
INCORPORATING BIODIVERSITY AND ECOSYSTEM SERVICE VALUES INTO NBSAPS

ROADMAP TO SUPPORT NBSAP PRACTITIONERS



This roadmap has been produced as an output of a joint UNEP-WCMC and IEEP project, funded by Defra, and in collaboration with the CBD Secretariat to examine the '*Lessons learnt from incorporating biodiversity and ecosystem service values into NBSAPs*'.

Authors

This document has been co-authored by staff and advisors of UNEP-WCMC and IEEP: Anna Chenery, Hollie Booth, Cristina Secades, Leonardo Mazza, Claire Brown and Patrick ten Brink.

Acknowledgements

UNEP-WCMC and IEEP would like to gratefully acknowledge the financial support of Defra.

The authors also wish to express deep gratitude to the project consultative group for their help and guidance in production of this document and other project outputs: Markus Lehmann, and Nadine Saad, the Secretariat of the Convention on Biological Diversity (SCBD); Edgar Selvin Pérez (San Carlos University of Guatemala); Alissa Takesy (Federated States of Micronesia national government); Jamison Ervin, United Nations Development Programme (UNDP); Kirsten Probst, German Society for International Cooperation (GIZ); Solhaug Tone (Ministry of Environment, Norway); Nicolas Bertrand, The Economics of Ecosystems and Biodiversity (TEEB); and Soso Kartsivadze (Ministry of Environment Protection and Natural Resources, Georgia).

Further information

This roadmap is one of two key outputs of the project '*Lessons learnt from incorporating biodiversity and ecosystem service values into NBSAPs*':

Roadmap: an easily accessible tool to support Parties in incorporating biodiversity and ecosystem services into NBSAPs. This document provides succinct information on how values can be incorporated, the entry points at different stages of NBSAP updating process, and the different approaches to support incorporation of values (www.unep-wcmc.org/roadmapforNBSAPs_1027.html).

Guidance document: The guidance document compliments the roadmap and provides more detailed information of experiences and lessons learned, as well as further technical information on process and approaches (www.unep-wcmc.org/guidanceforNBSAPs_1026.html).

Legal notice

The contents of this report do not necessarily reflect the views or policies of UNEP-WCMC, IEEP or funders (Defra). The designations employed and the presentations do not imply the expressions of any opinion whatsoever on the part of UNEP-WCMC and IEEP concerning the legal status of any country, territory, city or area and its authority, or concerning the delimitation of its frontiers or boundaries.

WHY INCORPORATE VALUES INTO YOUR NBSAP?

The 10th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP 10) saw the adoption of the new Strategic Plan for Biodiversity 2011-2020 (Decision X/2) and its Aichi Biodiversity Targets. Decision X/2 explicitly invites parties to translate this overarching framework into **updated and revised NBSAPs**. The incorporation of biodiversity and ecosystem service values into NBSAPs will assist countries in developing revised Strategies, which are compliant with the following targets:

- ◆ Aichi 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
- ◆ Aichi 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**

Incorporating the values of biodiversity and ecosystem services into NBSAPs can result in a multitude of related benefits - ranging from **biodiversity mainstreaming** (ensuring that biodiversity is taken into account in other sectoral policies), to achieving **national outcomes** (e.g. meeting environmental objectives, supporting economic development, improved policy coherence and governance), to **improving human well-being** at local, national and global scales.



Effective incorporation of the values of biodiversity and ecosystem services into NBSAPs will in particular result in the following by-products:

- ◆ Initiating an NBSAP revision process that is structured to ensure due incorporation of the values of biodiversity and ecosystems, and development of targets and activities to ensure mainstreaming of such values into other sectoral planning policies and reporting systems. This will require the involvement of various stakeholders who benefit from the services that nature provides. This will inevitably increase awareness of actual and potential benefits from the sustainable use of natural resources across sectors and different policy spheres – a prerequisite to reaching many of the objectives of the CBD

- ◆ Having references to the various values of biodiversity in the revised NBSAPs, which helps make the document relevant and accessible to a wider audience and make a stronger case for the conservation and the sustainable use of biodiversity. It may also mobilise actors who would otherwise not have seen a role for themselves in CBD-related processes and policies

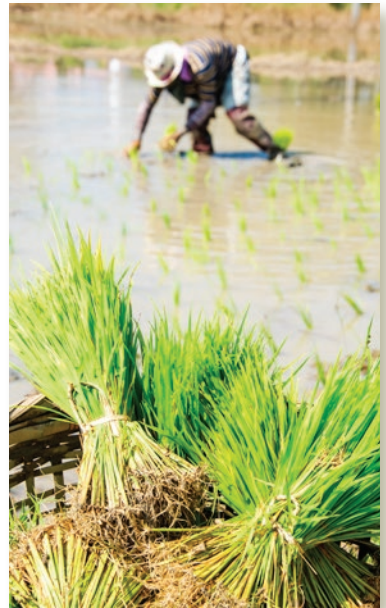
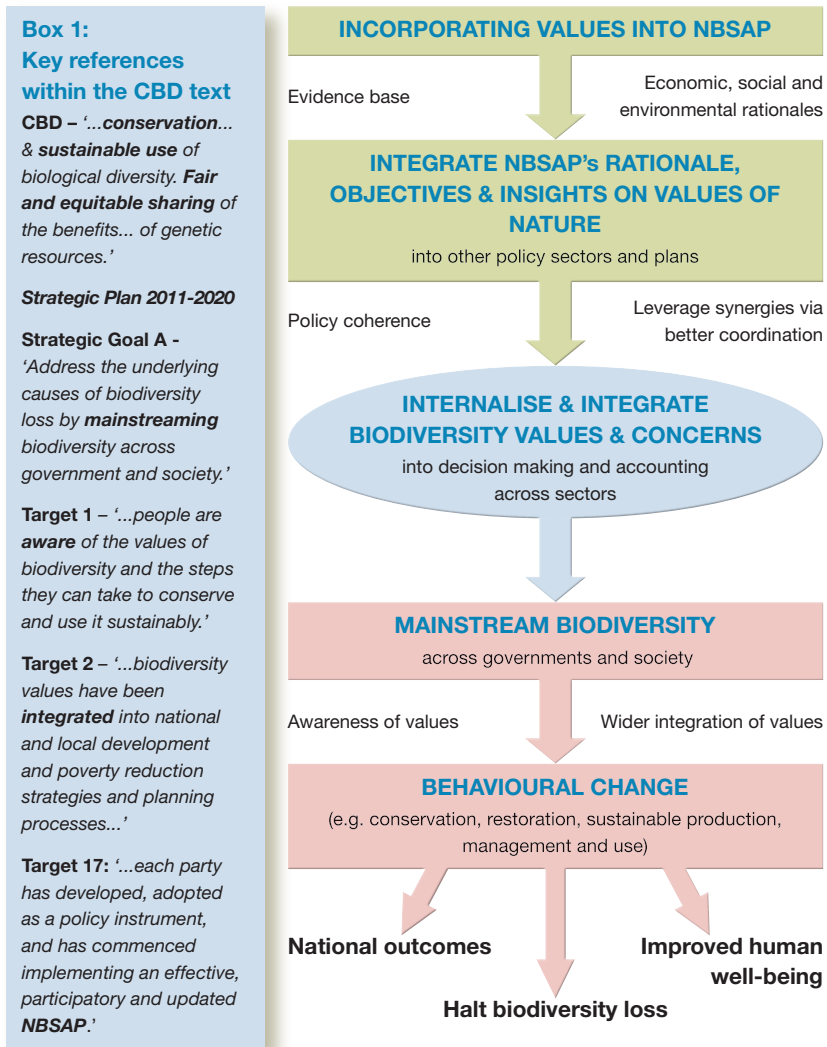


Figure 1: How demonstration of the values in the revised NBSAP may strengthen NBSAP implementation, in particular with regards to awareness raising, resource mobilisation and mainstreaming of the values in relevant sectors



HOW TO INCORPORATE VALUES AS PART OF THE NBSAP UPDATING PROCESS

Entry points and supporting approaches for incorporating the values of biodiversity and ecosystem services exist at every stage of the NBSAP updating process. The table below highlights which approaches can be relevant in the different NBSAP updating steps identified by the CBD:

Supporting APPROACHES for incorporating biodiversity and ecosystem service values into NBSAPs

		Stakeholder engagement	Ecosystem assessment	Ecosystem service mapping	Ecosystem service Indicators	Monetary valuation	Accounting
Getting organised	<ul style="list-style-type: none"> Organise logistics Take Stock 	Organising logistics and taking stock will require some initial stakeholder engagement : for consultation on the existing NBSAP and identifying gaps; for gathering a suitably-skilled team; and for developing a shared structure and plan to take the revision forward. Considering biodiversity and ecosystem service values at this stage will allow the development of an engagement strategy and workplan, which will ensure the incorporation of these values.					
Engaging and Communicating with stakeholders	<ul style="list-style-type: none"> Identify relevant stakeholders Develop tailored communication and outreach plan 	Comprehensive stakeholder engagement , across a range of actors, is fundamental to identifying national priorities, understanding and aligning diverse values, and incorporating these values into the overall goals of NBSAP updating. Stakeholder engagement is both an important step and an underlying approach which should be considered throughout, with on going communication and outreach to mainstream the NBSAP into sectors and society					
Gathering information	Assess: <ul style="list-style-type: none"> Status & trends of biodiversity & biodiversity loss Linkages between biodiversity & society The legal, institutional & policy environment Biodiversity finance Status of public awareness Identify knowledge gaps 	Robust biophysical data underpins biodiversity and ecosystem service values. An ecosystem assessment can help to gather data on the status and trends of biodiversity, and its links to human well-being and society. Ecosystem service mapping and ecosystem service indicators are also useful entry points for representing and communicating spatial and temporal data of this nature, providing a 'stock take' of natural capital and helping to identify targets, priorities and actions for NBSAPs. Monetary valuation can be undertaken within the same process to explicitly demonstrate the economic benefits of biodiversity and ecosystem services. Similarly, natural capital and environmental economic accounts can (over time) offer additional indicators on the state of natural capital, related changes (including drivers of degradation) and implications for the economy.					
Developing strategies and actions	<ul style="list-style-type: none"> Establish national vision Set national targets Identify specific strategies 	Stakeholder engagement and deliberative processes can act to identify realistic and workable strategies for incorporating and mainstreaming ecosystem service and biodiversity values. This may be used in conjunction with an ecosystem assessment , and other information gathering approaches, to communicate values to decision-makers, develop plausible future scenarios and identify scientifically-informed strategic options for the NBSAP.					
Developing implementation and resource mobilisation plans	<ul style="list-style-type: none"> Outline and prioritise specific actions Develop resource mobilisation plan Ensure strategies and actions are fully incorporated into national policies Finalise indicator set and develop monitoring plan Develop plan for Clearinghouse Mechanism 	Identifying specific actions for biodiversity and key ecosystem service values will involve stakeholder engagement to discern key actors and ensure the actions are realistic and practical for those actors. Information on ecosystem services from assessments, mapping, indicators, accounting and valuation help to identify key themes and priorities, and a number of instruments including policy documents, legislation can put actions into practice. Carrying out actions and initiating change may require additional resources, or a new resource mobilisation plan. Monetary valuation techniques can help to put values into economic terms, put resource requirements into context and engage new funders. Similarly, improved understanding of a country's natural capital stock and depreciation can encourage efforts at mobilising funding. Finally, revised legislation can also support innovative biodiversity financing.					
Implementing the NBSAP	<ul style="list-style-type: none"> Engage stakeholders in implementation Implement specific NBSAP strategies and actions Mobilise domestic and international financial resources 	New policy documents and legislation can act as practical instruments for implementing change. Facts and figures from ecosystem assessments, environmental-economic accounts and monetary valuation studies can each demonstrate the biodiversity and ecosystem service values in the NBSAP, strengthening political will and sectoral implementation, facilitating biodiversity mainstreaming.					
Monitoring and reporting	<ul style="list-style-type: none"> Develop National Reports Communicate results of implementation Review and adapt priorities 	Following the progress of the NBSAP and its implementation is critical for continuous learning and adaptive management. On going stakeholder engagement can communicate biodiversity and ecosystem service values as part of the NBSAP, develop opportunities for knowledge transfer, and maintain interest as national circumstances and values change. Additionally, monitoring the impacts of NBSAPs on ecosystem services, biodiversity and human-well being, and periodically reviewing and adapting the NBSAP as necessary, can be supported by on going assessment, mapping, maintaining natural capital and environmental economic accounts and tracking ecosystem service indicators .					

Figure 2. Entry points and supporting approaches for incorporating the values of biodiversity and ecosystem services at each step of the NBSAP updating process.

1. GET ORGANISED

- ◆ Organise logistics
- ◆ Take stock

In the initial stages of NBSAP updating, careful planning is necessary to set a direction for the updating process, and take forward existing capacity and resources. Clear **commitments** to incorporate values at this stage, as well as an overview of **which** type of values, and **how** they will be incorporated, can set the process off on the right foot.

TIPS

- ✓ Include clear objectives, which specifically focus on biodiversity and ecosystem services values, in the work plan, and ensure there are sufficient resources allocated to achieving these objectives.
- ✓ Build a team with the appropriate skills, experience and authority, and develop a cross-sectoral coordination and communication plan, to ensure biodiversity and ecosystem service values are appropriately embedded into existing structures and key sectors.
- ✓ Ensure the data management plan includes space for qualitative and quantitative data, to incorporate the different types of values, as well as adopt a spatial perspective. Standardisation of criteria and methods for generating data facilitate the integration of different types of information and a robust analysis.
- ✓ When reviewing the existing NBSAP, consider where existing information on biodiversity (including intrinsic value) and ecosystem service values could be incorporated.
- ✓ Consider including a valuation component in the biodiversity assessment, and where there are significant gaps, incorporate commitments to carry out valuation studies into the NBSAP.
- ✓ Initial **stakeholder engagement** can facilitate...
 - ◆ Review of the existing NBSAP, helping to identify gaps
 - ◆ Building a suitably-skilled team
 - ◆ Developing an engagement strategy, work plan and a shared understanding to take the revision forward

2. ENGAGE AND COMMUNICATE WITH STAKEHOLDERS

- ◆ Identify relevant stakeholders
- ◆ Develop tailored communication and outreach plan

As both a major step in the updating process, and an on-going supporting approach, comprehensive stakeholder engagement across a range of actors is critical to the entire NBSAP updating process, and in particular to incorporating the diverse values of biodiversity and ecosystem services into NBSAPs.

TIPS

- ✓ Think carefully about the key users of biodiversity and ecosystem services in your country, and be inclusive to ensure all relevant views and values are sought and fully taken into account.
- ✓ Maintain stakeholder engagement throughout. Opportunities to engage new audiences may occur at different steps in the updating process. Support participation and allow space for continuous dialogue, knowledge exchange and joint learning.
- ✓ Think strategically about your communication and outreach, align the values of biodiversity and ecosystem services with national and sectoral priorities, and use different languages and communication tools for different audiences to clearly articulate the benefits that biodiversity can provide to people, communities, and the economy, beyond conservation.
- ✓ Completing a stakeholder analysis and mapping can improve understanding of how biodiversity and ecosystem service values links with each stakeholder group's interests, and identify how best to engage with them.
- ✓ **Stakeholder engagement** can...
 - ◆ Improve the evidence base for NBSAP development
 - ◆ Provide an understanding of national priorities and practical, grounded guidance
 - ◆ Align diverse values across stakeholders
 - ◆ Enable incorporation of values into the overall goals of NBSAP updating
 - ◆ Align NBSAP goals with the achievement of overarching desirable outcomes
 - ◆ Mainstream the NBSAP, biodiversity and its values into sectors and society
 - ◆ Provide an understanding of how values can be incorporated into existing structures, thus improving uptake, implementation and operationalisation

3. GATHER INFORMATION

- ◆ Assess status & trends of biodiversity & biodiversity loss
- ◆ Assess linkages between biodiversity, society & the economy
- ◆ Assess the legal, institutional & policy environment
- ◆ Biodiversity finance
- ◆ Status of public awareness

The NBSAP should rest upon a scientific evidence base, to provide justification for priorities and actions. The value of biodiversity and ecosystem services is contingent both on biophysical characteristics of the ecosystems and wider biodiversity and on the socio-economic context. Robust scientific data will be needed to develop well-informed strategies for their maintenance.

TIPS

- ✓ Begin by strategically identifying the key ecosystem services within the national context, and gather information on their social and economic values.
- ✓ Use values to highlight the contribution of nature to national priorities, from local livelihoods and poverty alleviation to economic development.
- ✓ Highlight the economic and social costs of biodiversity loss versus the gains of protection, conservation and sustainable management.
- ✓ Gather spatially explicit data and create plausible future scenarios to inform prioritisation and management options.
- ✓ Use existing information as far as possible to create an evidence base for stakeholders and decision makers. Begin with what is available, refine data systems over time, and build capacity and interest through learning by doing.
- ✓ Don't be afraid to highlight what is not known. If data is lacking, make commitments to gather more information. Completing a pilot or scoping study can be an important step forward for incorporating or mainstreaming values.



Aleksander Todorovic / Shutterstock.com

- ✓ **An ecosystem assessment can...**
 - ◆ Gather data on the status and trends of biodiversity, and its links to human well-being and society
- ✓ **Ecosystem service mapping and indicators can...**
 - ◆ Synthesise and communicate spatial and temporal data, providing a 'stock take' of natural capital and helping to identify targets, priorities and actions
- ✓ **Natural capital or ecosystem capital accounts as well as other environmental-economic accounts can...**
 - ◆ Help ensure that (biophysical and monetary) data is collected consistently in a format that allows to link it easily to the system of national accounts, thus allowing for a macro-economic analysis of the inter-linkages between ecosystems, their economic value to specific sectors and the national economy
- ✓ **Monetary assessments (to complement other measures of value) can...**
 - ◆ Express benefits from nature in a format that facilitates their consideration in other spheres of decision making, including a wider range of economic sectors and government departments



4. DEVELOP STRATEGIES AND ACTIONS

- ◆ Establish national vision
- ◆ Set national targets
- ◆ Identify specific strategies

An overarching strategy for achieving the NBSAP provides a vision and direction for achieving central goals, and associated benefits. Incorporating specific targets and strategies based on biodiversity and ecosystem services values within your national context can ensure goals are met and pave the way for values mainstreaming.

TIPS

- ✓ Think about long-term goals and priorities relating to biodiversity and ecosystem services values, and who the key actors might be in achieving these goals.
- ✓ Include nested targets, goals and priorities that specifically relate to biodiversity and ecosystem service values and the potential benefits, at local, national and regional levels, of their incorporation into national frameworks and practices.
- ✓ Develop targets in conjunction with stakeholder engagement and scientific knowledge to ensure they are based on accurate, useful information. Scenario analysis focused on how biodiversity and ecosystem service values might change in the future can identify realistic, scientifically sound strategies.
- ✓ When developing targets, be foresighted, but be realistic. Ensure targets are based on the national context and priorities. For example, if information on biodiversity and ecosystem services is limited, make commitments to undertake an ecosystem assessment, in order to develop a better understanding of the issues at hand. Where science is already well-developed, make a more ambitious target to incorporate biodiversity and ecosystem services into national accounting.
- ✓ Make SMART targets - **s**pecific, **m**easurable, **a**ttainable, **r**elevant, **t**ime-bound.
- ✓ Consider the resource requirements for achieving values-related targets. Put these into context with facts and figures from valuation studies.
- ✓ **Stakeholder engagement** and deliberative processes can...
 - ◆ Identify workable strategies relating to existing frameworks and national priorities
 - ◆ Encourage buy-in to policy decisions, the choice of instruments and support effective implementation
- ✓ An **ecosystem assessment** and other information gathering approaches can...
 - ◆ Communicate values to decision-makers, develop plausible future scenarios and identify scientifically-informed strategic options for the NBSAP

5. DEVELOP IMPLEMENTATION AND RESOURCE MOBILISATION PLANS

- ◆ Outline and prioritise specific actions
- ◆ Develop resource mobilisation plan
- ◆ Ensure strategies and actions are fully incorporated into national policies
- ◆ Finalise indicator set and develop monitoring plan
- ◆ Develop plan for Clearinghouse Mechanism

Implementation and resource mobilisation plans are critical for action on the ground. Considering biodiversity and ecosystem service values at this stage ensures that specific actions are developed to fully incorporate and mainstream values in practice.

TIPS

- ✓ Continue to engage relevant stakeholders; particularly consider the key actors for implementing values plans on the ground. Maintain a cross-sectoral overview and ensure actions are taken to incorporate values into legislation, policy and accounting, which are also aligned with existing structures and practices.
- ✓ Capacity building is fundamental for implementation, equipping actors with the necessary knowledge and skills to carry out values-based actions.
- ✓ Develop realistic timelines for carrying out actions relating to values, with short, medium, and long term goals. Ensure appropriate mechanisms are in place for completing each action and address progress in the monitoring and reporting stage.
- ✓ When estimating the costs of implementing the NBSAP include the potential benefits of taking into account the values of biodiversity and ecosystem services. This can support resource mobilisation by putting resource requirements into context, attracting attention and engaging possible funders.
- ✓ Think strategically about engaging funders. Identify key sectors benefitting from biodiversity and ecosystem service values: who are the primary users and key indirect beneficiaries, how will they benefit from investments in biodiversity and ecosystem services, what on-going financial mechanisms are available to secure sustained funding? This may require the development and implementation of innovative financial mechanisms.

✓ **Stakeholder engagement** can...

- ◆ Identify key actors and ensure values-based actions are realistic and practical
- ◆ Ensure co-ownership of the strategies and plans

✓ **Ecosystem assessments, mapping, indicators and valuation** can...

- ◆ Help to identify key themes and priorities, and can put values in economic terms

✓ **Accounting** can...

- ◆ Provide the necessary evidence to make the polluters or the users pay

✓ **Monetary assessments** can...

- ◆ Help put the costs in perspective by comparing them to the potential benefits that could be achieved by investments and clarify cost-benefit ratios



6. IMPLEMENT THE NBSAP

- ◆ Engage stakeholders in implementation
- ◆ Implement specific NBSAP strategies and actions
- ◆ Mobilise domestic and international financial resources

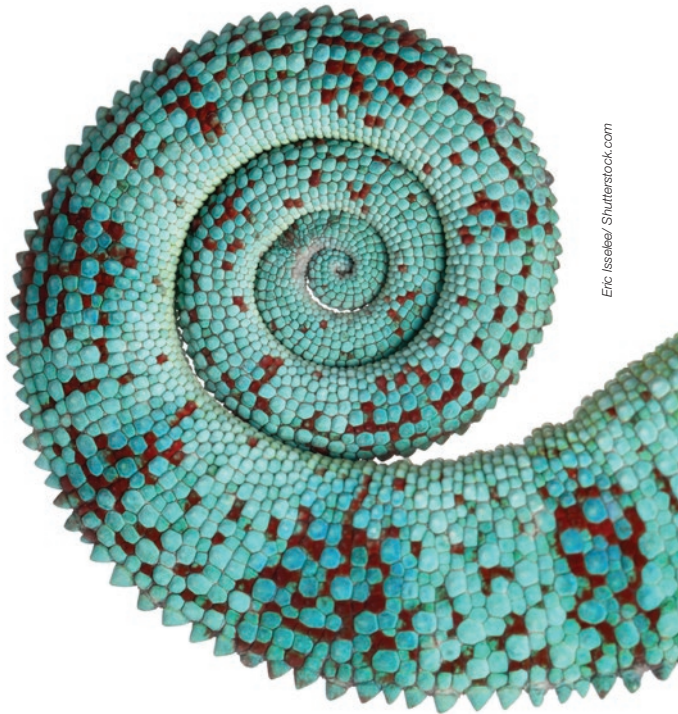
Only if the NBSAP is fully implemented will the real opportunities and benefits of biodiversity and ecosystem service values be realised. Developing the NBSAP in close consultation with stakeholders and key actors should provide the enabling conditions for implementation. It is at this stage that values need to be fully integrated into national frameworks and rolled-out across policy and the public sphere.

TIPS

- ✓ Leverage the positions and skills of stakeholders and advisors involved in the NBSAP updating process, particularly those most relevant to implementing change. They can act as champions to communicate and integrate the understanding of the multiple values of nature in their own sector and help encourage due implementation.
- ✓ Ensure comprehensive and coherent integration of biodiversity and ecosystem service values across policies, laws and budgets, and across sectors. An integrated, concerted effort will be necessary to bring change and achieve desired outcomes.
- ✓ Ensure implementation is based on an understanding of how the NBSAP and values are likely to be used. Build on existing practices and structures to facilitate uptake.
- ✓ Continue to articulate the benefits of biodiversity and ecosystem services, and the values they provide. Use facts and figures based on scientific assessment, but ensure scientific data is translated into communicable policy-relevant information. Relate plans to national priorities such as development and poverty alleviation, supported with examples of success.
- ✓ Consider a variety of media and fora to reach a range of audiences. Hold public consultations to understand and communicate the multiple values of nature. Align communications with sectoral priorities, and identify strategic, relevant examples for strengthening will and support in different sectors.

✓ *Ecosystem assessments, environmental accounts and monetary valuation* can...

- ◆ Provide an evidence base to support the inclusion of biodiversity and ecosystem service values in sectoral plans, creating a basis to strengthen political will
- ◆ Create windows of opportunity for action and commitments
- ◆ Facilitate biodiversity mainstreaming and prepare the ground for sectoral implementation



7. MONITORING & REPORTING

- ◆ Develop National Reports
- ◆ Communicate results of implementation
- ◆ Review and adapt priorities

Following the progress of the NBSAP and its implementation is critical for full uptake of plans and actions, continuous learning and adaptive management. Monitoring and reporting systems need to include methods for tracking biodiversity and ecosystem service values and related actions, to ensure they are implemented and effective.

TIPS

- ✓ Take an integrated approach. Create systems to monitor and report on biodiversity and ecosystem service values across thematic areas, rather than in isolation.
- ✓ Ensure communication outputs are easily understandable for a variety of audiences. Develop indicators to synthesise information and communicate major trends.
- ✓ When communicating results, make reference to the beneficial outcomes from considering biodiversity and ecosystem service values, but don't be afraid to highlight challenges, lessons learned and gaps to gain support and pave the way for future work.
- ✓ Review available data and monitoring systems to identify existing options for on-going monitoring of biodiversity and ecosystem service values. If possible, integrate these across different thematic areas, with a number of mechanisms for tracking progress.
- ✓ Think about how your national context may change, and how this influences biodiversity and ecosystem service values. Values are not fixed, they will change over time and are affected by many factors (e.g. demography, income, scarcity, climate). The most suitable mechanisms for monitoring and integrating biodiversity and ecosystem service values into society may change in line with other circumstances. Comprehensive monitoring and reporting systems will facilitate the review and adaptation process.

✓ **Stakeholder engagement** can...

- ◆ Communicate biodiversity and ecosystem service values, and maintain knowledge transfer for monitoring values and the broader national context

✓ **Maintaining natural capital/ecosystem capital accounts, and tracking ecosystem service indicators** can...

- ◆ Help to monitor the impacts of the NBSAP on ecosystem services, biodiversity and human well-being, and periodically review and adapt the NBSAP as necessary



COMMON EXAMPLES OF GOOD PRACTICE

In compiling this roadmap, six case-study countries contributed their lessons, experience and plans, (see Annex, www.unep-wcmc.org/guidanceforNBSAPS_1026.html). A number of re-occurring examples of good practice for incorporating values of biodiversity and ecosystem services throughout the NBSAP development process were identified. These include:

- ◆ **Create a clear governance structure.** E.g.:
 - ◆ Cross-sectoral leadership
 - ◆ Separate groups with well-defined roles and responsibilities
 - ◆ Transparent, participatory approach
 - ◆ Clear process management mechanisms
- ◆ **Ensure a common understanding of values amongst all stakeholders.** E.g.:
 - ◆ Comprehensive consultation, regular meetings and workshops
 - ◆ Awareness raising activities and capacity building
 - ◆ Cross-sectoral collaboration
 - ◆ Translation of science into policy-relevant information
- ◆ **Take a focus on national priorities and key themes.** E.g.:
 - ◆ Strategically highlight the contributions of biodiversity and ecosystem services to human well-being and the economy
 - ◆ Identify key users and beneficiaries of biodiversity and ecosystem services, in particular key sectors such as agriculture and forestry
- ◆ **Build on existing structures and processes to implement change.** E.g.:
 - ◆ Work with key users and actors to develop an understanding of how biodiversity and ecosystem service values can be incorporated and used in wider decision making processes
 - ◆ Identify opportunities for collaboration and synergies with other relevant projects, organisations and sectors
- ◆ **Integrate bottom-up and top-down approaches.** E.g.:
 - ◆ Take a nested approach from local to national
 - ◆ Identify a champion at national government level
 - ◆ Consult stakeholders on the ground and build practical capacity
- ◆ **Make the most of existing data and capacity, and build on this through learning by doing.** E.g.:
 - ◆ Use data from existing studies as an evidence base
 - ◆ Work with what is available and refine data and systems over time
 - ◆ Conduct scoping or pilot studies
 - ◆ Make commitments to gather more data

Examples from the case-study countries have been used to illustrate how each of the key steps in NBSAP updating can be used as a point of entry for incorporating values of biodiversity and ecosystem services (Figure 3).

Figure 3: The seven key steps in NBSAP Development, and opportunities for the incorporation of biodiversity and ecosystem service values

1. GETTING ORGANISED

Organising logistics and taking stock will require some initial stakeholder engagement: for consultation on the existing NBSAP and identifying gaps; for gathering a suitably-skilled team; and for developing a shared structure and plan to take the revision forward. Considering biodiversity and ecosystem service values at this stage will allow the development of an engagement strategy and work plan, which ensure their incorporation.

In **Burkina Faso** a coordinating group has been put in place, alongside clear process management structures and a schedule for meetings and workshops. Furthermore, a national biodiversity committee has been established, by an inter-sectoral decision, to drive the NBSAP revision. The committee will include representatives from key ministerial departments to ensure an adequately skilled team in line with the main themes of the CBD Strategic Plan. Similar supporting 'advisory boards' have also been established in **Micronesia** and **Georgia**. In **South Africa**, during the stocktaking phase, a number of experts were consulted to provide strategic assessments of key thematic areas (including spatial issues, economic integration and poverty reduction). A series of consultative workshops were conducted to discuss and refine the results, attended by national, regional and local government staff, NGOs and civil society representatives.

2. ENGAGING & COMMUNICATING WITH STAKEHOLDERS

Comprehensive stakeholder engagement across a range of actors is fundamental to identifying national priorities, understanding and aligning diverse values, and incorporating these values into the overall goals of NBSAP updating. Stakeholder engagement is both a step and an approach which should be considered throughout, with ongoing communication and outreach to mainstream the NBSAP into sectors and society.

In **Guatemala**, past collaboration between government and academia has yielded great results, so their latest NBSAP update took a participatory approach, involving 67 institutions and over 167 actors, to integrate knowledge from all sectors. In **Micronesia**, national stakeholder workshops were conducted to clarify key issues and develop the NBSAP in a participatory manner. This helped to identify national and state-level priorities, and mainstream the NBSAP into multiple sectors. For both countries, even broader stakeholder participation is planned in the next round of NBSAP updating, with commitments to gather more data and explicitly address biodiversity and ecosystem service values.

3. GATHERING INFORMATION

Robust biophysical data underpins biodiversity and ecosystem service values. An ecosystem assessment can help to gather data on the status and trends of biodiversity, and its links to human well-being and society. Ecosystem service mapping and indicators are also useful entry points for representing and communicating spatial and temporal data of this nature, providing a 'stock take' of natural capital and helping to identify targets, priorities and actions for NBSAPs. Similarly, natural capital and environmental economic accounts can (over time) offer additional indicators on the state of natural capital, related changes (including drivers of degradation) and implications for the economy.

South Africa was the first country to incorporate a comprehensive spatial assessment as part of its NBSAP. Priority areas for conservation action identified by the spatial assessment were used to support the process of developing targets and actions. In addition, spatial assessments in South Africa are used to produce biodiversity sector plans, the primary tool for mainstreaming biodiversity at the local and district levels. The UK NEA was a comprehensive appraisal of the UK's natural environment in terms of the benefits it provides to society and to continuing economic prosperity. Based on this data, the government published a White Paper making bold commitments to putting the value of nature at the centre of decision making. Subsequent NBSAP updating emphasised the importance of healthy, well-functioning ecosystems and coherent ecological networks. In **Micronesia**, a parallel eco-regional planning process provided spatially explicit data on high priority areas, acting as tangible objectives to be incorporated into the NBSAP.

4. DEVELOPING STRATEGIES AND ACTIONS

*Stakeholder engagement and deliberative processes can help identify realistic and workable strategies for incorporating and mainstreaming ecosystem service and biodiversity values, which relate to existing frameworks and national priorities. This may be used in conjunction with an **ecosystem assessment**, and other information-gathering approaches, to communicate values to decision-makers, develop plausible future scenarios and identify scientifically-informed strategic options for the NBSAP.*

Cross-sectoral collaboration in **Guatemala** has led to a commitment to conduct more research into not only the values of biodiversity and ecosystem services, but also the costs of degradation in support of strategic restoration activities. Preparatory work has included a workshop on ecological restoration and a proposed National Network of Ecological Restoration to identify and prioritise degraded ecosystems. In **Burkina Faso**, linking environmental issues to broader national priorities - combating land degradation and alleviating poverty - has helped to develop integrated sustainable land management strategies. High level commitments have been made for ecosystem evaluations, mapping, and new institutional frameworks, complemented by 'good practice' studies and on-the-ground education and training.

5. DEVELOPING IMPLEMENTATION & RESOURCE MOBILISATION PLANS

*Developing specific actions centred on biodiversity and ecosystem service values will involve **stakeholder engagement** to identify key actors and ensure the actions are realistic and practical. Information on ecosystem services from **assessments, mapping, indicators and valuation** helps to identify key themes and priorities, and a number of instruments including policy documents and legislation can put actions into practice. Implementation will also require resources. **Monetary valuation** can put values into economic terms, put resource requirements into context and engage new funders. Similarly improved understanding of a country's **natural capital** stock and depreciation can encourage efforts at mobilising funding. Finally, revised legislation can also support innovative biodiversity financing.*

In Micronesia, an all-inclusive engagement process helped to develop state level BSAPs as implementation plans sitting under the guiding framework of the overall NBSAP. The Micronesia Conservation Trust acts as a funding source for implementation activities with the ambitious 'Micronesia challenge' helping to promote awareness and generate additional funds. In **Georgia**, monetary valuation studies were used to demonstrate the value of protected areas, with sector scenario analysis clarifying their critical role in financial and economic stability. Similarly, in **Guatemala**, investments in ecosystem protection and restoration were justified through highlighting the value of the risk reduction and water-flow regulation services provided by healthy ecosystems; while in **South Africa** the costs of controlling invasive alien species may seem high until they are compared with the value of the ecosystem services being lost as a result of invasive alien species' impacts, which is six times higher.

6. IMPLEMENTING THE NBSAP

*New policy documents and legislation can act as practical instruments for implementing change. Facts and figures from **ecosystem assessments, environmental-economic accounts and monetary valuation** studies can provide the necessary evidence base to respond to biodiversity and ecosystem service values in NBSAPs through sectoral plans, thus creating a basis for strengthening political will, facilitating biodiversity mainstreaming and preparing the ground for sectoral implementation.*

In **Micronesia**, a study on the economic valuation of coral reef fisheries is being used at the sub-national level as guidance on carrying capacities to assist with fisheries management and policy interventions. Further valuation studies are planned to provide more information. In **South Africa**, the economic valuation contained in the Annual Tourism Report places tourism as a key driver of the country's economy. This sets a strong case to include specific activities to integrate biodiversity considerations into the Tourism sector's growth strategies and management plans. In **Burkina Faso**, the Poverty and Environment Initiative (PEI), and more specifically a study on "economic evaluation of the environment and natural resources in Burkina Faso", which highlighted the risks and costs associated with the degradation of natural assets, has resulted in a better understanding of the importance of ecosystem services to the country's economy. It also led to an improved consideration of those values in sectoral policies, inter alia through the preparation of a guide for the integration of the environment and poverty-environment links in the development of sectoral strategies in Burkina Faso.

7. MONITORING AND REPORTING

*Following the progress of the NBSAP and its implementation is critical for continuous learning and adaptive management. On-going **stakeholder engagement** can communicate biodiversity and ecosystem service values as part of the NBSAP, develop opportunities for knowledge transfer, and maintain interest as national circumstances and values change. Additionally, monitoring the impacts of NBSAPs on ecosystem services, biodiversity and human-well being, and periodically reviewing and adapting the NBSAP as necessary, can be supported by on-going **assessment, mapping, maintaining natural capital and environmental economic accounts, and tracking ecosystem service indicators.***

Due to the complexity of the natural environment, it is often difficult for decision-makers to gain an overview of the state of biodiversity for monitoring and reporting. The Norwegian Nature Index aims to provide an easily digestible summary of progress by aggregating over 300 datasets to document overall trends on the state of major ecosystems and biodiversity. The Index itself acts as a value of **Norway's** natural capital and results can be used to define clearer targets, and priority actions to improve natural resource management. In **Georgia** on the other hand, monitoring and adaptive management was conducted through government and expert consultation, highlighting changes in the institutional environment. It was realised that since moving towards a deregulated economy, the recommendations in Georgia's first NBSAP were no longer feasible. The latest NBSAP is now working to build ecosystem service and biodiversity values into Georgia's new economic model, focussing on adaptability to rapidly changing situations, which will require robust indicators and efficient monitoring and reporting systems. Norway is a member of the Wealth Accounting and Valuation of Ecosystem Services (WAVES), and an active promoter of more sustainable national accounting at the Nordic level. In a recent scoping study on Nordic environmental indicators and statistics, accounting systems tracking the physical characteristics and functioning of different ecosystems were identified as a possible first step towards ecosystem service accounts. Similarly, commitments have been made in **Burkina Faso** towards the development of land-use accounts to support effective implementation of sustainable land management plans.

FURTHER INFORMATION

Below you will find a list of publications and initiatives relating to the different approaches that are useful to demonstrate and respond to the values of nature. More detailed introduction to these can be found in the *Guidance for incorporating biodiversity and ecosystem service values into NBSAPs* (www.unep-wcmc.org/guidancefornbsaps_1026.html)

◆ Ecosystem assessments

- ✓ Ecosystems and Human Well-Being: A Manual for Assessment Practitioners
- ✓ Sub-Global Assessment (SGA) Network
- ✓ The Economics of Ecosystems and Biodiversity (TEEB) network
- ✓ The Ecosystem Services Partnership (ESP)

◆ Ecosystem service mapping

- ✓ GEO
- ✓ iEMSs
- ✓ Ecosystem-Based Management (EBM) tools network
- ✓ The Natural Capital project - InVEST
- ✓ ARIES
- ✓ MIMES
- ✓ Costing Nature

◆ Ecosystem service indicators

- ✓ The Biodiversity Indicators Partnership (BIP)
- ✓ CBD Technical Series No. 58: Developing Ecosystem Services Indicators: Experiences and lessons learned from sub-global assessments and other initiatives
- ✓ BIP Guidance for National Biodiversity Indicator Development and Use
- ✓ Common International Classification of Ecosystem Services (CICES)

◆ Monetary valuation

- ✓ CBD Technical Series no. 28: An exploration of tools and methodologies for valuation of biodiversity and biodiversity resources and functions
- ✓ Centre d'analyse stratégique (CAS; 2009) Approche économique de la biodiversité et des services liés aux écosystèmes
- ✓ The Economics of Ecosystems and Biodiversity (TEEB)

◆ **Accounting**

- ✓ The System of Environmental-Economic Accounts (SEEA)
- ✓ The WAVES initiative: Wealth Accounting and the Valuation of Ecosystem Services

◆ **Mainstreaming**

- ✓ Biodiversity Mainstreaming: A Rapid Diagnostic Tool
- ✓ iied Environmental Mainstreaming website
- ✓ Integrating Ecosystem Services into Development Planning – A stepwise approach for practitioners based on the TEEB approach
- ✓ Mainstreaming biodiversity into national sectoral and cross-sectoral strategies, policies, plans and programs

