

The economics & of ecosystems & bio diversity



IMPLEMENTATION GUIDE FOR AICHI TARGET 2

A TEEB perspective

WHAT IS 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.

The 20 Aichi Biodiversity Targets for 2015 or 2020 are the key elements of the new **Strategic Plan for Biodiversity 2011-2020**, which the 10th Conference of the Parties to the CBD (COP 10) agreed on in October 2010 in Nagoya, Japan. As explained by the CBD on its website at www.cbd.int/sp/, this new plan will be the overarching framework on biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system.

The targets are organized under five strategic goals. Goals and targets comprise the aspirations for achievement at the global level, and a flexible framework for the establishment of national or regional targets. Parties are invited to set their own targets within this flexible framework, taking into account national needs and priorities, while also bearing in mind national contributions to the achievement of the global targets. Aichi Target 2 belongs to **Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.**

How can the TEEB implementation guide help?

COP 10 agreed to translate this overarching international framework into **national biodiversity strategies and action plans (NBSAPs)** within two years. Additionally, in decision X/10, the meeting decided that the fifth national reports, due by 31 March 2014, should focus on the implementation of the 2011-2020 Strategic Plan and progress achieved towards the Aichi Biodiversity Targets. The TEEB implementation guide has been written to support CBD National Focal Points or others who are interested in translating the global targets into targets for the national context and in initiating their implementation.

Given the particular national circumstances, national targets may be more specific and more precise than the global target. Targets should be ambitious but realistic.

In the next section, the guide will explain what the target means, relying to a large extent on the explanation provided in the [Quick Guide to Target 2 of the Aichi Biodiversity Targets](#) (CBD 2012). Subsequently, it explains how the target relates to TEEB, that is, why a “TEEB implementation guide” makes sense for this target.

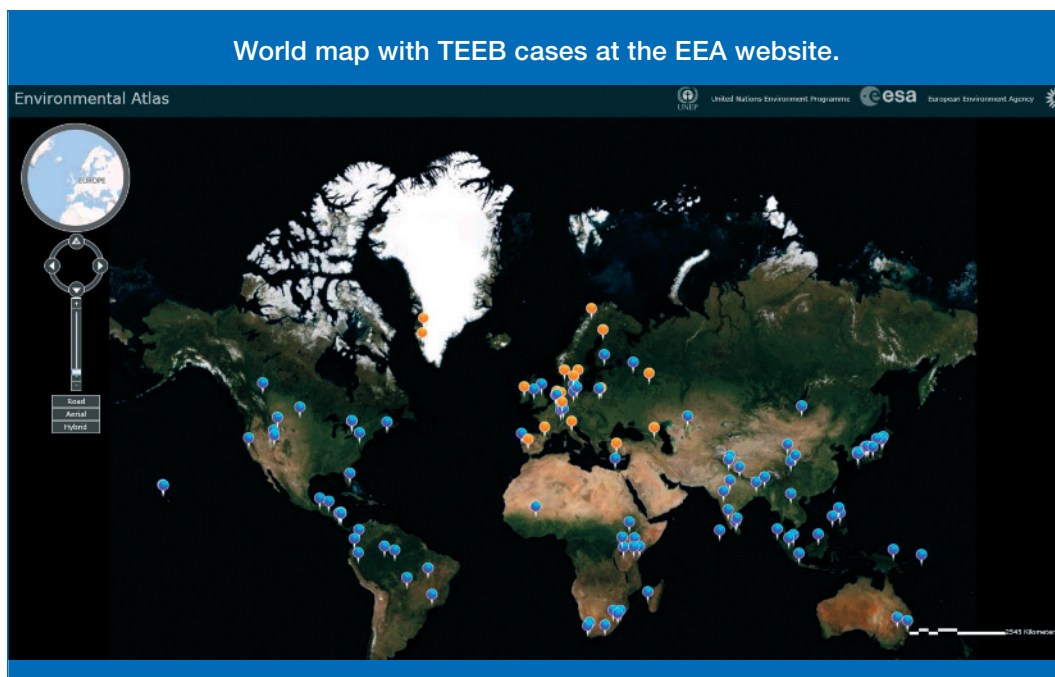
In the section on “how to translate the target to the national level”, the guide builds on the “guiding questions for setting national targets” of the CBD quick guide and presents selected guidance material, tools and case studies that should help answer the questions and thereby support national implementation efforts. This guidance will be complemented by a section on “actions and milestones”, which provides a series of possible starting points and indicators, again taken mostly from the CBD quick guides. Last, the guide presents a list of other CBD COP 10 decisions. This list illustrates how the TEEB specific aspects of the target relate to different issues of biodiversity policy. Some of the decisions also contain useful information and recommendations for national implementation of the target.

Most of the suggested guidance material is taken from the different **TEEB reports** (TEEB 2010, 2011, 2012a, 2012b – see box).¹

TEEB 2010	TEEB 2011	TEEB 2012a	TEEB 2012b
			
 FND	 POL	 LCL	 BIS
Foundations	International & national policy-makers	Regional and local policy-makers	Business
Access the online versions of the TEEB reports at www.teebweb.org .			

The **TEEB case data base** provides practical examples of occasions where ecosystem services have been assessed for better integration in decision-making and policy. The data base is hosted by the European Environment Agency (EEA)'s [Environmental Atlas](http://discomap.eea.europa.eu/map/environmentalatlas/) and can be found at <http://discomap.eea.europa.eu/map/environmentalatlas/>.

¹ Throughout the guide, the colors and the acronyms FND, POL, LCL, BIS are used to refer to the respective sections of the book versions of the TEEB reports. It will be indicated where the free online versions deviate from those.



The information and tools from the TEEB reports and the TEEB case data base will be complemented with references to **additional useful sources, guidance material, and case studies**.

What does this target mean?

The values of biodiversity are not widely reflected in decision-making. This is true, for instance, in the context of development and poverty reduction strategies. Integrating and reflecting the contribution of biodiversity, and the ecosystem services it provides, in relevant strategies, policies, programmes, and reporting systems is an important element in ensuring that the diverse values of biodiversity and the opportunities derived from its conservation and sustainable use are recognized and reflected in decision-making. Similarly, accounting for biodiversity in decision-making is necessary to limit the unintended negative consequences of policy decisions on biodiversity. **The aim of this target is to place biodiversity into the mainstream decision-making framework so to help give it greater visibility amongst policy-makers when formulating country development strategies and planning progress.**

This target:

- **Considers all biodiversity values.** Biodiversity underpins a wide range of services that support economies, food production systems, secure living conditions and human health. In addition biodiversity is central to many cultures, spiritual beliefs and worldviews and has intrinsic value in its own right. As such biodiversity has multiple values some of which can be quantified in monetary terms and others which are more abstract.

Given the various values of biodiversity that need to be considered when taking actions towards this target a multidisciplinary approach will be required to assess the values of biodiversity.

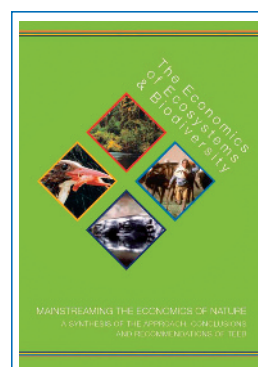
- **Requires integrating biodiversity into national development and poverty reduction strategies.** These strategies are key instruments in countries' efforts to eradicate poverty in line with the Millennium Development Goals.
- **Requires integrating biodiversity into national and local planning processes.** Land use planning, in particular, can have major impacts on biodiversity. The integration of biodiversity concerns into national and local decisions will mean to internalize the costs and benefits of the conservation and sustainable use of biodiversity and help to frame conservation and sustainable use in terms of opportunities for development.
- **Requires integrating biodiversity into national accounting, where appropriate.** National accounting provides a means of keeping track of resources flows and of better understanding the benefits which are being derived from biodiversity. Such information allows for more informed policy decisions to be made.
- **Includes integrating biodiversity into reporting systems.** Governments are required to report on a variety of issues to their own constituents as well as to the international community. Integrating biodiversity in reporting systems, where relevant, can help to ensure that the importance of biodiversity remains visible and is appropriately accounted for in decision making.

How does this target relate to TEEB?

TEEB encourages recognizing the multiple values of biodiversity for human well-being and their incorporation into decision making at all levels. In section 3.d. of Decision X/2 on the “Strategic Plan for Biodiversity 2011-2020, “the [CBD] COP requests the Executive Secretary [...] to support countries in making use of the findings of [TEEB] and in integrating the values of biodiversity into relevant national and local policies, programmes and planning processes.”

Several **main recommendations of the TEEB Synthesis report** (TEEB 2010, p.25) relate directly to Aichi Target 2:

- **MAKE NATURE’S VALUES VISIBLE.** Decision makers at all levels should take steps to assess and communicate the role of biodiversity and ecosystem services in economic activity, and for human well-being. Such assessments should include analysis of how the costs and benefits of ecosystem services are spread across different sections of society, across localities, and over time. Public disclosure of and accountability for impacts on nature should be essential outcomes of biodiversity assessment.



- **MEASURING BETTER TO MANAGE BETTER.** The present system of national accounts should be rapidly upgraded to include the value of changes in natural capital stocks and ecosystem services. Such a shift could be supported, in part, through amendments to the UN manual on Integrated Environmental and Economic Accounting. Governments should also develop a ‘dashboard’ of indicators to monitor changes to physical, natural, human, and social capital as an ongoing effort. Moreover, an urgent priority is to draw up consistent physical accounts for forest stocks and ecosystem services, both of which are required, e.g. for the development of new forest carbon mechanisms and incentives.
- **NATURAL CAPITAL AND POVERTY REDUCTION.** Human dependence on ecosystem services and particularly their role as a lifeline for many poor households needs to be more fully integrated into policy. This applies both to targeting development interventions as well as to evaluating the social impacts of policies that affect the environment. How do policies directly and indirectly influence future availability and distribution of ecosystem services? This is not only a matter of applying appropriate indicators and analytical tools it also requires acting upon these insights. In order to secure equitable access and maintain the flow of public goods provided by nature, private, public and common property rights need to be carefully balanced. Given this, public investment as well as development aid targeted at maintaining or rebuilding ecological infrastructure can make significant contributions to poverty reduction.

How to translate Target 2 to the national level?

1. What are the most important ecosystem services in the country?

How can ecosystem services be assessed and valued?

The following chapters and specific aspects from the TEEB reports are important:

- **FND Ch. 3** Measuring biophysical quantities and the use of indicators (p. 113)
- **POL Ch. 3** Strengthening indicators and accounting systems for natural capital (p. 79)
- **LCL Ch. 2** Conceptual frameworks for considering the benefits of nature (p. 35, p. 28 in report)
- **LCL Ch. 3** Tools for valuation and appraisal of ecosystem services in policy making (p. 57, p. 41 in report)
- **LCL Appendix** Practical advice, FAQs, tools and databases (p. 301, Ch. 10.4, p. 186 in report)

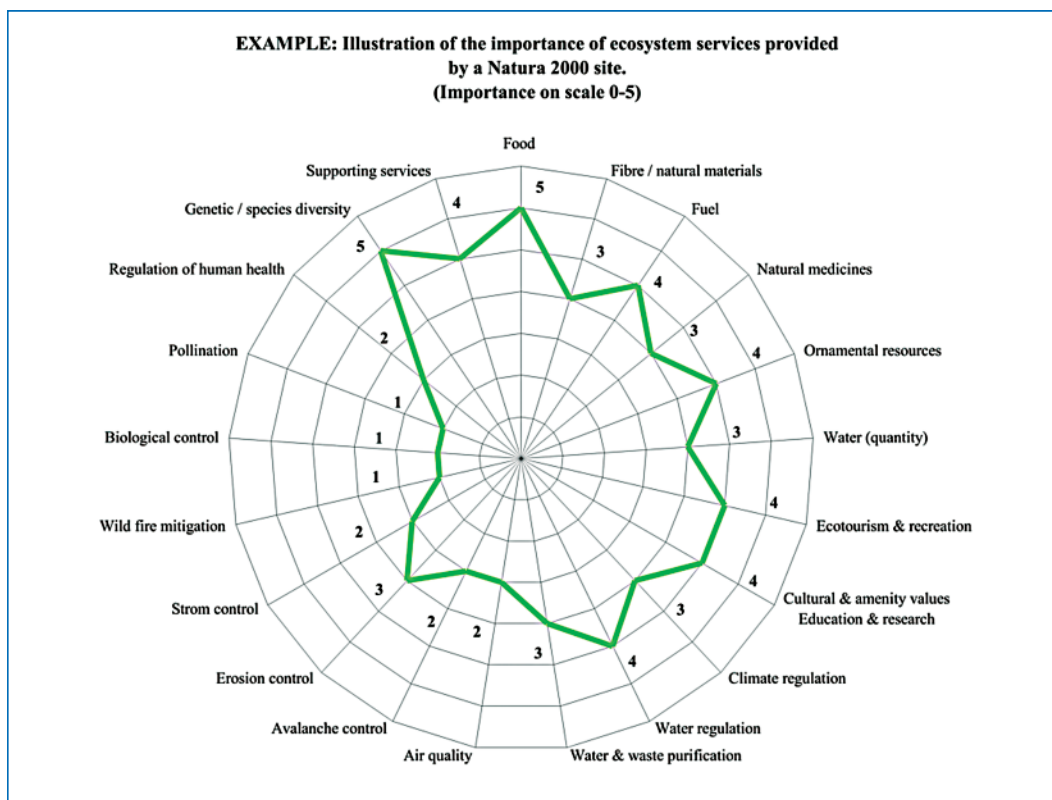
- For a list of ecosystem services and possible indicators, see **FND Ch. 3**, Table 3.4, p. 15-16.
- For a list of biophysical measures, their availability and their ability to convey information, see **FND Ch. 3**, Table 3.1 (pp. 120-125).
- For examples of using biophysical indicators for valuing ecosystem services, see **FND Ch. 3** (pp. 134-138).
- **POL Ch. 3.2** explains the role of indicators for measuring biodiversity and ecosystem services, and how they can inform environmental policies.

It is important to see the economic valuation not as an end in itself, but within the policy context and with a clear relation to policy goals and the decisions that can be supported by a better understanding of the economic values of biodiversity and ecosystem services.

- For guidance on valuation methods, frameworks and appraisal of ecosystem services see [LCL Ch. 2](#) and, in particular Table 2.2 (p. 43), represented as Table 2.1 in report (p. 32), and [LCL Ch. 3](#), in particular Table 3.1 (p. 62).
- Answers to frequently raised questions related to the assessment of ecosystem services can be found in [LCL Appendix](#) (p. 301, Ch. 10.4, p. 186 in report).

The following tools and guidance from other sources seem useful:

- For a comprehensive ecosystem assessment see the manual of the Millennium Ecosystem Assessment (2005) [Ecosystems and Human Wellbeing: A Manual for Assessment Practitioners](#). This manual makes the methods of the MA and associated sub-global (local and regional) assessments widely accessible.
- The [Sub-Global Assessment \(SGA\) Network](#) offers a platform and information for practitioners (individuals and organizations) involved in ecosystem assessment at regional, sub-regional, national and sub-national levels, provides contacts to regional experts, and supports capacity building for undertaking and using assessments.
- The CBD-mandated [Biodiversity Indicators Partnership \(BIP\)](#) is a global initiative to promote and coordinate development and delivery of biodiversity indicators and monitoring systems.
- For methodological remarks on valuing biodiversity, see IEEP's [Benefit Assessment Manual for Policy Makers \(bitte auch in hellblau\)](#) (IEEP 2011, pp. 129-138).
- [InVEST](#) is a family of tools provided by the Natural Capital Project (2012) to map and value the goods and services from nature, in order to help decision makers better align economics with conservation.
- UNEP provides a guidance manual for valuation of regulating ecosystem services (UNEP 2010).
- DEFRA offers [An introductory guide to valuing ecosystem services](#) (DEFRA 2007) and related publications (DEFRA 2012).
- The PEER study on spatial assessment of ecosystem services explains how to conduct a spatially-explicit, biophysical, monetary, and policy assessment of ecosystem services (PEER 2011).
- For a recent ecosystem assessment that also covers extensively the issue of ecosystem services in the UK, see the [UK National Ecosystem Assessment](#) (2012).
- The [IEEP Rapid Assessment Framework](#) provides a useful table for evaluating the importance of the different ecosystem services, in particular in the context of protected area management (Kettunen et al. 2009, Table 4.1, p. 34-47). For case studies and application of their toolkit for valuing biodiversity in protected areas, see IEEP (2009).
- For methods and tools concerning coastal capital valuation, see WRI (2012a).
- The UCN Water Programme provides a toolkit on [Securing Water for Ecosystems and Human Well-being: The Importance of Environmental Flows](#) (Forslund 2009).
- The importance of ecosystem services in a particular area can be illustrated by way of a spider diagram, where ecosystem service are ranked from 0-5 according to their importance and where higher ranks are illustrated by marks in the outer circles of the diagram (see example below for a specific Natura 2000 site, taken from Kettunen et al. 2009, p. 31).



The following case studies are relevant here:

- In a [TEEB case from Argentina](#), a valuation study of fish supply was conducted comparing the scenario of continuing current fishing practices with the scenario of allowing for a recovery of fish stocks (Villasante et al 2010).
- The IUCN Water Programme provides a series of case studies on the importance of environmental flows (IUCN a).

2. What are the opportunities and constraints for integrating biodiversity values into national planning processes?

What are the key national planning instruments and processes? What are the potential ecological, economic, and social benefits and costs of integrating biodiversity into such instruments and processes?

The following chapters and specific aspects from the TEEB reports are important:

- POL Ch. 2** Framework and guiding principles for the policy response (p. 47).
- POL Ch. 3** Strengthening indicators and accounting systems for natural capital (p. 79).
- POL Ch. 4** Recognizing the Value of Biodiversity: New Approaches to Policy Assessment (p. 129) (represented in the report as “Integrating ecosystem and biodiversity values into policy assessment”).
- LCL Ch. 3** Tools for Valuation and appraisal of ecosystem services in policy making (p. 57, p. 41 in report).
- LCL Ch. 6** Spatial planning and environmental assessments (p. 165, p. 101 in report).

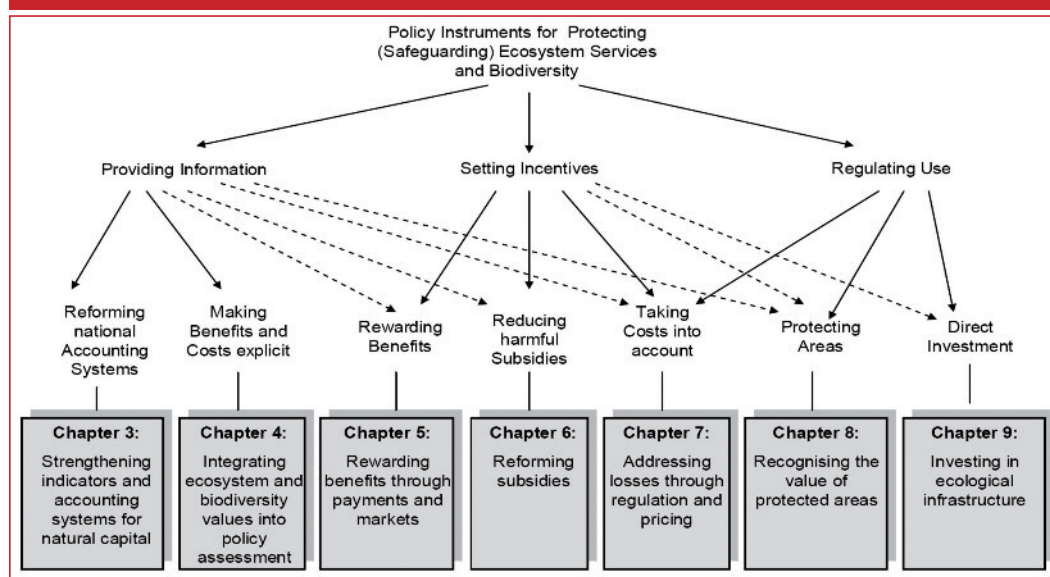
- **POL Ch. 2** discusses the policy response options to enhance or secure biodiversity conservation benefits. Box 2.1 (see below) mentions a selection of successful examples (p. 50, p. 4 in report).

BOX 2.1: Examples of policies that have provided biodiversity conservation benefits

- Growth of protected area systems in developed and developing countries;
- Development of integrated water resource management (e.g. EU Water Framework Directive);
- Legal recognition of liability for environmental damage (e.g. for oil spills);
- Incentives to reward biodiversity management (e.g. payments for ecosystem services in Costa Rica);
- Protection of critical habitats (e.g. through the Natura 2000 network, EU Habitats Directive);
- Market based instruments (e.g. green tax transfer scheme between states in Brazil, wetland mitigation banking in US);
- Regulations to stop or limit the release of pollutants into rivers and groundwater systems, improve air quality and reduce the emissions of greenhouse gases (GHG) into the atmosphere.

- In order to strengthen biodiversity valuation as a tool used in policy-making TEEB (**POL Ch. 3**, **POL Ch. 2.3** in report) proposes to: a) address the right actors and balance diverse interests (pp. 61-62); b) pay attention to the cultural and institutional contexts (pp. 62-63); c) take property rights, fairness and equity into account (pp. 63-69); and d) base policies on good governance (pp. 69-70).
- For opportunities provided by integrating biodiversity into national planning processes, see **POL Ch. 2**, Table 2.2 (pp. 56-57, represented as Table 2.1 in report).
- For key policy options with regard to biodiversity, see here below Figure 2.1, taken from **POL Ch. 2.4** (p. 71).

Figure 2.1: TEEB Policy Options Overview



- For information on the stages of a policy assessment process, proposed actions and ways to address biodiversity, see [POL Ch. 4.3](#), Annex 2 (p. 172).
- For information on the policy assessment processes within Environmental Impact Assessments (EIA) and Strategic Environmental Assessments (SEA), see [POL Ch. 4.3](#), Box 4.13, (p. 151).
- For an overview of policy responses integrating ecosystem services into planning processes, including concrete case study examples, see [LCL Ch. 6.2](#), in particular also Table 6.2, (p. 175).

The following tools and guidance from other sources seem useful:

- The [Millennium Ecosystem Assessment](#) (MA 2005) provides in Ch. 15, Table 15.3, (p. 441) an overview of national strategic planning models.
- For an assessment of the role of economic instruments in policy mixes for biodiversity conservation, see Ring & Schröter-Schlaack (2010).
- The German Development Agency GIZ has developed a stepwise approach towards [Integrating Ecosystem Services into Development Planning](#) (GIZ 2012).
- The US Environmental Protection Agency has published general [Guidelines for preparing economic analyses](#) (EPA 2010).

The following case studies are relevant here:

- IUCN Water Programme presents a study on the [Integrated Management of the Senegal River](#) (Niasse).
- IUCN Water Programme has also published a study on [Compliance, enforcement and dispute settlement under the EU Water Framework Directive](#) (Leb).

3. What are the opportunities and constraints for integrating biodiversity values into local (sub-national) planning processes?

What planning decisions are (being) devolved to sub-national (state/province, city, municipal) governments? What are the potential ecological, economic, and social benefits and costs of taking into account ecosystem services and other benefits of biodiversity?

The following chapters and specific aspects from the TEEB reports are important:

- [LCL Ch. 2](#) Conceptual frameworks for considering the benefits of nature (p. 35, p. 28 in report).
- [LCL Ch. 3](#) Tools for Valuation and appraisal of ecosystem services in policy making (p. 57, p. 41 in report).
- [LCL Ch. 5](#) Ecosystem services in rural areas and natural resource management (p. 129, p. 81 in report).
- [LCL Ch. 11](#) Making your natural capital work for local development (p. 281, Ch.10, p. 171 in report).

- In [LCL Ch. 5.6](#) eight key areas for local engagement are described: a) planning; b) management; c) regulation and protection; d) coordination and collective action; e) investment; f) incentives; g) extension services and capacity building and h) research and promotion (pp. 101-102).
- For options of local natural resource management, see [LCL Ch. 5](#):
 - Agriculture ([LCL Ch. 5.1](#));
 - Fisheries and wetlands ([LCL Ch. 5.2](#));
 - Forests and watershed management ([LCL Ch. 5.3](#));
 - Managing ecosystems for tourism ([LCL Ch. 5.4](#));
 - Ecosystem resilience and disaster mitigation ([LCL Ch. 5.5](#)).
- For a general approach to appraising nature's benefits and integrating them into decisions and policies at the local level, see [LCL Ch. 11.2](#), and in particular the **TEEB 6-step approach**
 1. Specify and agree on the problem;
 2. Identify which ecosystem services are relevant;
 3. Define the information needs and select appropriate methods;
 4. Assess expected changes in availability and distribution of ecosystem services;
 5. Identify and appraise policy options;
 6. Assess distributional impacts of policy options.
- There are different approaches to valuing biodiversity ([LCL Ch. 3.3](#) and [LCL Ch. 3.4](#)): a) cost-benefit analysis (pp. 50-55); b) participatory appraisal (pp.57-60); c) multi-criteria analysis (pp. 60-62). Which of the to choose in a concrete case will depend on several factors addressed in the chapters.
- For information on valuation methods, see [LCL Ch. 3](#), in particular Table 3.1 (p. 62). For cases in which these valuation methods were applied, see the boxes in [LCL Ch. 3.2](#).

The following tools and guidance from other sources seem useful:

- For further guidance on integrating biodiversity and ecosystem services into environmental impact assessment processes (EIA) for development projects, see CBD's [Guidelines on biodiversity-inclusive EIA](#) (CBD 2005).

The following case studies are relevant here:

- According to a [TEEB case from Australia](#), a voluntary biodiversity banking and offset scheme is used in order to value biodiversity (Rodricks 2010).
- The IUCN Water Programme offers several case studies on [Integrating Wetland Economic Values into River Basin Management](#) (IUCN 2003).

4. What are the opportunities and constraints for integrating biodiversity values into national accounting?

The following chapters and specific aspects from the TEEB reports are important:

POL Ch. 3 Strengthening indicators and accounting systems for natural capital (p. 79)

- There are international initiatives concerning ‘Greening’ macro-economic and societal indicators, such as the GDP (Stiglitz-Sen-Fitoussi Commission, see **POL Ch. 3.3**) and a study by the European Environment Agency on integrating ecosystems into national income accounting” (EEA Mediterranean wetlands, see **POL Ch. 3.4**).
- **POL Ch. 3.5** describes efforts towards implementing a ‘GDP of the poor’ (case studies in India, Brazil and Indonesia).
- The Final Ecosystem Services Approach (FES) that is explained below (Box 3.5 taken from **POL Ch. 3** and Boyd & Banzhaf 2007) illustrates an operationalization of ecosystem services for national accounting purposes:

Box 3.5: Using indicators in policy: the Final Ecosystem Services approach in national accounting

Switzerland commissioned a feasibility study on the use of the ‘final ecosystem services’ (FES) approach developed by Boyd and Banzhaf (2007) for its national income accounting. FES are defined as components of nature that are directly enjoyable, consumable or usable to yield human well-being. The schematic account matrix distinguishes between FES indicators attributable to four main benefit categories: Health, Safety, Natural Diversity and Economic Benefits. The study analyses in more detail the application of accounting indicators in the category ‘health’ and for the benefit of ‘undisturbed sleep’ (see example below).

Schematic account matrix for final ecosystem services (FES)

benefit category (FOEN Product group)		Benefit		Ecosystem Services		Relevant intermediate products, processes, functions
		Type of benefit	Description	Description	Unit	
Distinction between: • Health • Safety • Natural diversity • Factors of production		Active use value, passive use value, existence value	Benefit 1	Ecosystem Service 1	... *Persons/year...	
				Ecosystem Service 2	... *Persons/year...	
			 *Persons/year...	
			Benefit 2			
<i>Example</i>	<i>Health</i>	<i>Passive use value</i>	<i>Undisturbed sleep</i>	<i>Night-time sound level below limit (at place of residence)</i>	<i># Persons/year where defined threshold is not exceeded in dB(A) between 22 – 06 hours</i>	<i>Natural sound absorbers</i>

Source: Ott and Staub 2009

The following tools and guidance from other sources seem useful:

- For national accounting issues, the [UNSTATS – System of Environmental-Economic Accounts](#) (UNSTATS 2012) is a useful source.
- Several high-level initiatives on natural capital accounting were recently founded, e.g. the [WAVES](#) partnership (WAVES 2012) and the [Natural Capital Declaration](#) (NCD 2012).

5. Who are the stakeholders that may be affected?

How can they be involved and their needs addressed? What are the trade-offs to consider?

The following chapters and specific aspects from the TEEB reports are important:

POL Ch. 2 Framework and guiding principles for the policy response (p. 47).

POL Ch. 10 Responding to the value of nature (p. 451).

LCL Ch. 11 Making your natural capital work for local development (p. 281, Ch. 10 p. 173 in report).

- For information on addressing the right actors and balancing interests, see **POL Ch. 2.3.1**.
- TEEB highlighted four challenges with respect to distributing costs and benefits of ecosystem services (**POL Ch. 10.4, only in online report version**):
 - Making sure the right people pay;
 - Setting incentives in line with the distribution of nature's benefits;
 - Clarifying rights to resources;
 - Managing transition and overcoming resistance to change.
- **LCL Ch. 11.3** (p. 289, Ch.10.3, p. 180 in report) highlights the importance of stakeholder participation for local development and provides advice and examples for designing participatory processes and dealing with conflicts.

The following tools and guidance from other sources seem useful:

- For methods used in stakeholder analysis, see CBD 2005, Table 3 and Figure 2 (pp. 11-12).
- For guidance on analyzing ecosystem service trade-offs, see copied below Table 3.6 from the World Resource Institute's [Ecosystem Services - Guide for Decision makers](#) (WRI 2008, pp. 38-40). From the same guide, see also Box 3.4 (p. 40) for tools for analyzing trade-offs.

Table 3.6: Examples of Ecosystem Service Trade-offs

Decision	Goal	Example winners	Ecosystem services decreased	Example losers
Increasing one service at the expense of other services				
Draining wetlands for farming	Increase crops, livestock	Farmers, consumers	Natural hazard regulation, water filtration and treatment	Local communities including farmers and some downstream users of freshwater
Increasing fertilizer application	Increase crops	Farmers, consumers	Fisheries, tourism (as a result of dead zones created by excessive nutrients)	Fisheries industry, coastal communities, tourism operators
Converting forest to agriculture	Increase timber (temporarily), crops, livestock, and biofuels	Logging companies, farmers, consumers	Climate and water regulation, erosion control, timber, cultural services	Local communities, global community (from climate change), local cultures
Converting ecosystems and their services into built assets				
Coastal development	Increase capital assets, create jobs	Local economy, government, developers	Natural hazard regulation, fisheries (as a result of removal of mangrove forests or wetlands)	Coastal communities, fisheries industry (local and foreign), increased risks to coastal businesses
Residential development replacing forests, agriculture or wetlands	Increase capital assets, create jobs	Local economy, government, developers, home buyers	Ecosystem services associated with removed ecosystems	Local communities, original property owners and downstream communities
Competition among different users for limited services				
Increased production of biofuel	Reduce dependency on foreign energy	Energy consumers, farmers, government	Use of crops for biofuels instead of food	Consumers (rising food prices), livestock industry
Increased water use in upstream communities	Develop upstream areas	Upstream communities, industries	Water downstream	Downstream communities, industries

The following case studies are relevant here:

- In the [TEEB case from the Philippines](#), biodiversity in a marine protected area was restored by setting up a benefit sharing scheme that included all relevant stakeholders (Matt & Gebser, 2011).
- The IUCN Water Programme provides case studies on engagement and cooperative forms of negotiation in dealing with complex water issues (IUCN b).

6. What additional resources (financial, human and technical) will be required to reach the national target that is set?

How can additional funds be raised? What are possible funding sources?

The following chapters and specific aspects from the TEEB reports are important:

POL Ch. 5 Rewarding benefits through payments and markets (p. 177).

POL Ch. 6 Reforming subsidies (p. 259).

POL Ch. 7 Addressing losses through regulation and pricing (p. 286).

POL Ch. 9 Investing in ecological infrastructure (p. 401).

- Financial resources could be obtained through an environmental tax reform. For more information, see **POL Ch. 5.3**.
- For further practical advice on economic policy instruments and a regulatory framework that provide incentives for good stewardship of natural capital, see **POL Ch. 5**, **POL Ch. 6**, **POL Ch. 7**, as well as the [TEEB implementation guide for Aichi Target 3](#).
- For information on the role of government in financing conservation projects, see **POL Ch. 9.1**.

Actions and milestones

Depending on national circumstances, the integration of biodiversity could be undertaken in a step wise or incremental manner by first including those values of biodiversity which are easiest to account for and then further developing or enhancing systems for integrating biodiversity values into decision making processes. To do so, in many countries there will be a need to increase coordination among government ministries and different levels of government. Possible starting points for work towards any target set could be to:

- Showcase critical values of “flagship” ecosystems.
- Integrate, as applicable and adequate, a guideline for applying economic biodiversity valuation.
- Integrate guidelines for applying or strengthening biodiversity valuation into guidelines for the application of environmental impact assessment (EIA), strategic environment assessment (SEA); and, using spatial mapping technologies.
- Establish or strengthen cooperation with national statistics offices.
- Explore opportunities to strengthen ecosystem components in sectoral green accounting, for example in energy, transport or water policies.
- Use opportunities arising along policy cycles to integrate biodiversity valuation results and associated recommendations into national and local development and poverty reduction strategies, sector development plans and landscape level planning.

Possible indicators:

- Trends in incorporating natural resource, biodiversity, and ecosystem service values into national accounting systems.
- Trends in number of assessments of biodiversity values, in accordance with the Convention.
- Trends in guidelines and applications of economic appraisal tools.
- Trends in integration of biodiversity and ecosystem service values into sectoral and development policies.
- Trends in policies considering biodiversity and ecosystem services in environmental impact assessment and strategic environmental assessment.

CBD COP 10 decisions with TEEB-relevant information for Target 2

The following COP 10 decisions provide useful additional information and recommendations for implementation of Aichi Target 2.

Subsection	Relevant text of COP decision
	Decision X/2 – The Strategic Plan for Biodiversity 2011-2020
3.d.	The COP, welcoming also the study on [TEEB], urges Parties and other Governments, [...] to use the revised and updated [NBSAPs] as effective instruments for the integration of biodiversity targets into national development and poverty reduction policies and strategies, national accounting, as appropriate, economic sectors and spatial planning processes, by Government and the private sector at all levels.
Annex I, 10.e.	Achieving this positive outcome requires actions at multiple entry-points, which are reflected in the goals of this Strategic Plan. [...] (e) [...] National planning processes need to become more effective in mainstreaming biodiversity and in highlighting its relevance for social and economic agendas [...]
Annex V, 16.	Parties to the Convention should be encouraged to establish national biodiversity targets [...] and outline the measures and activities that will achieve this, such as the development of comprehensive national accounting [...] that integrate the values of biodiversity and ecosystem services into government decision-making with the full and effective participation of indigenous and local communities and other stakeholders.
	Decision X/3 – Strategy for resource mobilization in support of the achievement of the Convention's three objective
A.9.b.	The COP considers [...] that All Parties provided with adequate financial resources, will have, by 2015 assessed and/or evaluated the intrinsic value, ecological, genetic, social economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components.

	Decision X/4 – Third edition of the Global Biodiversity Outlook: implications for the future implementation of the Convention
5.a.	The COP notes that a strategy for reducing biodiversity loss requires action at multiple levels including: Mechanisms for addressing the underlying causes of biodiversity loss, including a recognition of the benefits of biodiversity and their reflection within economic systems and markets, as well as their consideration in planning and policy processes at the national and local levels.
	Decision X/6 – Integration of biodiversity into poverty eradication and development
1.	The COP calls for enhanced efforts to promote capacity-building for mainstreaming biodiversity and ecosystem services into broader poverty eradication and development processes as a means to contribute to the implementation of the Convention and its Strategic Plan for Biodiversity 2011-2020, including the [MDGs], especially for developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition.
	Decision X/21 – Business engagement
1.e.	The COP invites Parties [...] to develop, and report on, national activities that promote and facilitate the mainstreaming of biodiversity by business, such as through regulations and, as appropriate, economically and socially sound incentive measures, [NBSAPs] as well as national reports.
	Decision X/25 – Additional guidance to the financial mechanism
5.	The COP, in accordance with Article 20 of the Convention, invites developed country Parties, other Governments and donors, and the financial mechanism to provide financial and technical support to eligible countries to further develop approaches on the integration of biodiversity into poverty eradication and development processes.
	Decision X/28 – Inland water supply
12.	The COP encourages Parties and other Governments to take into full account inland water ecosystems and their values in their sectoral development plans and national accounting, as appropriate, and reporting systems.
	Decision X/29 – Marine and coastal biodiversity
13.i.	The COP encourages Parties to [value] marine and coastal biodiversity and ecosystem services and its integration into national accounting systems in order to increase sectoral integration.
	Decision X/31 - Protected Areas
B.1.10.c.	The COP invites Parties to develop and implement additional means and methods of generating and allocating finance, inter alia, on the basis of stronger valuation of ecosystem services, taking into account the findings of the [TEEB] study [...]
B.8.27.	The COP requests the Executive Secretary in collaboration with the IUCN World Commission on Protected Areas and other partners, including indigenous and local communities, [...] to explore and evaluate existing methodologies and guidelines for measuring the values, costs and benefits of protected areas, bearing in mind the characteristics of the different biomes and ecosystems [...], including on the findings of the [TEEB] study, and disseminate the results of the evaluation for Parties to apply if need be.

Decision X/32 – Sustainable use of biodiversity	
2.b.	The COP invites Parties and other Governments to [...] further integrate the values of biodiversity and ecosystem services into national policies, plans, and strategies for relevant economic sectors, for example through the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity, in order to promote sustainable use of components of biodiversity, and strengthen the implementation of existing plans.
2.g.	The COP invites Parties and other Governments to [...] where appropriate, review, revise and update [NBSAPs], taking into account the Strategic Plan for Biodiversity 2011-2020, to further coordinate at the national level and engage different sectors (including, inter alia, energy, the financial sector, forestry, wildlife management, fisheries, water supply, agriculture, disaster prevention, health, and climate change) to fully account for the value of biodiversity and ecosystem services in decision-making.
Decision X/44 – Incentive Measures	
6.	The COP, recognizing the importance of assessing the values of biodiversity and ecosystem services for the enhanced calibration of positive incentive measures, invites Parties and other Governments, in accordance with their national legislation, to take measures and establish, or enhance mechanisms with a view to accounting for the values of biodiversity and ecosystem services in public and private sector decision making, including by revising and updating [NBSAPs] to further engage different sectors of government and the private sector, building on the work of the TEEB initiative, the UNDP regional initiative on the importance of biodiversity and ecosystems for sustained growth and equity in Latin America and the Caribbean, and other relevant initiatives, and to also consider undertaking, as appropriate, similar studies at national level.

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