment, among other factors.

	Contributing factors for biodiversity mainstreaming	**Contributing factors for protection**	**Contributing factors for restoration**	**Contributing factors for access and benefits sharing**
Laws and policies	• Laws related to each sector • Enforcement and prosecution of illegal practices	• Protected areas laws • Enforcement of illegal activities • Laws related to illegal trade of species	• Laws related to restoration • Enforcement of restoration requirements	• Laws related to access and benefits sharing • Enforcement of ABS agreements

Subsidies and incentives	• Incentives for sectoral practices • Perverse subsidies that drive unsustainable practices	• Incentives for the creation of new private protected areas, corridors • Fees, taxes, fines and other instruments	• Incentives for restoration • Restoration fees, taxes, fines	• Incentives for activities related to access and benefits sharing
Policy and planning	• Quality and use of existing land use plans • Sectoral policies and plans that promote sustainable sectoral practices	• Degree of existing protection • System- and site-level protection policies • Status of key protected area assessments	• Existing restoration plans, identification of degraded areas • Extent to which key ecosystem services and climate resilience sites are identified	• National policies and plans related to ABS • Degree of prior informed consent • Existence of mutually agreed terms
Soci0o-economic conditions	• Poverty • Awareness of the value of biodiversity to key sectors	• Awareness of the value of protection • Dependence on protected areas for livelihoods, subsistence	• Poverty, inequity and other conditions that drive degradation • Awareness the value of restoration to key sectors	• Awareness of key sectors of the importance of ABS • Degree of recognition of traditional knowledge
Market forces	• Independent certification of • Market competition • International trade • Market prices, stability and volatility	• Market demand for products within protected areas • Market demand for protected area ecosystem services	• Market demand for ecosystem services provided through restoration • Degree of existing degradation	• Market demand for products falling under ABS agreements

Workbook 1B: Institutional review

The purpose of a biodiversity institutional review is to clearly identify the specific institutions involved in policies, practices, expenditures and strategies related to biodiversity mainstreaming, protection, restoration and access and benefit sharing. By identifying these key institutions and by analyzing the alignment with sustainable development and biodiversity goals, planners can pinpoint key areas for fiscal reform and resource mobilization.

Key questions for an institutional review include:

- **Roles in biodiversity planning and finance:**
  - What specific role does the institution play in biodiversity-related finance?
  - In what ways does the institution influence biodiversity finance decisions?
  - How stable is this role?
  - How clear are roles and responsibilities for biodiversity conservation, sustainable use and equitable benefits sharing between different government departments and within and between ministries?
- **Biodiversity impacts and dependencies**:
  - To what extent does the institution have a negative and positive impact on biodiversity?
  - How dependent is this sector on healthy and functioning biodiversity and ecosystem services?
- **Alignment with national biodiversity-related objectives:**
  - Does institutional collaboration and coordination on biodiversity need to be strengthened? If so, how?
  - Are the organizational structures compatible with biodiversity policies and strategies, as well as their legal mandates?
  - How consistent are the institution's policies with national biodiversity policies? Are there areas of conflict?
- **Overall institutional capacity:**
  - What is the capacity of local government to fulfil any service delivery role related to biodiversity?

Source: Bird et al., 2012

Checklist of key institutions to consider

Public actors: ○ Central government & ministries ○ District/local government ○ Governmental institutions ○ Public research institutions and academia	**Private actors:** ○ Private foundations ○ Private communities ○ Private associations
Private sector/business actors: ○ Business ○ Industry ○ Private research institutions and academia ○ Private sector foundations	**International organisations:** ○ Multilateral institutions ○ Bilateral donors ○ International NGOs

Workbook 1C: Public and private biodiversity expenditure review

A biodiversity expenditure review is an analysis of the key biodiversity-related expenditures, including expenditures with both positive and negative impacts on biodiversity, by public and private financial actors, agencies, investors and institutions. A biodiversity expenditure review is the basis for setting a financial baseline, as well as for developing a 'business as usual' finance projection for the future.

Key questions for a biodiversity expenditure review include:

- What is the total government budget for the past 4-8 years?
- What is the total government expenditure for the past 4-8 years?
- What is the total amount of foreign loans and grants for the past 4-8 years?
- What has the gross domestic product been for the past 4-8 years?
- What are the key biodiversity finance actors, agents, institutions and investors?
- What are the specific divisions, departments or companies within each finance actor?

- What are the cost codes or cost centers that can be used to determine total biodiversity expenditure?
- What is the total annual budget for the past 4 years for each finance actor?
- What is the total biodiversity-related budget for the past 4 years for each finance actor?
- What is the total actual expenditure for the past 4 years for each finance actor?
- What is the total actual biodiversity expenditure for the past 4 years for each finance actor?
- What is the effectiveness of biodiversity-related expenditures for each finance actor over the past 4-8 years?
- What have been the most significant expenditures with negative impacts on biodiversity in the past 4-8 years for each actor?
- What is the source of funding for each finance actor, and the breakdown of biodiversity expenditures into each major NBSAP strategy?

Examples of expenditures with a negative impact on biodiversity include:

- Subsidies for polluting industries and activities, such as fossil fuels, pesticides
- Production practices that are not resource efficient
- Incentives to convert natural ecosystems to agriculture, development
- Expenditures directly connected to the destruction of biodiversity, e.g. logging, over-harvesting of species, conversion of natural ecosystems
- Subsidies for manufacturing industries that pollute waterways
- Subsidies for housing that results in conversion of sensitive habitats
- Investment in roads that result in isolation and fragmentation

Relevancy and effectiveness

Two key issues are expenditure relevancy (the degree to which expenditures are relevant to biodiversity outcomes, whether intended or unintended, and whether having a positive or negative impact on biodiversity) and expenditure effectiveness (the degree to which the expenditure achieves the specific intended results).

Guidance on determining relevance of expenditures:

High relevance	Expenditures for activities where the primary intended outcome or objective aims at biodiversity conservation, sustainable use or equitable benefits sharing
Medium relevance	Expenditures for activities where either the secondary intended outcome or objective is biodiversity conservation, sustainable use or equitable benefits sharing; or there is a mixed range of activities, some of which include primary or secondary intended outcomes for biodiversity objectives
Low relevance	Expenditures for activities where indirect biodiversity benefits may arise, but not as a direct or indirect objective of the expenditure or activity
Very low relevance	Expenditures that have only very indirect or theoretical linkages to biodiversity conservation, sustainable use or equitable benefits sharing

Guidance on determining effectiveness of expenditures

High	The expenditure fully met the intended objectives, with little or not waste (e.g., funds were spent to create a new protected area, which was successfully established)
Medium	The expenditure partially or mostly met the intended objectives, with some acceptable levels of waste and inefficiency (e.g., funds were spent to eliminate invasive alien species, with partial success)
Low	The expenditure mostly did not meet the intended objective; and/or there were moderate to high levels of waste and inefficiency (e.g., funds were spent to plant trees, with high levels of mortality)
Very low	The expenditure did not meet, or only marginally met, the intended objectives; and/or there were excessive amounts of waste (e.g., funds were spent on training with high staff turnover)

PART II: Defining the costs of implementing National Biodiversity Strategies and Action Plans

Workbook 2A: Biodiversity Strategies, Actions and their Costs

Workbook 2A helps to provide a summary of all of the costs involved in implementing the biodiversity strategies within the NBSAP. It includes 5 sections, each covering the one-time and recurring costs of different categories of strategies within the NBSAPs, including:

1. ***Costs of biodiversity mainstreaming and sustainable use strategies***: A summary of the one-time and recurring costs for 2015-2016; 2017-2018; and 2019-2020 for biodiversity mainstreaming and sustainable use strategies, including strategies related to the integration of biodiversity into sectoral, development and poverty alleviation and into sustainable use, production and consumption of biodiversity resources

2. ***Costs of protection strategies***: A summary of the one-time costs and recurring costs for 2015-2016; 2017-2018; and 2019-2020 for protection strategies, including *in situ* and *ex situ* strategies.
3. ***Costs of restoration strategies***: A summary of the one-time costs and recurring costs for 2015-2016; 2017-2018; and 2019-2020 for restoration strategies, including the maintenance of essential ecosystem services, strengthening climate resilience, and promoting adaptation and mitigation.
4. ***Costs of access and benefits sharing strategies***: A summary of the one-time costs and recurring costs for 2015-2016; 2017-2018; and 2019-2020 for access and benefits-sharing strategies, including strategies related to securing prior informed consent, mutually agreed terms, benefits sharing arrangements, traditional knowledge, conservation and sustainable use of key ABS species, and legal enforcement of agreements, among others.
5. ***Costs of implementation strategies:*** A summary of the one-time costs and recurring costs for 2015-2016; 2017-2018; and 2019-2020, for implementation strategies, including strategies related to public outreach and communication, and strategies related to knowledge, research, data and data management, among others.

The vast majority of strategies will have several sub-strategies, each of which will have numerous actions. This table is intended to be used for each action within each strategy or sub-strategy.

CALCULATING THE COST OF SPECIFIC ACTIONS									
Strategy:					**Intended result of strategy:**				
Action 1:					**Intended result of action:**				
Information on estimated costs for this action			Human resources	Equipment, materials	Fees and services	Travel	Other costs	Total	Data and assumptions
One-time costs/investment **Year:**	Description of cost element								
	Unit of cost element								
	Estimated units required	High							
		Total estimated range of cost	High						
		Low	Medium						
		High	Low						

	Estimated cost per unit	Information on estimated costs for this action	Human resources	Equipment, materials	Fees and services	Travel	Other costs	**Total**	Data and assumptions
		Description of cost element							
		Unit of cost element							
		Estimated units required	High/ Medium / Low						
On-going operations and management: 2015-2016 **(to be repeated for other periods)**			Estimated cost per unit	High					
				Medium					
			Low						
		Total estimated range of cost	High						
			Medium						
			Low						
		Information on estimated costs for this action	Human resources	Equipment, materials	Fees and services	Travel	Other costs	**Total**	Data and assumptions
		Description of cost element							
		Unit of cost element							
		Estimated units required	High						
			Medium						
			Low						

Workbook 2A is intended to be used as a reporting worksheet, not as a data management system for calculating costs. This approach, as well as Supplementary Worksheet 26 on "Calculating the Costs of Specific Actions," are based on a model of cost accounting. Cost accounting is a process of collecting, analyzing, summarizing and evaluating alternative courses of financial investment in order to allow managers and policy makers to make informed decisions about the most cost-effective course of action. The particular approach used in the BIOFIN Methodology is called "Activity-Based Cost Accounting." This type of cost accounting, which was developed in the manufacturing sector in the 1970s and 1980s, is a methodology that allows planners to identify

key activities required to achieve a certain objective, assign the direct and indirect costs of undertaking each activity, and develop budgets.

This approach to budgeting and accounting contrasts with the budgeting process used by many governments. While actual budgeting approaches very between governments, many use a simple "line-item budgeting" approach, where a budget is determined largely as the result of a political negotiations, or is a percentage of previous annual budgets, with minimal linkages to the explicit goals or objectives to be accomplished.

Most governments use a more sophisticated approach than activity-based cost accounting, involving algorithms and models to factor in the costs of alternative courses of action (including the costs and benefits of inaction), the intended results of the expenditures, and the estimated return and cost effectiveness of the investment, among other elements. The simple activity-based cost accounting model presented in the BIOFIN Methodology is simply a tool to gauge the actual investments required to complete the Strategies and Actions within the NBSAP. Governments participating in the BIOFIN Initiative can choose to use their own systems to calculate costs and benefits, and simply report on the overall cost of implementing the NBSAP when they complete the BIOFIN national report. If governments do not have complex modeling systems to determine the tradeoffs between costs and benefits, they can still use the costs identified through Workbook 2A and Supplementary Workbook 26, to compare different investment scenarios and to effectively make the case for investments in biodiversity to key decision makers within their countries. The Targeted Scenario Analysis can be particularly helpful in that step.

Workbook 2B: Overall costs, projected expenditures and finance gaps

Once the costs for all strategies and actions have been identified, the next step is to summarize all of these costs. These costs can then be compared with the past financial baseline, as well as the projected future.

Sample of high, medium and low costs for a specific strategy and actions

Create connectivity corridor	Cost elements	High	Med	Low
Land acquisition	Staff, materials, travel, land acquisition	250K	175K	125K
Inventory and site analysis	Staff, materials, travel	125K	100K	75K
Community training program	Staff, materials, travel	450K	350K	250K

Sample spreadsheet showing elements that should be captured at this stage:

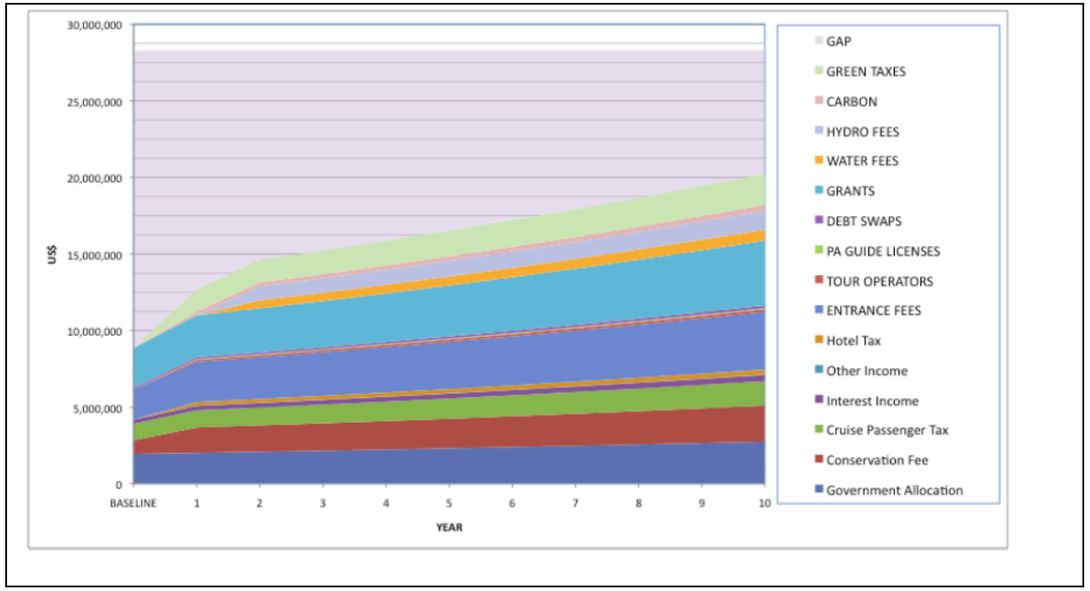
COST OF IMPLEMENTING NEW NBSAP STRATEGIES – RECURRING COSTS									
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Total
TOTAL RECURRING COSTS OF ALL STRATEGIES									
COST OF IMPLEMENTING NEW NBSAP STRATEGIES – ONE-TIME COSTS									
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Total
ONE-TIME COSTS OF STRATEGIES									
PROJECTED "BUSINESS AS USUAL" FINANCE SCENARIO FOR BIODIVERSITY									
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Total
PROTECTED "BUSINESS AS USUAL" SCENARIO									
SECTION 4: FINANCIAL GAP BY STRATEGY									
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Total
TOTAL FINANCIAL GAP FOR ALL COSTS									

Some useful definitions include:

1. ***One-time costs:*** Expenditures which will only occur once, such as acquisition of land when establishing a protected areas, or the construction of infrastructure such as a building or road.
2. ***Recurring costs:*** expenditures which occur regularly (typically annually, although not always). Examples include operational costs (staff, travel, fees) and maintenance (equipment replacement, software, repair)
3. ***Business as usual finance scenario:*** The projected level of public and private expenditure based on estimates of past funding, and based on any additional information, such as political commitments to increase funding.

Example: Developing strategies to fill finance gaps

Belize recently concluded a project that assessed the existing 'business as usual' scenario for protected areas. The total annual protected area system revenue for 2010 was $10,670,812 (see below). But the total financing need for the protected area system ranged from $18.5 to $28.3 million. The study showed a variety of potential finance mechanisms for closing this financial gap.



Source: Drumm, Echeverría and Almendarez, 2012.

PART III: Mobilizing resources

Workbook 3A: Potential finance actors, mechanisms, revenue and feasibility

The third component of the resource mobilization approach starts with identifying biodiversity finance actors, (any individual, group or entity that could potentially provide funding for biodiversity objectives through a financial mechanism); and finance mechanisms (any instrument or tool that enables potential revenue to be captured). The institutional and expenditure reviews should provide much input.

Key questions for identifying biodiversity finance actors and mechanisms include:

- Who are the potential finance actors, agents, investors and/or institutions?
- What are the potential biodiversity finance mechanisms?
- What is the total estimated revenue potential from each finance mechanism?
- Which NBSAP strategy or strategies would this finance mechanism target?
- What is the feasibility of the finance mechanism?
- What are the changes that would be required to implement the finance mechanism?
- What is the total estimated new revenue for each NBSAP strategy?

Feasibility screening criteria

Financial considerations	***Legal considerations***
1. How much money will be needed each year? 2. How much annual revenue is likely to be generated? 3. Will the revenues be worth the set up cost? 4. Could the revenues vary depending on global and national economic and political conditions? 5. How will a variable revenue flow affect the conservation programs targeted by the mechanism? 6. What other sources of funds might be available, either on a long-term or a one-time basis?	1. Can the proposed financing mechanisms be established under the country's current legal system? 2. Will new legislation be required in order to establish the proposed financing mechanism? 3. How difficult and time-consuming will it be to pass such legislation? 4. Could the new financing mechanism be established under current legislation, by simply issuing an administrative or executive order?
Administrative	***Political***
1. How difficult will it be to administer, enforce, collect, or implement the financing mechanism? 2. Are there enough trained people to administer it? 3. Are there too many opportunities for corruption? 4. Can safeguards be devised to avoid problems? 5. How difficult will it be to collect, verify, and maintain the data upon which a financing mechanism is based?	1. Is there government support for the new mechanism? 2. Will the government spend the new revenues for the purposes intended? 3. Can application of the mechanism be monitored and ensured by 'watchdog' organizations or by courts?
Social	***Environmental***
1. What will be the social impacts of implementing a particular system? 2. Who will pay, and what is their capacity to pay? 3. Will the new financing mechanism be perceived as equitable and legitimate?	1. What will be the environmental impact of implementing the new financing mechanism? (E.g., will the will the desire to increase revenues from tourism compromise conservation objectives?

Source: Spergel and Moye 2004

The following is a checklist of commonly used finance mechanisms:

FINANCIAL MECHANISMS	DESCRIPTION
Positive tax incentives	Develop tax credits and tax deductions for behaviors, products and services that cause positive changes in ecosystem management
Negative tax incentives	Develop taxes on behaviors, products and services that cause positive changes in ecosystem management
Dedicated funds	Develop funds to pay for sustainable management of ecosystems
Reduction of subsidies	Reduce or remove harmful subsidies, such as on fertilizers, and increase subsidies that have beneficial impacts on ecosystems

Caps and limits on trade	Set limits on certain ecosystem goods and services, such as water use
Procurement policies	Design procurement policies for public and private entities to promote the purchase of goods and services that promote sustainable ecosystem management
Payments for ecosystem services	Develop schemes that allow a group of beneficiaries to pay for the costs of maintaining ecosystem services (e.g., water payments for ecosystem services that allow downstream users to pay for forest protection upstream)
Independent certification	Promote market-based certification systems for sustainably produced goods and services using agreed upon standards and verifiable chain-of-custody
Biodiversity offsets and wetlands banking	Biodiversity offsets promote a framework for reducing biodiversity loss by allowing companies from different sectors (e.g., mining) to protect equivalent areas of land and biodiversity using agreed upon standards
Fines and levies	Establish punitive fees and fines that discourage environmentally harmful behavior, such as bottom trawling practices
Conservation easements	Establish long-term agreements between landowners and third-party organizations, such as land trusts, to foster conservation on private lands
Voluntary and mandatory fees	Develop voluntary fees (such as a hotel or tourism fee) that allows individuals to contribute to sustainable management, and develop mandatory fees (such as airport departure fees) that can be directed toward sustainable management

Workbook 3b: Integrated and operational resource mobilization plan

The final stage of the resource mobilization process is to develop a resource mobilization plan, consisting of a concrete set of actions to mobilize the financial resources required to implement the full suite of strategies within the NBSAP, and therefore to achieve the Aichi Targets.

Key questions when developing a resource mobilization plan include:

- Which existing resource allocations have already been identified through the expenditure review?
- What are the primary finance mechanisms that will constitute the main resource mobilization plan?
- What are the key actions and steps for implementing each mechanism?
- Who are the lead agencies, institutions and individuals responsible for taking each action?
- What are the key budget considerations involved in taking each action?
- What is the timeframe by which each action will be completed?
- What are the monitoring and evaluation indicators that will help determine success in implementing the strategies and actions?

After screening and prioritizing the different finance mechanisms and actors, planners can create a realistic, practical strategy for implementing the resource mobilization plan, based on the template from the BIOFIN workbook.

Finance actors	Finance mechanisms	Key steps in implementing financial mechanism	Lead agency, staff, individuals	Key budget considerations in implementing financial strategy or mechanism	Timeframe	Monitoring indicators
• Finance actor 1	• Finance mechanism 1	• Step 1 • Step 2 • Step 3	• Agency 1 • Agency 2 • Agency 3			
	• Finance mechanism 2	• Step 1 • Step 2 • Step 3	• Agency 1 • Agency 2 • Agency 3			
• Finance actor 2	• Finance mechanism 1	• Step 1 • Step 2 • Step 3	• Agency 1 • Agency 2 • Agency 3			
	• Finance mechanism 2	• Step 1 • Step 2 • Step 3	• Agency 1 • Agency 2 • Agency 3			

References

1. Acuna, A. 2012. Guide for Sustainable Tourism Best Practices. New York: Rainforest Alliance. Available at: http://www.rainforest-alliance.org/tourism/documents/tourism_practices_guide.pdf
2. Alpizar, F. and A. Bovarnick. 2013. Targeted Scenario Analysis: A new approach to capturing and presenting ecosystem service values for decision making. New York: United Nations Development Programme. Available at: http://conservationfinance.org/upload/library/arquivo20131205102736.pdf
3. Ash, N. et al. 2010. Ecosystems and Human Well-Being: A Manual for Assessment Practitioners. Washington DC: Island Press. Available at: http://www.ecosystemassessments.net/resources/tools-and-publications.html
4. Barrera L. 2012. Draft Guidance for estimating cost of achieving the Convention on Biological Diversity Targets for 2020 (Aichi Biodiversity Targets). In: Biodiversity and Ecosystem Services Policy. Available at: http://www.conservation.org/Documents/CI_CBD-Finance-Methods_March-2012.pdf
5. Beetz, A. and L. Rinehart. 2006. Pastures: Sustainable Management. ATTRA. Available at: https://attra.ncat.org/attra-pub/summaries/summary.php?pub=247
6. BFN. 2009. Business Planning for Protected Areas: Building Capacity for the Implementation of the CBD Programme of Work on Protected Areas. Workshop Report. Vilm, Germany: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany Available at: http://www.bfn.de/fileadmin/MDB/documents/ina/vortraege/2008-Business_planning_for_PAs_Vilm.pdf
7. Bird, N. 2012. Understanding climate change finance flows and effectiveness – mapping of recent initiatives. UNDP and ODI. Available at: http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7922.pdf
8. Bird, N. T. Beloe, M. Hedger, J. Lee, K. Nicholson, M. O'Donnell and P. Steele. 2011. Climate Public Expenditure and Institutional Review: A methodological note. Available at: http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7523.pdf
9. Bird, N. T. Beloe, M. Hedger, J. Lee, K. Nicholson, M. O'Donnell, S. Gooty, A. Heikens, P. Steele, A. Mackay and M. Miller. 2012. The Climate Public Expenditure and Institutional Review (CPEIR): A methodology to review climate policy, institutions and expenditure. UNDP and ODI. 35 pp. Available at: http://www.aideffectiveness.org/images/stories/cpeir%20methodology%20paper.pdf
10. Borrini-Feyerabend, G. 2007. "Governance of protected areas, participation and equity." In Biodiversity Issues for Consideration in the Planning, Establishment and Management of Protected Areas Sites and Networks. Technical Series # 15. Montreal: Convention on Biological Diversity. Available at www.cbd.int/doc/publications/cbd-ts-15.pdf
11. Braat, L. and P. ten Brink, eds. 2008. Cost of Policy Inaction. Wageningen, The Netherlands: Alterra. Available at: http://www.ieep.eu/assets/395/copi_final_report_jun.pdf
12. Business @ Biodiversity. 2012. Tourism Sector and Biodiversity Conservation: Best Practice Benchmarking. Available at: http://ec.europa.eu/environment/biodiversity/business/assets/pdf/sectors/FINAL_Tourism.pdf
13. Byron, H. 2000. Biodiversity Impact – Biodiversity and Environmental Impact Assessment: A Good Practice Guide for Road Schemes. The RSPB, WWF-UK, English Nature and the Wildlife Trusts, Sandy, Beds. http://www.rspb.org.uk/Images/BiodiversityImpact_tcm9-257019.pdf
14. Carter, E. 2007. National Biodiversity Strategies and Action Plans: Pacific Regional Review. Commonwealth Secretariat and SPREP. Available at: http://www.sprep.org/pyor/reefdocs/000582_FinalRpt_NBSAPRegionalReview.pdf
15. CBD, 2013. Ecologically and biologically significant marine areas. Montreal: Secretariat of the Convention on Biological Diversity. Available at: http://www.cbd.int/marine/doc/ebsa-brochure-2012-en.pdf
16. CBD. 2008. Access and Benefit-Sharing in Practice: Trends in Partnerships Across Sectors. Montreal, Technical Series No. 38, 140 pages. Available at: http://www.cbd.int/doc/publications/cbd-ts-38-en.pdf
17. CBD 2010a. Global Biodiversity Outlook – 3. Secretariat of the Convention on Biological Diversity. Montreal: SCBD. Available at www.cbd.int.
18. CBD. 2010b. Strategic Plan for Biodiversity 2011-2020. Montreal: Secretariat for the Convention of Biological Diversity. Available at: www.cbd.int/sp
19. CBD. 2011. Module 6: Financial Resource Mobilization for NBSAPs. Available at: http://www.cbd.int/doc/strategic-plan/global-workshop/sp-brasilia-scbd-module-6.pdf
20. CBD. 2012a. Methodological and implementation guidance for the "Indicators for monitoring the implementation of the Convention's strategy for Resource Mobilization." Montreal: Secretariat of the Convention on Biological Diversity. Available at www.cbd.int.
21. CBD. 2012b. Resourcing the Aichi Biodiversity Targets: A First Assessment of the Resources Required for Implementing the Strategic Plan for Biodiversity 2011-2020. Montreal: Secretariat of the Convention of Biological Diversity. 83 pp. Available at: http://www.cbd.int/doc/meetings/fin/hlpgar-sp-01/official/hlpgar-sp-01-01-report-en.pdf.
22. CBD. 2012c. Review of implementation of the strategy for resource mobilization. Montreal: Secretariat of the Convention on Biological Diversity. Available at: www.cbd.int
23. Clay, J. 2010. Agriculture from 2000 to 2050 - The Business as Usual Scenario. Global Harvest Initiative. Available at: http://www.elanco.com/content/pdfs/clay-agriculture-from-2000-to-2050.pdf.
24. Conway, M. 2012. Input to the Report of the High-Level Panel on Global Assessment of Resources for Implementing the Strategic Plan for Biodiversity 2011-2020: Target 1: Awareness Raising. (UNEP/CBD/COP/11/INF/20). Available at: http://www.cbd.int/doc/meetings/fin/hlpgar-sp-01/official/hlpgar-sp-01-03-en.pdf.
25. Corrigan, C., J. Ervin, P. Kramer and Z. Ferdana. 2007. A Quick Guide to Conducting Marine Ecological Gap Assessments. Protected Area Quick Guide Series editor, J. Ervin. Arlington, VA: The Nature Conservancy.
26. CPEIR. 2011. Nepal Climate Public Expenditure and Institutional Review (CPEIR), Published by Government of Nepal, National Planning Commission with support from UNDP/UNEP/CDDE in Kathmandu, Nepal. Available at: http://www.climatefinance-developmenteffectiveness.org/images/stories/Nepal_CPEIR_Report_2011.pdf
27. Do Rosário Partidário, M. 2012. Strategic Environmental Assessment Better Practice Guide: Methodological Guidance for Strategic Thinking in SEA. Lisbon: Portuguese Environment Agency. 75 pp. Available at: http://www.iaia.org/publicdocuments/special-publications/SEA%20Guidance%20Portugal.pdf
28. Drumm, A., J. Echeverría and M. Almendarez. 2012. Sustainable Finance Strategy and Plan for the Belize Protected Area System. Drumm Consulting. Available by contacting Andy.Drumm@verizon.net.
29. Drumm, A., S. McCool and J. Rieger. 2011. Threshold of Sustainability for Tourism within Protected Areas. Quick Guide Series Ed J. Ervin. Montreal: Secretariat of the Convention on Biological Diversity. Available at http://conservationfinance.org/upload/library/arquivo20120410174958.pdf

30. Dudley, N. and M. Rao. 2008. Assessing and Creating Linkages within and beyond Protected Areas: A Quick Guide for Protected Area Practitioners. Quick Guide Series editor J. Ervin. Arlington, VA: The Nature Conservancy. Available at: http://www.twp.org/sites/default/files/CreatingLinkagesQG-Web-1.pdf
31. Dudley, N. (ed.). 2008. Guidelines for Appling Protected Areas Management Categories. IUCN: Gland, Switzerland. p.8-9. Available at: http://data.iucn.org/dbtw-wpd/edocs/PAPS-016.pdf
32. Dudley, N. and J. Parrish. 2006. Closing the Gap. Secretary of the Convention on Biological Diversity. CBD Technical Series 24. Montreal, Canada: CBD. 116 pp. Available at: www.cbd.int/doc/publications/cbd-ts-24.pdf
33. Energy and Biodiversity Initiative. 2013. Good Practice in the Prevention and Mitigation of Primary and Secondary Biodiversity Impacts. Available at: http://www.theebi.org/pdfs/practice.pdf
34. Ervin, J., J. Mulongoy, K. Lawrence, E. Game, D. Sheppard, P. Bridgewater, G. Bennett, S. Gidda and P. Bos. 2009. Making Protected Areas Relevant: A Guide to Integrating Protected Areas within Wider Landscapes, Seascapes and Sectoral Plans and Strategies. Montreal: Secretariat of the Convention on Biological Diversity. Available at: www.cbd.int/doc/publications/cbd-ts-44-en.pdf.
35. Ervin, J., J. Spensley, A. Hayman, C. Lopez, R. Blyther and J. Bryne. 2007. Capacity Action Planning for Protected Areas: A Quick Guide for Practitioners. Quick Guide Series ed. J. Ervin. Arlington, VA: The Nature Conservancy. 18 pp.
36. Ervin, J. 2013. The Three New R's for Protected Areas: Repurpose, Reposition and Reinvest. Parks, Vol 19.2: Available at: https://cmsdata.iucn.org/downloads/parks_19_2_low_resolution.pdf
37. European Union Business and Biodiversity Platform. 2012. Finance Mechanisms for Biodiversity in the EU: Existing and Prospective Funding Mechanisms for Biodiversity. Available at: http://ec.europa.eu/environment/biodiversity/business/assets/pdf/resources-center/EUBB%20Platform_financial_mechanism_workshop%20_September%202012.pdf
38. Flores, M., G. Rivero, F. Leon, G. Chan. 2008. Financial Planning for National Systems of Protected Areas: Guidelines and Early Lessons. Arlington, VA: The Nature Conservancy. Available at: http://www.eclac.org/ilpes/noticias/paginas/8/35988/finance_book_in_english-complete-2nd.pdf.
39. FOS. 2009. Using Conceptual Models to Document a Situation Analysis: An FOS How-To Guide. Available at: http://www.fosonline.org/wordpress/wp-content/uploads/2010/09/FOS_Conceptual_Model_Guide_April2009.pdf
40. FSC, 2012. Forest Stewardship Council Principles and Criteria, Revised version. Available at: https://ic.fsc.org/the-revised-pc.191.htm
41. GEF. 2013. GEF 2020: Strategy Paper for the Global Environment Facility. Washington DC: Global Environment Facility. Available at: https://www.thegef.org/gef/sites/thegef.org/files/documents/document/GEF2020%20Strategy%20Discussion%20Draft%2020130904.pdf
42. Glover, J.D., C.M. Cox and J.P. Reganold. 2007. Future Farming: A Return to Roots? Scientific American, Aug, 2007, 82-89. Available at: http://www.landinstitute.org/pages/Glover-et-al-2007-Sci-Am.pdf
43. Gold, M. 2009. What is Sustainable Agriculture? Washington DC: USDA. Available at: http://www.nal.usda.gov/afsic/pubs/agnic/susag.shtml
44. Gonzalez, A.M. and A.S. Martin. 2006. "Equitable sharing of benefits and costs generated by protected areas." Series Innovations for Conservation. Parks in Peril Program. Arlington: The Nature Conservancy. 14 pp. Available at www.ibcperu.org/doc/isis/14461.pdf
45. Greiber,T., S. P. Moreno, M. Åhrén, J. N. Carrasco, E. C. Kamau, J. C. Medaglia, M. J. Oliva, F. Perron-Welch in cooperation with Natasha Ali and China Williams. 2012. An Explanatory Guide to the Nagoya Protocol on Access and Benefit-sharing. IUCN, Gland, Switzerland. xviii + 372 pp. Available at: https://cmsdata.iucn.org/downloads/an_explanatory_guide_to_the_nagoya_protocol.pdf
46. Gutman, P. and S. Davidson. 2007. A Review of Innovative International Financial Mechanisms for Biodiversity Conservation, With a Special Focus on the International Financing of Developing Countries' Protected Areas. Gland, Switzerland: WWF. Available at: http://www.conservation.org/global/gcf/Documents/rev_int_financial_mechanisms.pdf
47. Hardcastle, P. and N. Hagelberg. 2012. Input to the Report of the High-Level Panel on Global Assessment of Resources for Implementing the Strategic Plan for Biodiversity 2011-2020: Target 5, 7 , 11, 15: Forest Cluster. (UNEP/CBD/COP/11/INF/20). Available at: http://www.cbd.int/doc/meetings/fin/hlpgar-sp-01/official/hlpgar-sp-01-05-en.pdf.
48. Humavindo, M.N. and J. I Barnes. 2006. The Identification and Quantification of Best Practice in Innovative Financing for Biodiversity Conservation and Sustainable Use in Namibia. DEA Research Discussion Paper #75. Available at: http://www.drfn.info:85/pdf/RDP75.pdf
49. Humke, M., R. Hilbruner and D. E. Hawkins. 2012. Tourism and Conservation: Sustainable Models and Strategies. Washington, DC: USAID. Available at: http://www.gwu.edu/~iits/GSTAworkbook/ConservationWorkbook.pdf
50. IISD. 2013. ABS-Management Tool: Best Practice Standard and Handbook for Implementing Genetic Resource Access and Benefit-Sharing Activities. Bern, Switzerland: IISD. Available at: http://www.iisd.org/pdf/2007/abs_mt.pdf
51. International Council on Mining and Metals. 2012. Good Practice Guidance for Mining and Biodiversity. London: ICMM. 148 pp. Available at: www.icmm.com/document/13
52. IPCC, 2007: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 976pp. Available at: http://www.ipcc-wg2.gov/publications/AR4/index.html
53. Ituarte-Lima, C., M. Schultz, T. Hahn and S. Cornell. 2013. Safeguards for scaling-up biodiversity financing and possible guiding principles. Discussion Paper submitted to CBD. Stockholm: Stockholm Resilience Centre. Available at: http://www.cbd.int/doc/notifications/2013/ntf-2013-025-financial-en.pdf
54. IUCN. 2012. Identifying and Mobilizing Resources for Biodiversity Conservation. Gland, Switzerland: IUCN. 103 pp. Available at: https://cmsdata.iucn.org/downloads/identifying_and_mobilizing_resources_for_biodiversity_conservation.pdf
55. IUCN. 2012. IUCN Red List Categories and Criteria: Version 3.1. Second edition. Gland, Switzerland and Cambridge, UK: IUCN. iv + 32pp. Available at: www.iucnredlist.org
56. Koteen, Sarah. 2004. Washington, D.C.: WWF Center for Conservation Finance. Available at: http://conservationfinance.org/upload/library/arquivo20130508104009.pdf
57. Laird, S. S. Johnston, R. Wynberg, E. Lisinge and D. Lohan. 2003. Biodiversity Access and Benefit-Sharing Policies for Protected Areas: An Introduction. Tokyo: United Nations University Institute of Advanced Studies (UNU/IAS). 42 pp. Available at: www.ias.unu.edu/binaries/UNUIAS_ProtectedAreasReport.pdf

58. Laird, S., S. Johnston, R. Wynberg, E. Lisinge and D. Lohan. 2003. Biodiversity Access and Benefit-Sharing Policies for Protected Areas: An Introduction. Tokyo: United Nations University Institute of Advanced Studies (UNU/IAS). 42 pp. Available at: www.ias.unu.edu/binaries/UNUIAS_ProtectedAreasReport.pdf
59. May, R.M., J.H. Lawton, and N.E. Stork. 2002. Assessing Extinction Rates. In Extinction Rates, J.H. Lawton and R.M. May, eds. Oxford: Oxford University Press.
60. Mitchell, J. E. (ed.). 2010. Criteria and Indicators of Sustainable Rangeland Management. Laramie, WY: University of Wyoming Extension Publication No. SM-56. 227 p. Available at: http://sustainablerangelands.org/pdf/SM56.pdf
61. Mitchell, John E. (ed.). 2010. Criteria and Indicators of Sustainable Rangeland Management. Laramie, WY: University of Wyoming Extension Publication No. SM-56. 227 pp. Available at: http://www.sustainablerangelands.org/pdf/SM56.pdf
62. Moran, D., C. Leggett and S. Hussain. 2012. Input to the Report of the High-Level Panel on Global Assessment of Resources for Implementing the Strategic Plan for Biodiversity 2011-2020: Target 7: Agricultural Component. (UNEP/CBD/COP/11/INF/20). Available at: http://www.cbd.int/doc/meetings/fin/hlpgar-sp-01/official/hlpgar-sp-01-06-en.pdf.
63. MSC, 2012. Marine Stewardship Council Principles and Criteria. Available at: http://www.msc.org/about-us/standards/standards/msc-environmental-standard
64. Mulder, I; Mitchell A W; Peirao, P, Habtegaber, K., Cruickshank, P., Scott, G., Meneses, L., 2013. "The NCD Roadmap: implementing the four commitments of the Natural Capital Declaration", UNEP Finance Initiative: Geneva and Global Canopy Programme: Oxford. Available at: http://www.unepfi.org/fileadmin/documents/ncd_roadmap.pdf
65. Naidoo, R. and T.H. Ricketts. 2006. Mapping the Economic Costs and Benefits of Conservation. PLOS Biology, 4(11). Available at: http://www.plosbiology.org/article/info:doi/10.1371/journal.pbio.0040360
66. Naidoo, R., A. Balmford, P.J. Ferraro, S. Polasky, T.H. Ricketts and M. Rouget. 2006. Integrating economic costs into conservation planning. Trends in Ecology and Evolution, 12(12): 681-687. Available at: http://www.uvm.edu/giee/pubpdfs/Naidoo_2006_TRENDS_in_Ecology_and_Evolution.pdf
67. National Board for Wildlife, Ministry of Environment and Forests, India. 2011. Guidelines for Linear Infrastructure Intrusions in Natural Areas: Roads and Powerlines. Delhi: National Board for Wildlife, Ministry of Environment and Forests. Available at: http://envfor.nic.in/assets/FIRSTDraft%20guidelines%20roads%20and%20powerlines.pdf
68. Natural Resource Management Ministerial Council. 2010. Australia's Biodiversity Conservation Strategy 2010-2030. Australian Government, Department of Sustainability, Environment, Water, Population and Communities, Canberra. 98 pp. Available at: www.cbd.int/reports/search.
69. ODI. 2012. Thailand Climate Public Expenditure and Institutional Review. Overseas Development Institute with support from UNDP and CDDE. Available at: http://www.undp.org/content/dam/thailand/docs/CPEIR%20Thailand(English).pdf
70. OECD. 1994. Environmental indicators: OECD core sets. Paris: Organization of Economic Cooperation and Development. Available at: http://www.oecd.org/environment/indicators-modelling-outlooks/24993546.pdf
71. OECD. 2009. Sustainable Manufacturing Toolkit: Seven Steps to Environmental Excellence. Available at: http://www.oecd.org/innovation/green/toolkit/48704993.pdf
72. OECD (2010), *Advancing the Aquaculture Agenda: Workshop Proceedings*, OECD Publishing. doi: 10.1787/9789264088726-en
73. OECD, 2012. Finance Mechanisms for Biodiversity: Examining Opportunities and Challenges. Co-Chairs' Summary of an International Workshop convened by the OECD, World Bank, GEF, and the European Commission, together with Sweden and India. Available at: http://www.cbd.int/doc/meetings/fin/wsfmb-eoc-01/official/wsfmb-eoc-01-chairs-summary-en.pdf
74. OECD. 2012. Finance Mechanisms for Biodiversity: Examining Opportunities and Challenges. Montreal. Available at: http://www.oecd.org/env/resources/workshoponfinancemechanismsforbiodiversityexaminingopportunitiesandchallenges.htm
75. OECD, 2013. Scaling Up Finance Mechanisms for Biodiversity. OECD Publishing. doi: 10.1787/9789264193833-en
76. OECD, 2013. The OECD Handbook for Fisheries Managers: Principles and Practice for Policy Design. OECD Publishing. DOI:10.1787/9789264191150-en
77. Pagiola, S., K. von Ritter and J. Bishop. 2004. Assessing the Economic Value of Ecosystem Conservation. Washington DC: World Bank. Available at: http://nbsapforum.net/uploads/299.pdf
78. Prabhu, R., C. Colfer and G. Shepherd. 1998. Criteria and Indicators for Sustainable Forest Management: New Findings from CIFOR's Forest Management Unit Level Research. Rural Development Forestry Network. Available at: http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/1178.pdf
79. Pradhan, S. 1996. Evaluating Public Spending: A Framework for Public Expenditure Reviews. Washington DC: World Bank. Available at: http://elibrary.worldbank.org/doi/pdf/10.1596/0-8213-3633-9.
80. Prip, C. T. Gross, S. Johnston, M. Vierros. 2010. Biodiversity Planning: an assessment of national biodiversity strategies and action plans. United Nations University Institute of Advanced Studies, Yokohama, Japan. 236 pp. Available at: www.cbd.int/nbsaps .
81. Radovic, I. and M. Kozomara, eds. 2011. Biodiversity Strategy of the Republic of Serbia: 2011-2018. Available at: www.cbd.int/reports/search
82. Rayment, M. 2012. Input to the Report of the High-Level Panel on Global Assessment of Resources for Implementing the Strategic Plan for Biodiversity 2011-2020: Target 2-4: Macroeconomics. (UNEP/CBD/COP/11/INF/20). Available at: http://www.cbd.int/doc/meetings/fin/hlpgar-sp-01/official/hlpgar-sp-01-04-en.pdf.
83. Rosser, A.M. and S.A. Mainka. 2002. Overexploitation and Species Extinctions. Conservation Biology 16(3):584-586.
84. Salkin, P.E. 2009. Sustainability and Land Use Planning: Greening State and Local Land Use Plans and Regulations to Address Climate Change Challenges and Preserve Resources for Future Generations, 34 Wm. & Mary Envtl. L. & Pol'y Rev. 121 – 170. Available at: http://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1003&context=wmelpr
85. Secretariat of the Convention on Biological Diversity and Netherlands Commission for Environmental Assessment. 2006. Biodiversity in Impact Assessment, Background Document to CBD Decision VIII/28: Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment, Montreal,Canada, 72 pages. Available at: http://www.cbd.int/doc/publications/cbd-ts-26-en.pdf.
86. Slootweg, R., A. Kolhoff, R. Verheem and R. Höft. 2006. Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment. Montreal: Secretariat of the Convention on Biological Diversity. 81 pp. Available at: http://www.cbd.int/doc/publications/imp-bio-eia-and-sea.pdf

87. Smith, E. Resource Requirements for Aichi Target 13 – Genetic Diversity. Montreal: Secretariat of the Convention on Biological Diversity. 29 pp. Available at: www.cbd.int
88. Stedman-Edwards, P. 1997. Socioeconomic Root Causes of Biodiversity Loss: An Analytical Approach Paper. Gland, Switzerland: WWF. Available at: http://awsassets.panda.org/downloads/analytic.pdf
89. Stein, L. 2012. A Review of International Best Practices in Planning Law. Center for Environmental Legal Studies. Pace University School of Law. Available at: http://www.planning.nsw.gov.au/LinkClick.aspx?fileticket=e3JoVw3Ednc%3D&tabid=68&language=en-US.
90. Stolton, S. and N. Dudley. 2009. The Protected Areas Benefits Assessment Tool. Gland, Switzerland: WWF. Available at: http://wwf.panda.org/?174401/PABAT
91. Sustainable Cities Institute. 2013. Available at: http://www.sustainablecitiesinstitute.org/view/page.basic/class/feature.class/Class_Econ_Dev_Sust_Princ
92. The European Union Business and Biodiversity Platform. 2012. Finance Mechanisms for Biodiversity in the EU: Existing and prospective funding mechanisms for biodiversity. Workshop summary. Available at: http://ec.europa.eu/environment/biodiversity/business/assets/pdf/resources-center/EUBB%20Platform_financial_mechanism_workshop%20_September%202012.pdf
93. The Partnership for Global Sustainable Tourism Criteria: Global Sustainable Tourism Criteria. Global Sustainable Tourism Council. Available at: http://www.mgrt.gov.si/fileadmin/mgrt.gov.si/pageuploads/turizem/Global_sustainable_tourism_criteria.pdf
94. UNDP. 2012. International Guidebook of Environmental Finance Tools: A sectoral approach – Protected Areas, Sustainable Forests, Sustainable Agriculture and Pro-Poor Energy. New York: UNDP. Available at: http://nbsapforum.net/uploads/365.pdf
95. UNDP. 2010. Measuring Capacity. New York: UNDP. Available at: http://www.undp.org/content/dam/aplaws/publication/en/publications/capacity-development/undp-paper-on-measuring-capacity/UNDP_Measuring_Capacity_July_2010.pdf.
96. UNEP. 2010. Mainstreaming the Economics of Nature: A Synthesis of the Approach, Conclusions and Recommendations of TEEB. Nairobi: UNEP. Available at: www.teebweb.org.
97. Unnisa, S. A. and S. B. Rav. 2013. Sustainable Solid Waste Management. Oakville, Ontario: Apple Academic Press. Available at: http://www.crcpress.com/product/isbn/9781926895246
98. USAID. 2012. USAID Biodiversity Guide. Washington, DC: USAID. Available at www.usaid.gov.
99. Vatn, A., D. N. Barton, H. Lindhjem, S. Movik, I. Ring and R. Santos. 2011. Can Markets Protect Biodiversity? An Evaluation of Different Financial Mechanisms. Department of International Environment and Development Studies, Noragric. Norwegian University of Life Sciences. Naragric Report No. 6. Available at: http://www.umb.no/statisk/noragric/publications/reports/2011_nor_rep_60.pdf
100. Walker, J. 2002. Environmental indicators and sustainable agriculture. In: McVicar, T.R., Li Rui, Walker, J., Fitzpatrick, R.W. and Liu Changming, (eds), Regional Water and Soil Assessment for Managing Sustainable Agriculture in China and Australia, ACIAR Monograph No. 84, 323–332. Available at: http://aciar.gov.au/files/node/468/mn84section4technologytransferchapters24-29.pdf
101. WCMC. 2012. Assessing the adopted indicators for the implementation of the Strategy for Resource Mobilization of the Convention on Biological Diversity – A scoping study. Cambridge: WCMC. Available at: http://www.cbd.int/doc/meetings/wgri/wgri-04/information/wgri-04-inf-08-en.pdf
102. Wegner, G. and U. Pascual. 2011. Cost-Benefit Analysis in the Context of Ecosystem Services for Human Well-Being: A Multidisciplinary Critique. Nairobi: UNEP. Available at: http://www.unep.org/ecosystemmanagement/Portals/7/Documents/WP13_Cost-Benefit%20Analysis_UNEP.pdf
103. White, P. A. & Ernst, M. (2007). Second Nature: Improving Transportation without Putting Nature Second. http://www.transact.org/library/reports_pdfs/biodiversity/second_nature.pdf
104. WHO. 2003. Guide to Producing National Health Accounts; with Special Application for Low-Income and Middle-Income Countries. Geneva: World Health Organization. Available at: http://www.who.int/nha/docs/English_PG.pdf
105. Wong, M. 2009. Principles and Guidelines for Ecological Restoration in Canada's Protected Natural Areas. Parks Canada. Available at: http://www.pc.gc.ca/progs/np-pn/re-er/pag-pel.aspx
106. World Bank. 2012. Expanding Financing for Biodiversity Conservation: Experiences from Latin America and the Caribbean. Washington DC: World Bank. Available at: http://www.worldbank.org/content/dam/Worldbank/document/LAC-Biodiversity-Finance.pdf
107. World Bank. 2001. Albania Public Expenditure and Institutional Review. Volume II: Main Report. Washington DC: World Bank. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2001/06/23/000094946_01060704034544/Rendered/PDF/multi0page.pdf
108. World Bank. 2009. Preparing Public Expenditure Reviews for Human Development. Washington, DC: World Bank. Available at: http://siteresources.worldbank.org/EXTPERGUIDE/Resources/PER-Complete.pdf
109. WWF. 2006. Resources for Implementing the WWF Project and Programme Standards: Define Situation Analysis. Gland, Switzerland: WWF. Available at: www.panda.org/standards/1_4_situation_analysis/