



STRENGTHENING THE ENVIRONMENTAL DIMENSIONS OF THE SUSTAINABLE DEVELOPMENT GOALS IN ASIA AND THE PACIFIC

TOOL COMPENDIUM

JANUARY 2019

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Copublication of the Asian Development Bank and the United Nations Environment Programme





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6 ADB Avenue, Mandaluyong City, 1550 Metro Manila, Philippines
Tel +63 2 632 4444; Fax +63 2 636 2444
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Since 2016, the United Nations Environment Programme refers to itself in the abbreviated form as UN Environment.

For the purposes of this tool compendium, the abbreviation UNEP is used when referring to publications.

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PREFACE

The exceptional economic growth in Asia and the Pacific has come with significant environmental costs that undermine prospects for sustainable growth and social development. Across the region, progress towards environmental sustainability has been insufficient.

The Sustainable Development Goals (SDGs) put environmental sustainability at the center of sustainable development. However, meaningful action to achieve environmental goals and targets—such as SDGs 12 on Responsible Consumption and Production, 14 on Life below Water and 15 on Life on Land—requires significant strengthening of national responses to meet them.

This means that policy makers need to integrate the environmental dimensions of the SDGs into development policies, plans, programs, budgets, and investments. Rather than leaving environment ministries or agencies to address environmental goals and targets on their own, ministries and agencies across the government must work together to understand the impact of their policies on them and, subsequently, to achieve them.

The Asian Development Bank (ADB), as part of its technical assistance project *Supporting Implementation of Environment-Related SDGs in Asia and the Pacific*, partnered with the United Nations Environment Programme (UN Environment) and the United Nations Development Programme (UNDP) to compile tools that policy makers and government officials can use to apply integrated approaches to development policies, plans, programs, budgeting and investment management.

This tool compendium includes tools developed by the Poverty-Environment Initiative, a joint global program of UNDP and UN Environment that supported governments to mainstream poverty and environment objectives into national planning, budgeting, and investment processes. It also includes many more tools developed by ADB, United Nations agencies, and other development partners. The tools included will help policy makers understand the interlinkages within and between environment-related goals and targets; promote policy coherence and integration of the environmental dimensions of the SDGs; and help develop indicators, policies, and institutional arrangements to support progress toward the environment-related dimensions of the SDGs. It is also anticipated that the use of such tools will be scaled up through programs including the recently launched UNDP and UN Environment Poverty Environment Action for the SDGs 2018–2022 project.

This tool compendium reflects the high-level commitment of ADB, UN Environment, and UNDP to the environmental dimensions of the SDGs. It is hoped that it will provide a useful reference resource for those working on policy and planning in Asia and the Pacific, and beyond.



Daniele Ponzi

Chief, Environment Thematic Group
Asian Development Bank



Dechen Tsering

Regional Director and Representative
UN Environment Asia and the Pacific



Jaco Cilliers

Chief, Regional Policy and Programme for Asia Pacific
UNDP Bangkok Regional Hub

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Asian Development Bank (ADB) Technical Assistance (TA) Staff: Emma Marsden, senior environment specialist, and Ma. Antoinette Virtucio, senior environment officer, of the Environment Thematic Group and Environment and Safeguards Division (SDES), Sustainable Development and Climate Change Department (SDCC).

TA Project Consultants: Simon Høiberg Olsen and Eric Zusman, Institute for Global Environment Strategies; Robert Steele; and Charina Cabrido.

ADB Contributors: Isao Endo, environment specialist, of the Environment Thematic Group, SDCC, and Erin Jan Sinogba (consultant).

United Nations Development Programme Contributors: Tom Beloe, governance, climate change finance and development effectiveness advisor, Governance of Climate Change Finance Team for Asia-Pacific; Ryan Meintjes, programme analyst, Poverty-Environment Initiative (PEI) Asia-Pacific Programme; and Michaela Prokop, Inclusive Growth Team Leader.

United Nations Environment Programme Contributors: Jonathan Gilman, regional policy coordinator, Strategic Policy and Programmes; Seon-Mi Choi, regional advisor, PEI Asia-Pacific Programme; Young Ran Hur, associate programme officer, PEI Asia-Pacific Programme; and Prashanthi Subramaniam, communications consultant, PEI Asia-Pacific Programme.

External Contributors: Yuan Yuan, head, Global Reporting Initiative Regional Hub, the People's Republic of China; Mary Jane Dela Rosa, supervising economic development specialist, Agriculture, Natural Resources and Environment Staff, National Economic and Development Authority, Philippines; Kartika Anggraeni, project manager, Collaborating Centre on Sustainable Consumption and Production, SWITCH-Asia Initiative; Albert Salamanca, senior research fellow and unit manager, Stockholm Environment Institute Asia; and Anshuman Saikia, regional program support coordinator, Asia Regional Office, International Union for Conservation of Nature.

Report Production: Christopher Darius Tabungar, SDES, SDCC; and Mary Ann E. Asico, Lawrence Casiraya, Edith Creus, Christopher Jude Defensor, Rocilyn Locsin Laccay, and Layla Yasmin Tanjutco (consultants).

ABBREVIATIONS

ADB	Asian Development Bank
DMC	developing member country
MDG	Millennium Development Goal
PEI	Poverty-Environment Initiative
SDCC	Sustainable Development and Climate Change Department, ADB
SDG	Sustainable Development Goal
TA	technical assistance
UN	United Nations
UNDP	United Nations Development Programme
UN Environment	United Nations Environment Programme
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific

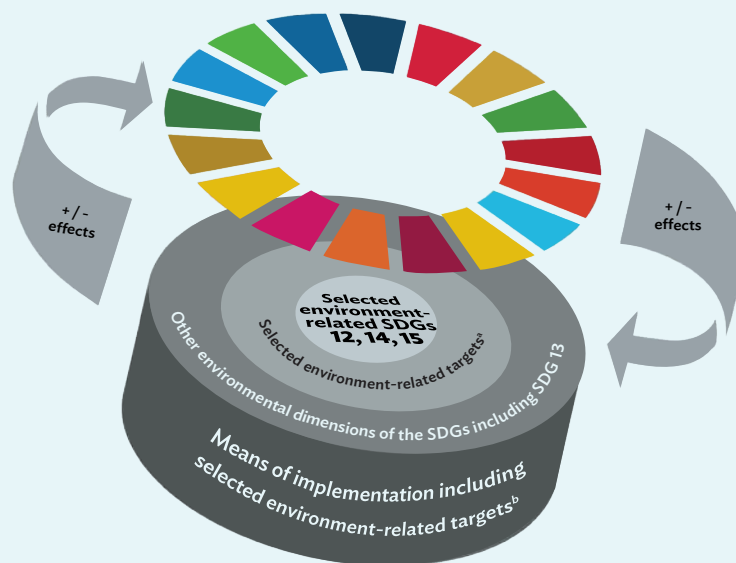
1

INTRODUCTION

1.1 BACKGROUND

This tool compendium was prepared by the Asian Development Bank (ADB) in collaboration with the United Nations Environment Programme (UN Environment) under the first phase of the ADB technical assistance (TA) project *Supporting Implementation of Environment-Related Sustainable Development Goals in Asia and the Pacific*.¹ Given the multiplicity of the environmental dimensions of the Sustainable Development Goals (SDGs), for practical reasons, the TA project is focused on helping ADB developing member countries (DMCs) effectively integrate SDGs 12, 14 and 15,² and selected environment-related targets determined to be directly related to responsible consumption and production, and to sustainable marine and terrestrial ecosystems management, into national policies, plans, and programs (Figure 1.1).

Figure 1.1: Technical Assistance Project Targets and Their Interlinkages



SDG = Sustainable Development Goal, TA = technical assistance.

^a 2.4, 2.5, 3.9, 6.3, 6.4, 6.5, 6.6, 7.2, 7.3, 8.4, 8.9, 9.4, 11.4, 11.6, 11.7.

^b 6a, 7b, 11a, 11b, 11c, 17.7

Source: Asian Development Bank.

¹ Asian Development Bank (ADB). 2016. *Technical Assistance for Supporting Implementation of Environment-Related Sustainable Development Goals in Asia and the Pacific*. Manila. <https://www.adb.org/sites/default/files/project-document/215401/50158-001-tar.pdf>.

² SDG 12 on Responsible Consumption and Production, SDG 14 on Life below Water, and SDG 15 on Life on Land.

If growth is to be environmentally sustainable, these selected environment-related goals and targets should be given equal consideration alongside the government's economic, social, and climate change priorities. They need to be well integrated into national and sector policies, plans, and programs, and aligned with locally adapted priority targets and indicators. However, recent SDG status reports indicate that the implementation of SDGs with an environmental focus shows the least progress of all. The region with arguably the greatest need for strengthening national responses to SDGs 12, 14, and 15 is Asia and the Pacific. This need reflects the fact that the region's exceptional growth has come at steep environmental costs, now undermining the prospects for sustained economic growth and social development within, and even beyond, the region.

The TA project is aimed at building the capacity of DMCs to strengthen policy making and implementation of the environmental dimensions of SDGs in Asia and the Pacific, for example, by identifying and leveraging new sources of finance and enhancing monitoring and reporting systems, to ensure that those dimensions are capably addressed in the region.

1.2 INTEGRATED APPROACH TO THE SUSTAINABLE DEVELOPMENT GOALS

In September 2015, the 2030 Agenda for Sustainable Development, with the 17 SDGs as its centerpiece, was adopted. One of the more notable features of the SDGs and their 169 targets, compared with the Millennium Development Goals, is their integrated approach, placing equal emphasis on the economic, social, and environmental dimensions of sustainable development. Studies have shown that 86 of the 169 targets seek to directly or indirectly reduce environmental damage or emphasize the critical role of natural resources and ecosystem services in human well-being and prosperity.³ In practice, this means that the environmental dimensions are not to be regarded as mere add-ons; rather, they are to be thoroughly interwoven with the socioeconomic dimensions of development plans. The SDGs represent a milestone in the global effort to recognize the central role of the environment in socioeconomic development, and vice versa. But their achievement will rest on whether countries have enough capacity to take the integrated approach forward at the national level.

Evidence suggests that the capacity of developing countries in Asia and the Pacific needs to be significantly strengthened to integrate the environmental dimensions of the SDGs into national policies, plans, and programs. Fortunately, they will not have to pursue integration on their own. International and regional organizations, including ADB, UN Environment, the United Nations Development Programme (UNDP) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), are providing tools and other resources to support the integration of the environmental dimensions into development plans. In the first phase of the

³ United Nations Environment Programme. 2016. *A Contribution to the Global Follow-up and Review in the 2016 High-level Political Forum (HLPF) on the Work of the United Nations Environment Programme*. Nairobi. [https://sustainabledevelopment.un.org/content/documents/10554UNEA inputs to the HLPF 2016 \(Final\).pdf](https://sustainabledevelopment.un.org/content/documents/10554UNEA%20inputs%20to%20the%20HLPF%202016%20(Final).pdf).

TA project, ADB surveyed, as part of a regional stocktaking,⁴ the opportunities and challenges for strengthening the implementation of the environmental dimensions in 15 of its DMCs.

The TA project's regional stocktaking identified at the country level the necessity of strengthening capacity, mobilizing resources, and developing indicators in order to improve the implementation of the selected environment-related goals and targets. The way forward should involve greater and deeper integration of the environment into country priorities, so that investment in the environment can be driven domestically and sustained in the long run. Through better integration of the environmental dimensions of the SDGs, progress toward responsible consumption and production, and sustainable marine and terrestrial ecosystems management, can be achieved.

Governments, the private sector, and others are taking a second look at the huge body of experience in tackling environmental issues, which can be leveraged to help deliver the SDGs. But ministries and agencies must work together and take on the mandate to achieve the environmental dimensions of the SDGs, rather than requiring environment ministries or agencies to do so on their own. Policy makers need to comprehend better the impact of their policies on the environment, and the importance of delivering the SDGs as an integrated whole. Screening mechanisms and strategic environmental assessments are important tools for ensuring that conflicts and trade-offs are understood, and for improving draft policies. Governments' and financial institutions' understanding of green financing tools, methods, and approaches must improve. Finally, capacity must be developed and strengthened so that those responsible for data collation and management can work together and with more innovative data technologies and sources. This tool compendium helps identify which tools, methods, and approaches can be used to fill capacity gaps.

1.3 OBJECTIVE AND PURPOSE OF THE TOOL COMPENDIUM

One of the important findings of the regional stocktaking under the TA project was that many successful approaches to integrating the environment into policy and planning already exist. At the same time, the SDGs have led to a proliferation of new tools and methods that can facilitate integration. There is, however, limited information about which tools are best suited to integration at different stages of the policy making process. So that governments and other stakeholders may make use of existing decision-making tools to help promote more integrated and coordinated approaches to the environment, the regional stocktaking identified the need for practical guidance on how such tools can be applied to help address identified barriers and facilitate integration. The main purpose of this tool compendium is to offer practical guidance. Knowing which tools are available to assist and support their efforts, and how these tools have

⁴ ADB. 2019. *Strengthening the Environmental Dimensions of the Sustainable Development Goals in Asia and the Pacific: Stocktake of National Responses to Sustainable Development Goals 12, 14, and 15*. Manila. <https://www.adb.org/publications/environmental-dimensions-sdgs-national-responses>.

been used by others, is a critical initial step in promoting more integrated and coordinated approaches to the environment.

This tool compendium presents an inventory of tools, methods, and approaches that policy makers can use to better (i) understand the critical interlinkages within and between environment-related goals and targets; (ii) promote policy coherence and integration of the environmental dimensions of the SDGs; and (iii) develop and select appropriate indicators, policies, and institutional arrangements to support the effective implementation of the environmental dimensions of the SDGs. Though a wide range of tools, methods, and approaches is covered here, their applicability depends on the specific issues and the implementing context. This specificity must be recognized: there can be no one preferred approach at the regional, national, or local level, and some tools demand the development of specialized skills and knowledge.

For the purposes of this compendium, the term “tool” is interpreted broadly to cover a wide range of tools, methods, and approaches. The focus is on tools applicable to the public sector, since the government is primarily responsible for integrating the environmental dimensions of the SDGs into national policies, plans, and programs. But considering the importance of the private sector in SDG implementation, tools applicable to the private sector that the government may also need to know about have also been identified.

1.4 IDENTIFICATION OF TOOLS

Tools were identified for inclusion in this compendium through (i) desk-based research under the ADB TA project and by UN Environment staff and consultants, (ii) interviews with over 120 interviewees in 14 DMCs as part of the regional stocktaking (footnote 4), and (iii) feedback from participants at a regional knowledge-sharing workshop held by ADB in conjunction with UNESCAP and UN Environment in Bangkok, Thailand, in February 2018.⁵ Before the workshop, an initial tool inventory was shared with participants on the TA project’s website and via e-mail. This initial inventory of about 70 tools was presented during the workshop. Participants were asked to identify additional tools for inclusion in the compendium. Those other tools were included in the revised tool inventory shared with the participants for verification via the TA project’s website and e-mail in June 2018. The final tool inventory presented in this tool compendium considers all feedback received and some additional tools made available during the annual High-level Political Forum on Sustainable Development in July 2018.

⁵ ADB. 2018. *Strengthening the Environment Dimensions of the Sustainable Development Goals in Asia and the Pacific: Knowledge-Sharing Workshop Proceedings*. Manila. <https://www.adb.org/publications/environment-dimensions-sdgs-asia-pacific-proceedings>.

2

STRUCTURE OF THE TOOL COMPENDIUM

2.1 INTRODUCTION

The tools have been organized into four sections (chapters) according to their relevance to an integrated approach, the environmental dimensions of the Sustainable Development Goals (SDGs) in general, and in particular to SDGs 12, 14, and 15—the focus of the technical assistance (TA) project. Many of the tools in the first section are applicable to all 17 SDGs, as well as to effective stakeholder engagement and consensus building beyond the scope of the SDGs.

The tools are organized under the most applicable section on the basis of the main function of the tool in relation to the public sector. But this does not mean that a tool in one section is not relevant to other applications. For example, the SDG Compass tool provides guidance to the private sector in contributing to the SDGs and could therefore fall under tools for an integrated approach. However, it is listed under SDG 12 as it is most closely related to public sector efforts to address SDG 12 (specifically target 12.6), encouraging private sector companies to adopt sustainable practices and sustainability reporting.

Under each section (Table 2.1) the tools are presented in tabular format, with the tool name, a brief description, the developer, use requirements (such as open source, licensing or technical requirements), and brief details of documented application experience or case studies. Hyperlinks are provided to the tool itself or to sources of further information, where these are available.

Table 2.1: Breakdown of Tools, by Application

Application Type	Number of Tools	Section	Page number
Tools applicable to an integrated approach to the SDGs, in general	47	Section 3	19
Tools applicable to environmental dimensions of the SDGs, in general ^a	24	Section 4	60
Tools applicable to SDG 12 (Responsible Consumption and Production)	21	Section 5	84
Tools applicable to SDGs 14 and 15 (Life below Water and Life on Land)	29	Section 6	108
Tools applicable to SDG 14 (Life below Water)	7	Section 6	138
Tools applicable to SDG 15 (Life on Land)	15	Section 6	144

SDG = Sustainable Development Goal.

^a A study by the United Nations Environment Programme has shown that 86 out of 169 targets directly or indirectly seek to reduce environmental damage or emphasize the critical role of natural resources and ecosystem services in ensuring human well-being and prosperity. For practical reasons, the technical assistance project, and thus this tool compendium, is focused on SDGs 12, 14, and 15 and selected environment-related targets from SDGs 2, 3, 6, 7, 8, 9, 11, and 17 (Figure 1.1). Climate change (SDG 13) is a significant issue and has many interlinkages with these environment-related goals and targets, for example, through support for climate change mitigation, air pollution reduction, and ecosystems-based adaptation, but this SDG is not a focus of the technical assistance project.

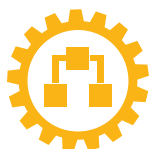
Source: Asian Development Bank.

In each table, tools are identified in several ways (by type, by policy cycle application—or when to use, by integration application—or how to use, and by function) to help users identify how and when they can best be used. The tools are numbered sequentially within each section. The index in Table 2.2 can also be used to identify tools according to their type, and how and when to use them.

2.2 TYPE

The word “tool” has many definitions. For the purposes of this tool compendium, the definition is interpreted broadly to cover a wide range of tools, methods, and approaches that can help in accomplishing a task related to strengthening the implementation of the environmental dimensions of the SDGs.

To assist users, tools have been classified under one of four types:



Framework (approach) tools. A framework provides structure to a concept or approach aimed at achieving an intended outcome or result. Framework (approach) tools provide a set of definitions and principles that simplify a complex concept. These tools may be supported by guidance, methodology, and other tools for implementing the concept or approach.



Guidance tools. “Guidance” is an all-encompassing term. Guidance tools may include framework, methodology, and other tools, but their main purpose is to offer advice on how to go about a task in order to achieve an intended outcome or result. Toolkits and web portals that provide access to guidance materials are classified as stand-alone tools.



Methodology (process) tools. A methodology or process is a logical sequence of steps to be followed in achieving an intended outcome or result. Methodology tools outline a series of actions, potentially within a framework and making use of other tools, that should be followed to manage a well-defined task. A process tool is similar, but often involves several stakeholders and is more collaborative. Rather than being designed for a specific task, process tools are structured more flexibly to facilitate open-ended discussions and exchanges that can ultimately lead to the resolution of a problem. Both methodology and process tools can be used to develop other tools.



Stand-alone tools. Such tools can be used independently to produce an intended outcome or result, for example, a model, unlike other tools, which may require the use of tools from the other classes. Stand-alone tools can be used in and with any of the above tool typologies.

2.3 POLICY CYCLE APPLICATION

Policy making is not a linear process, but many observers have used the image of the policy cycle to illustrate when and where in the process interventions are needed. This suggests that an initial agenda item moves through the policy cycle to eventually frame a new agenda item. The different stages, from issue identification and framing, through policy formulation and drafting, to implementation and finally, monitoring, evaluation, and reporting (Figure 2.1), can help to demonstrate when and where a tool can be used. This compendium uses the policy cycle to show the stage where each tool can appropriately be used. In some instances, a tool has several purposes and can therefore be used in several stages.



Stage 1: Issue identification and framing. Most economic, social, and environmental issues have multiple dimensions that need to be fully understood by policy makers so that measures to address them may be coordinated among the government and other stakeholders. Identifying the issues (including potential opportunities that may be missed without policy interventions) that governments and other stakeholders must deal with is the first stage in the policy cycle.⁶ Issues must be viewed in the context of the existing situation; interlinkages, as well as the interests of all stakeholders, understood; placement on the political agenda, capably managed; and policy leverage points, identified.⁷



Stage 2: Formulation and drafting (approval) is the process of generating policy options or alternatives in response to the identified issue or problem (footnote 10). During this stage, policy makers identify, draft, and refine policy options or alternatives for consideration. Decision makers then select and formalize an appropriate course of action with a view toward policy implementation.



Stage 3: Implementation is the stage where policy action occurs to address the issue in question. The policy is put into effect and executed or enforced by the relevant government agencies. Designing an implementation framework, including roles, responsibilities, and resource allocations, can be part of the process.



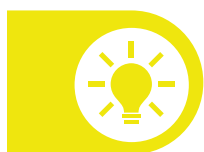
Stage 4: Monitoring, evaluation, and reporting is the stage in the policy cycle where efforts are made to monitor progress and track implementation. It includes collecting and monitoring data and identifying policy effects. Recommendations derived from monitoring and evaluation should be reviewed and the lessons learned fed back into further rounds of the policy cycle.

⁶ J. W. Kingdon. 1984. *Agendas, Alternatives, and Public Policies*. Boston: Harper Collins.

⁷ United Nations Environment Programme. 2009. *Integrated Policymaking for Sustainable Development: A Reference Manual*. <https://unep.ch/etb/publications/IPSD%20manual/UNEP%20IPSD%20final.pdf>.

2.4 INTEGRATION APPLICATION

The tools can be classified further according to the ways in which they can facilitate the integration of the environmental dimensions of the SDGs into decisions (how to use). Tools may belong to one of three integration-related categories: (i) strategic tools, (ii) procedural tools, and (iii) organizational tools. But some tools are placed under more than one category, where appropriate:



Strategic tools support the inclusion of environmental objectives in policies and plans, and can help policy makers increase coherence between sectoral and thematic policies and plans. These tools can be used to ensure appropriate weighting of the environmental dimensions of the SDGs in development plans. They often communicate broad aims, objectives, and knowledge to provide a framework within which policy makers can develop detailed strategies and plans for implementation. The use of such “strategic tools” should be relatively straightforward, since they do not require explicit changes in existing implementation arrangements. They can, however, create opportunities to review institutional arrangements and demonstrate political commitment to strengthening the environmental dimensions of the SDGs.



Procedural tools are used to assess the extent to which policies, plans, and programs support environmental objectives or in supporting monitoring and reporting systems. These tools have the highest potential to strengthen both policy making and reporting with respect to integrating the environmental dimensions of the SDGs into existing implementation arrangements. However, their use often faces the strongest political resistance and comes with relatively high administrative costs and reform requirements. Therefore, formalizing and institutionalizing the use of these tools in the policy making and reporting process must be preceded by the development and harnessing of capacity, knowledge, and legislative support to ensure effective application.



Organizational tools are more transformational and are applied to implement wider changes in institutional structures and governance, including changes in institutional arrangements, roles, and responsibilities. The use of these tools requires governmental and other stakeholders to engage with one another. Their potential lies in the opportunity to strengthen the position of environmental stakeholders while creating wider “umbrella” collaborative networks and cooperative arrangements among diverse sectors, institutions, and groups with different interests.

These three types of tools are not mutually exclusive; rather, they frequently complement one another. A comprehensive strategy for integrating the environmental dimensions of the SDGs into the policy cycle would therefore require a mix of the different types of tools and efforts to ensure implementation.

2.5 FUNCTION

The tools are also classified according to their potential function, or application, in a given task to help integrate the environmental dimensions of the SDGs. Eighteen different functions have been identified for the purposes of this compendium:

- (i) **Institutional coordination or partnerships** involve understanding the different roles, responsibilities, strengths, and weaknesses of stakeholders, and how they can work together in a coordinated and collaborative manner to achieve an intended outcome or result. Partnerships bring together stakeholder skills, experience, and ideas to tackle goals and targets often beyond the capacity of a single group.
- (ii) **Stakeholder engagement** is the process of consulting all stakeholders (including local communities, the private sector, and institutional stakeholders) that may be affected by, or can advise on or influence, the way decisions are implemented, to ensure that they have a say in the decision-making process.
- (iii) **Consensus building** is a facilitated process that allows various stakeholders with an interest in the goal or target to work together to develop a mutually acceptable solution.⁸
- (iv) **Strategic communication and awareness raising.** Strategic communication involves the purposeful communication of goals and targets. To succeed, it requires an understanding of how audience support for those goals and targets can be obtained. Awareness raising is fostering communication and information exchange to improve mutual understanding of the goals and targets and bring about the necessary changes in attitudes and behavior.
- (v) **Visioning and back-casting.** Visioning is a way of analyzing alternative futures to help develop a desired end point in the form of a vision, or a set of goals or targets. Back-casting involves working backward from a desired future end point to the present, to determine the feasibility of that future and the interventions required to reach the desired end point.
- (vi) **Scenario building** involves developing a narrative on the future based on an understanding and analysis of current and historic trends, to determine how a situation might turn out. The development of different sets of narratives helps decision makers identify possible pathways toward a vision, or a set of goals or targets like the SDGs.
- (vii) **Situational analysis** is an important foundation for sound interventions, as it helps ensure the relevance of interventions and decide the best course of action. It involves identifying which stakeholders should be consulted and engaged; practices and attitudes that must change; completed activities; and outcomes of existing policies, plans, programs, and projects, as well as lessons learned. A clear understanding of the current and historical context with respect to progress on the issues addressed by the SDGs will facilitate more informed decisions. Besides ensuring the appropriateness of interventions to the national and local context, situational analysis will help avoid duplication of in-country effort and provide opportunities for partnerships.

⁸ H. Burgess and B. Spangler. 2003. *Consensus Building: Beyond Intractability*. Guy Burgess and Heidi Burgess, eds. Boulder, Colorado: Conflict Information Consortium, University of Colorado. <http://www.beyondintractability.org/essay/consensus-building>.

- (viii) **Dynamic simulation and modeling** makes use of computer modeling to analyze how a system changes over time. Understanding how policy interventions affect the system outputs, as system inputs and rates of change are altered, can lead to more informed decision-making.
- (ix) **Strategic interlinkage analysis** involves identifying and analyzing the causal connections, or interlinkages, between goals and targets, such as those within and between SDGs, to identify leverage points with potential for significant change. Selected activities of one institutional or stakeholder group can be linked to the interrelated activities of others, providing a means of achieving coherent policies, plans, and programs across and within different sectors and levels.
- (x) **Strategic planning and priority setting** is used to set priorities, focus resources, strengthen procedures and processes, and ensure that all institutional and stakeholder groups work toward a common goal or target.⁹ It can help establish agreement around intended outcomes and results, and assess and adjust direction in response to changes in the environment.¹⁰
- (xi) **Impact and risk assessment** entails identifying and analyzing potential impact and risk factors, evaluating the level of impact or risk, and determining the appropriate ways of eliminating or controlling the impact or risk, usually through the implementation of a management plan.
- (xii) **Barrier analysis** looks at enabling factors that constrain (are a bottleneck to) the achievement of an intended outcome or result. It is based on the principle that certain determinants must be fulfilled to advance the achievement of an intended outcome or result, such as the SDGs.
- (xiii) **Innovation** is about identifying more effective interventions that add value for the stakeholders involved, including local communities, private sector, and the government. It includes, for example, using geospatial technology to implement and monitor the forest cover.
- (xiv) **Budgeting** is the process of projecting or forecasting revenues and expenses, and setting revenue and expenditure targets for a specific period. The budget resulting from this process facilitates financial resource planning and allocation. It can help in determining what will happen financially if certain interventions are made and which activities should be funded in a specific period.
- (xv) **Investment and financing.** Investment is the act of committing capital to an activity (e.g., a business, technology, project) with the expectation of obtaining a financial return or profit. Financing involves obtaining funds to start and implement activities. For example, one can invest in green bonds to finance a desired activity.
- (xvi) **Indicator development and measurement** is the process of selecting an indication of progress toward an intended outcome or result that is specific and observable, and measuring change in that indicator to show progress. For the SDGs, a set of 232 indicators has been adopted.
- (xvii) **Data management, reporting, and verification.** Data management is the administrative process of acquiring, validating, storing, protecting, and processing data to help measure indicators, and ensuring the accessibility, reliability, and timeliness of the data for users. Reporting refers to the documentation intended to inform interested stakeholders about the results of

⁹ Balanced Scorecard Institute. Strategic Planning Basics. <https://www.balancedscorecard.org/BSC-Basics/Strategic-Planning-Basics>.

¹⁰ D. H. Boikanyo, R. Lotriet, and P. W. Buys. 2016. Investigating the Use of Strategic Management Process in the Mining Industry. *Problems and Perspectives in Management* 14(3-2), 483-493. <https://businessperspectives.org/component/zoo/investigating-the-use-of-strategic-management-process-in-the-mining-industry>.

the data, as well as methodologies and assumptions made in collecting and interpreting that data. Verification refers to procedures or processes used to verify the quality of the data or report.

- (xviii) **Training and capacity development.** Training is focused on providing individuals with specific skills (e.g., for using frameworks, guidelines, methodologies, or tools), while capacity development encompasses a wider range of activities designed to empower individuals and organizations.

Figure 2.1: Stages in the Policy Cycle as Used for the Tool Compendium



Source: Asian Development Bank.

Table 2.2: Index of Tools, by Type

No.	Tool Name	Type				When to Use				How to Use		
G1	Daly Triangle and Hourglass Models (Ultimate Means to Ultimate Ends)	Orange				Orange				Yellow		
G2	Doughnut Economics	Orange				Orange				Yellow		
G3	Integrated Policymaking for Sustainable Development	Orange	Orange			Orange	Orange	Blue	Light Green	Yellow	Green	Red
G4	Mainstreaming, Acceleration, and Policy Support (MAPS) Framework	Orange	Orange		Blue	Orange	Orange	Blue	Light Green	Yellow	Green	Red
G5	Consensus Building Handbook		Orange			Orange				Yellow	Green	
G6	Country-level Consultations		Orange		Blue	Orange	Orange	Blue		Yellow		
G7	Country Reporting on the Sustainable Development Goals (SDGs)		Orange	Light Green	Blue	Orange			Light Green	Yellow	Green	
G8	Education for SDGs		Orange			Orange		Blue		Yellow		
G9	Engaging Parliaments on the 2030 Agenda and the SDGs		Orange			Orange		Blue		Yellow		
G10	Financing Innovation		Orange			Orange	Orange	Blue		Yellow		
G11	Institutional and Coordination Mechanisms (ICM)		Orange		Blue	Orange	Orange	Blue	Light Green	Yellow		Red
G12	Integrated Assessment		Orange		Blue	Orange	Orange			Yellow	Green	Red
G13	Partnerships for the SDGs		Orange		Blue	Orange				Yellow		
G14	Stakeholder Engagement		Orange		Blue	Orange	Orange	Blue		Yellow	Green	
G15	Strategies for National Sustainable Development		Orange			Orange	Orange	Blue		Yellow	Green	Red
G16	Design Thinking		Orange	Light Green	Blue	Orange	Orange			Yellow	Green	Red
G17	Foresight		Orange	Light Green		Orange	Orange			Yellow		
G18	Natural Step Framework for Strategic Sustainable Development (FSSD)			Light Green		Orange	Orange			Yellow		
G19	Rapid Integrated Assessment (RIA)		Orange	Light Green		Orange	Orange			Yellow	Green	
G20	Scenario Development or Planning		Orange	Light Green		Orange	Orange			Yellow		
G21	SDG Acceleration Catalyst Tool (ACT)			Light Green		Orange	Orange			Yellow		
G22	Sustainability (Impact) Assessment		Orange	Light Green		Orange	Orange	Blue		Yellow	Green	
G23	SWOT Analysis			Light Green		Orange	Orange	Blue		Yellow	Green	
G24	Systems Thinking		Orange	Light Green	Blue	Orange	Orange			Yellow	Green	Red
G25	Theory of Change (TOC)		Orange	Light Green		Orange	Orange			Yellow		
G26	World Café or Knowledge Café		Orange	Light Green		Orange	Orange			Yellow		
G27	Bhutan Gross National Happiness (GNH) Policy Screening Tool				Blue		Orange			Yellow	Green	
G28	Financing for SDGs: Breaking the Bottlenecks of Investment, from Policy to Impact				Blue			Blue		Yellow	Green	












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Table 2.2 continued

	No.	Tool Name	Type				When to Use				How to Use			
	G29	Financing Solutions for Sustainable Development Toolkit (FSSD)		Orange					Blue			Yellow		
	G30	Global Partnership for Effective Development Cooperation – Monitoring Dashboard				Blue	Orange		Blue	Light Green	Yellow	Green		
	G31	Indicators and a Monitoring Framework				Blue				Light Green	Yellow			
	G32	Institutional and Context Analysis (ICA) Tool for SDGs				Blue	Orange				Yellow	Green	Red	
	G33	International Futures (IF) Model				Blue		Orange			Yellow			
	G34	Modeling Tools for Sustainable Development Policies				Blue	Orange	Orange			Yellow			
	G35	Nationally Determined Contributions-SDG Interlinkages				Blue	Orange			Light Green	Yellow			
	G36	Sustainability Accelerator			Light Green	Blue	Orange	Orange			Yellow	Green		
	G37	Sustainability Dashboards				Blue	Orange			Light Green	Yellow	Green		
	G38	Sustainable Development Analysis Grid		Orange		Blue	Orange				Yellow			
	G39	SDG Community Implementation Flashcards				Blue	Orange				Yellow			
	G40	SDG Interactions Framework		Orange		Blue	Orange				Yellow			
	G41	SDG Interlinkages Analysis and Visualization Tool		Orange		Blue	Orange			Light Green	Yellow			
	G42	SDG Monitoring and Reporting Toolkit for United Nations Country Teams				Blue				Light Green	Yellow	Green	Red	
	G43	SDG Nexus Dialogues Visualization Tool				Blue	Orange		Blue		Yellow			
	G44	Threshold 21: Integrated Sustainable Development Goals (iSDG) Simulation Tool				Blue	Orange	Orange			Yellow			
	G45	Toolbox for Localizing the SDGs				Blue	Orange	Orange	Blue	Light Green	Yellow			
	G46	United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Online Statistical Database				Blue	Orange			Light Green	Yellow	Green		
	G47	UNESCAP SDG Helpdesk				Blue	Orange	Orange	Blue	Light Green	Yellow			
	E1	Framework for the Development of Environment Statistics (FDES)	Orange	Orange		Blue				Light Green	Yellow	Green		
	E2	Nexus Approaches to Environmental Resource Management	Orange			Blue	Orange				Yellow	Green		
	E3	System of Environmental-Economic Accounting (SEEA)	Orange	Orange			Orange			Light Green		Green		
	E4	Environmental Finance Tools		Orange		Blue			Blue		Yellow	Green		
	E5	Green Finance Catalyzing Facility (GFCF)		Orange					Blue		Yellow	Green		












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Table 2.2 continued

No.	Tool Name	Type				When to Use				How to Use		
												
E6	Interactive Handbook to Strengthen Planning and Budgeting Processes		Orange		Blue	Yellow	Orange	Blue	Light Green	Yellow	Green	
E7	Integrated Environmental Assessment Tools for Improved Multilateral Environmental Agreement (MEA) Implementation		Orange		Blue	Yellow	Orange	Blue	Light Green	Yellow	Green	Red
E8	Integrated Planning, Budgeting and Investment Tools for Achieving the SDGs		Orange		Blue	Yellow	Orange	Blue	Light Green	Yellow		
E9	Managing Mining for Sustainable Development		Orange		Blue	Yellow		Blue		Yellow		
E10	Budget Tagging and Scoring		Orange	Light Green		Yellow			Light Green		Green	
E11	Environmental Cost-Benefit Analysis (CBA)			Light Green		Yellow	Orange			Yellow	Green	
E12	Environmental Assessment		Orange	Light Green		Yellow	Orange	Blue		Yellow	Green	
E13	Environmental Performance Review (EPR)			Light Green		Yellow			Light Green		Green	
E14	Environmental Risk Assessment		Orange	Light Green		Yellow	Orange	Blue		Yellow	Green	
E15	Public Environment Expenditure Review (PEER)		Orange	Light Green		Yellow	Orange	Blue		Yellow	Green	Red
E16	State of the Environment (SOE) Reporting		Orange	Light Green		Yellow			Light Green		Green	
E17	Ecological Footprinting				Blue	Yellow			Light Green	Yellow	Green	
E18	Green Bonds				Blue			Blue			Green	
E19	Green Economy Toolbox				Blue	Yellow	Orange	Blue	Light Green	Yellow	Green	Red
E20	Green Growth Knowledge Platform (GGKP)				Blue	Yellow	Orange	Blue	Light Green	Yellow	Green	Red
E21	Green Investment Profiles and Green Loans				Blue	Yellow				Yellow		
E22	InforMEA				Blue	Yellow				Yellow		
E23	Market Based Instruments (MBIs)				Blue			Blue		Yellow	Green	
E24	UNEP Live and Indicator Reporting Information System (IRIS)				Blue	Yellow			Light Green	Yellow	Green	
R1	International Organization for Standardization (ISO) 14000 Series (Environmental Management Systems)	Yellow			Blue	Yellow		Blue		Yellow	Green	Red
R2	ISO 26000 (Social Responsibility)	Yellow			Blue	Yellow		Blue		Yellow	Green	Red
R3	SDG Compass	Yellow			Blue	Yellow		Blue	Light Green	Yellow	Green	Red
R4	Global Opportunity Explorer		Orange		Blue	Yellow		Blue		Yellow		
R5	Green Industrial Policy and Trade		Orange	Light Green	Blue	Yellow	Orange	Blue		Yellow	Green	Orange
R6	Indicators for a Resource Efficient and Green Asia and the Pacific		Orange		Blue	Yellow			Light Green	Yellow	Green	
R7	Practical Tools for Sustainable Consumption and Production		Orange		Blue	Yellow	Orange	Blue		Yellow	Green	Red
R8	Sustainable Public Procurement		Orange		Blue	Yellow	Orange	Blue		Yellow	Green	Red

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Table 2.2 continued

	No.	Tool Name	Type				When to Use				How to Use						
																	
	R9	Toolbox for Decision Making in Chemicals Management															
	R10	Circularity Indicators Project															
	R11	Delivering the Circular Economy															
	R12	Life Cycle Assessment (LCA)															
	R13	Sustainability Reporting															
	R14	Blockchain Technology															
	R15	Circular Economy Toolkit															
	R16	Eco-labeling and Eco-Certification Schemes															
	R17	Food Loss Waste Accounting and Reporting															
	R18	Global Protocol on Packaging Sustainability (GPPS)															
	R19	Global Sustainable Consumption and Production Resources Database															
	R20	Sustainable Consumption Self-Assessment Checklist															
	R21	Water Risk and Opportunities Tools															
	L1	Biodiversity Strategies and Action Plans															
	L2	Green List of Protected and Conserved Areas															
	L3	Red Lists of Ecosystems and Threatened Species															
	L4	Biodiversity-Related Conventions															
	L5	Bio-Trade															
	L6	Ecosystems-Based Adaptation															
	L7	Ecosystem Services Indicators															
	L8	High Conservation Values (HCVs)															
	L9	Integrated Ecosystem Assessment															
	L10	Key Biodiversity Areas (KBAs)															
	L11	PANORAMA															
	L12	Biodiversity Finance Initiative (BIOFIN)															
	L13	Ecological Fiscal Transfers															
	L14	Ecosystem Services Review															
	L15	Ecosystem Services Valuation															
	L16	Natural Capital Accounting															












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Table 2.2 continued

No.	Tool Name	Type				When to Use				How to Use		
												
L17	Natural Capital [Ecosystem Services] Assessment											
L18	Natural Resources Damage Assessment											
L19	Payments For Ecosystem Services (PES)											
L20	ALivE: Adaptations, Livelihoods and Ecosystems Planning Tool											
L21	Artificial Intelligence for Ecosystem Services (ARIES)											
L22	Biodiversity Indicators Partnership (BIP) Dashboard											
L23	Capacity Development Assessment Tool (CDAT)											
L24	Data Basin											
L25	Earth Observation, Remote Sensing and Geographic Information Systems (GIS)											
L26	InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs)											
L27	Protected Areas Benefits Assessment Tool (PA-BAT)											
L28	Protected Planet World Database on Protected Areas											
L29	ValuES Methods Database											
L30	Marine Spatial Planning (MSP)											
L31	Integrated Coastal Management (ICM)											
L32	State of the Coasts (SOC) Reporting											
L33	Integrated Information Management Systems for Coastal and Marine Environments (IIMS)											
L34	Ocean Data Viewer											
L35	Our Pacific Ocean, Our Stories: An Ocean Toolkit for Pacific Media											
L36	Seas of East Asia (SEA) Knowledge Bank											
L37	Integrated Ecosystem Management											
L38	TEEBAgriFood Evaluation Framework											
L39	Ecosystem Service Site-Based Assessment											
L40	Investing in Locally Controlled Forestry (ILCF)											
L41	Land Use Change Modeling											

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Table 2.2 continued

	No.	Tool Name	Type				When to Use				How to Use			
														
	L42	Mechanisms to Address Human Wildlife Conflict (HWC)		Orange			Orange	Orange	Blue			Yellow	Green	
	L43	Natural Capital Accounting for Water and Wetlands		Orange			Orange	Orange				Yellow	Green	
	L44	Biodiversity Risk and Opportunity Assessment (BROA)		Orange	Light Green		Orange				Light Green	Yellow		
	L45	Restoration Opportunities Assessment Methodology (ROAM)		Orange	Light Green		Orange	Orange	Blue			Yellow	Green	
	L46	Agrobiodiversity Index		Orange			Blue				Light Green	Yellow	Green	
	L47	Global Forest Watch (GFW)					Blue				Light Green	Yellow	Green	
	L48	Governance of Forest Initiative (GFI) Indicator Framework		Orange			Blue				Light Green	Yellow	Green	
	L49	Sustainable Forest Finance Toolkit					Blue					Yellow		
	L50	Wetland Resources Action Planning (WRAP) Toolkit					Blue		Blue			Yellow	Green	
	L51	Water and Nature Initiative (WANI) Toolkit					Blue	Orange	Blue			Yellow	Green	

SDG = Sustainable Development Goal, SWOT = strengths, weaknesses, opportunities and threats, TEEBAgriFood = The Economics of Ecosystems and Biodiversity for Agriculture and Food, UNEP = United Nations Environment Programme.

Source: Asian Development Bank.

3

TOOL INVENTORY FOR AN INTEGRATED APPROACH TO THE SUSTAINABLE DEVELOPMENT GOALS

To ensure equal weighting of priorities, countries are encouraged to treat the Sustainable Development Goals (SDGs) as an integrated framework for action, recognizing the role that the environment plays in socioeconomic development and vice versa. The widespread adoption of an integrated approach involves explicitly acknowledging how environmental and socioeconomic issues affect each other across multiple stages of decision-making (from planning, through implementation, to monitoring and review). Further, supporting the integration of the environment into multistage decision-making processes will necessitate strengthening at least four key areas: (i) institutional architecture and leadership; (ii) enabling policies and regulatory frameworks; (iii) finance, capacity, and other means of implementation; and (iv) indicators, data, monitoring, and evaluation, where limited changes have been seen at the global level.

The SDGs have led to a proliferation of tools, methods, and approaches to aid integration. Many of these are not specific to the environmental dimensions of the SDGs, being equally applicable to the economic and social dimensions. But these tools are included in the compendium as they could help developing countries in Asia and the Pacific strengthen capacity in the four key areas mentioned above. This section sets out an inventory of tools that supports overall integration across the 17 SDGs, and some effective stakeholder engagement and consensus-building tools that are not specific to the SDGs but can also be used to support integration. Further information on the tools can be obtained from the hyperlinks.

TOOLS APPLICABLE TO AN INTEGRATED APPROACH TO THE SUSTAINABLE DEVELOPMENT GOALS, IN GENERAL

G1

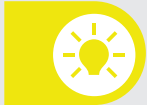
Daly Triangle and Hourglass Models (Ultimate Means to Ultimate Ends)



DESCRIPTION

The [triangle model](#) illustrates how the economy is built on a foundation provided by the earth's natural capital, including natural resources and ecosystem services. Natural capital forms the ultimate means of development, and without these resources and services there is nothing on which to build human societies and well-being. The later [hourglass model](#) recognizes the equivalent importance of the ultimate means of natural capital, and the ultimate end of well-being with natural capital resources flowing through the hourglass formed by the two intersecting triangles.

STRATEGIC



FUNCTION

- Situational analysis

DEVELOPER

First conceptualized by environmental economist Herman Daly in 1973

USE REQUIREMENTS

Open source

G2

Doughnut Economics



DESCRIPTION

This [framework](#) enables an assessment of progress relating to the social foundations of development in the context of planetary boundaries. Planetary boundaries on the outside of the “doughnut” represent thresholds and links, social foundations are on the inside, and in between is the safe space for humanity. Analysis shows that many countries are underachieving on social dimensions while exceeding the planetary boundaries.

STRATEGIC



FUNCTION

- Situational analysis

DEVELOPER

Oxfam

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

An example of Doughnut Economics applied to the United Kingdom is [available](#).

G3

Integrated Policymaking for Sustainable Development



DESCRIPTION

Integrated Policymaking for Sustainable Development: A Reference Manual (2009) provides a framework and guidance in applying an integrated policy making approach intended to promote the economic, social, and environmental dimensions of sustainable development. Policy constraints, in terms of political support, administrative capacity, and analytical capacity within the policy making process, are discussed.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination and partnerships
- Stakeholder engagement
- Strategic communication and awareness raising
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Barrier analysis
- Data management, reporting, and verification
- Training and capacity development

DEVELOPER

United Nations Environment Programme (UNEP)

USE REQUIREMENTS

Open source



Mainstreaming, Acceleration, and Policy Support (MAPS) Framework



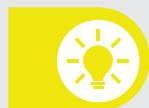
DESCRIPTION

This [framework](#) provides guidance for SDG implementation at the country level, to help governments integrate the SDGs into existing institutional structures at the national, subnational, and local levels. Three key areas are addressed:

- Mainstreaming. The framework raises awareness of the 2030 Agenda for Sustainable Development and the SDGs, and ensures that they are reflected in national planning and budgetary processes.
- Acceleration. The framework presents the analytical work needed to inform policy makers about priorities, drivers, and barriers to sustainable development at the country level.
- Policy support. The framework ensures that well-designed joined-up approaches are developed, thus enabling the United Nations (UN) to deploy its technical expertise and advice to national governments in a coherent manner.

The MAPS Framework recognizes the importance of, and the need for, supporting partnership development, establishing accountability, and monitoring data capacity, as three key ingredients of the success of SDGs at the country level.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION	
<ul style="list-style-type: none"> • Institutional coordination and partnerships • Strategic communication and awareness raising • Situational analysis • Strategic planning and priority setting • Barrier analysis 	<ul style="list-style-type: none"> • Budgeting • Data management, reporting, and verification • Training and capacity development
DEVELOPER	USE REQUIREMENTS
United Nations Development Group (UNDG)	Open source

EXPERIENCES OF PRACTICAL APPLICATION

Developing countries from Asia and the Pacific that have used the MAPS framework include [Cambodia](#), Indonesia, Pakistan, and the Philippines.

G5

Consensus Building Handbook



DESCRIPTION

[Consensus Building Handbook: A Comprehensive Guide to Reaching Agreement](#) (1999) documents best practices in the field and includes a step-by-step overview of the consensus-building process. Its sections examining the different phases and types of consensus building in more detail should be helpful in cases where multi-stakeholder agreement is needed.

STRATEGIC



PROCEDURAL



FUNCTION

- Stakeholder engagement
- Consensus building
- Strategic planning and priority setting

DEVELOPER

Sage Knowledge

USE REQUIREMENTS

Handbook is accessible online, but full content is not accessible and purchase price is GBP 120.

EXPERIENCES OF PRACTICAL APPLICATION

This handbook includes 17 case studies, which illustrate both successes and failures in consensus building. Some case studies address the role of cultural differences in decision-making processes. Others focus on highly technical disputes. Most cases explore consensus making in ad hoc groups, but some focus on disputes within existing organizations. They range from community visioning through environmental and development policy.

G6

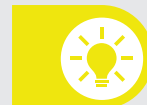
Country-Level Consultations



DESCRIPTION

The [Post-2015 Development Agenda: Guidelines for Country Dialogues, What Future Do You Want?](#) (2012) guidance document summarizes different tools for stakeholder consultations at the country level. Although primarily designed for UN consultations on the SDGs, it can be used to help stimulate meaningful debate and ensure the inclusiveness and accountability of any consultation.

STRATEGIC



FUNCTION

- Stakeholder engagement

DEVELOPER

UNDG

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidelines contain links to a wide range of case studies on stakeholder engagement from Asia and the Pacific and beyond, which constitute an important resource on stakeholder engagement.

G7

Country Reporting on the SDGs



DESCRIPTION

Countries are encouraged to conduct regular and inclusive reviews of progress (voluntary national reviews or VNRs) at the national and subnational levels. [Guidelines to Support Country Reporting on the SDGs](#) (2017) outlines a set of steps for countries reporting on SDG implementation and can help countries

- identify where the need for partnership among stakeholders is greatest;
- identify country data and capacity gaps; and
- understand integrated, systematic, and phased approaches to addressing data needs for review processes.

The annexes contain examples of available methodologies that can be used to make the national SDG reports more analytical; a step-by-step guide to developing a communications and dissemination plan; a checklist for managing the production of an SDG report; and available sources, guidance, and tools relevant to SDG reporting.

STRATEGIC



PROCEDURAL



FUNCTION

- Institutional coordination and partnerships
- Strategic communication and awareness raising
- Data management, reporting, and verification

DEVELOPER

UNDG

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The entire collection of VNR reports submitted so far is available [online](#).

G8

Education for SDGs



DESCRIPTION

The [Education for Sustainable Development Goals: Learning Objectives](#) (2017) guide explains how education, especially education for sustainable development, can be used to achieve the SDGs. It identifies learning objectives; suggests topics and learning activities for each SDG; and describes the different levels of implementation, from course design to the development and execution of national strategic plans. The aim is to support policy makers, curriculum developers, and educators in designing strategies, curricula, and courses that promote learning and contribute to the achievement of the SDGs. Other guidance related to education for the SDGs includes:

- [Greening Technical and Vocational Education and Training. A Practical Guide for Institutions](#) (2017)
- [Ocean Literacy for All: A Toolkit](#) (2017)
- Biodiversity Learning Kit (2017)
- [YouthXchange: Green Skills and Lifestyles Guidebook](#) (2016)

STRATEGIC



FUNCTION

- Strategic communication and awareness raising
- Training and capacity development

DEVELOPER

United Nations Educational, Scientific and Cultural Organization (UNESCO)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

Case studies are included in [A Decade of Progress on Education for Sustainable Development, Reflections from the UNESCO Chairs Programme](#) (2017).

G9

Engaging Parliaments on the 2030 Agenda and the SDGs



DESCRIPTION

[Engaging Parliaments on the 2030 Agenda and the SDGs: Representation, Accountability and Implementation: A Handbook for Civil Society](#) (2018) provides a comprehensive overview of how parliaments worldwide can and do engage in the SDG process. While it is designed as an easy-to-use reference point for parliamentarians and parliamentary staff, it can help all development actors navigate through parliament's role in implementing the SDGs.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Strategic communication and awareness raising
- Barrier analysis

DEVELOPER

Together 2030, in partnership with Newcastle University, Philippine Social Enterprise Network, Sightsavers, World Vision, and Global Focus

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The handbook contains cases from Pakistan, Sri Lanka, and other countries, with examples of how parliaments have approached the SDGs.

G10

Financing Innovation



DESCRIPTION

[Policy Options and Instruments for Financing Innovation: A Practical Guide to Early Stage Financing](#) (2009) provides advice on the different sources of finance available to private sector companies in the early stages of development. It includes advice for companies innovating with respect to environmental protection, resource efficiency, or accessibility and affordability of essential services. It also presents different policy options that can be deployed by the public sector to attract innovative private sector companies and to mobilize private financing to support the development of such companies.

STRATEGIC



FUNCTION

- Situational analysis
- Innovation
- Investment and financing

DEVELOPER

United Nations Economic Commission for Europe (UNECE)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guide includes 34 “features”—case studies illustrating different financing options that have been undertaken by the public and private sectors.

G11

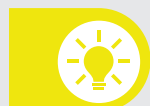
Institutional and Coordination Mechanisms (ICM)



DESCRIPTION

Institutional and Coordination Mechanisms (ICM): Facilitating Integration and Coherence for SDG Implementation (2017) discusses how countries have established new, or adapted existing, institutional frameworks to implement the SDGs. It includes a checklist of key factors a country should consider when establishing a new institutional framework or adapting its existing one, and provides options for institutional coordination and, more specifically, interministerial coordination. How responsibility can be allocated among the various levels of the government (national, subnational, and local) is explained. The document highlights efforts being made to mobilize institutions around the SDGs, improve their functioning, and promote horizontal and vertical coherence.

STRATEGIC



FUNCTION

- Institutional coordination and partnerships
- Situational analysis
- Barrier analysis

ORGANIZATIONAL



DEVELOPER

United Nations Development Programme (UNDP)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance includes short case studies illustrating how the mechanisms have been used in various countries, including Belize, Colombia, Germany, Ghana, Pakistan, the Philippines, and Sierra Leone.

G12

Integrated Assessment



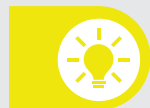
DESCRIPTION

Integrated Assessment: Guidance for Mainstreaming Sustainability into Policymaking (2009) supports the use of integrated assessment as an instrument for mainstreaming sustainability in policy making. It encourages the use of 12 prescribed building blocks to facilitate integrated policy making for sustainable development, while also seeking to make assessment less procedural and more flexible. These building blocks, which can be tailored to reflect different assessment contexts and policy processes, address the following:

- Taking an integrated approach to policy design and benefiting from policy windows;
- Engaging multiple stakeholders in policy making through continuous dialogue;
- Implementing institutional change, to improve sustainability governance;
- Integrating environmental, social, and economic sustainability issues;
- Making use of opportunities or win-win options in designing alternative policy options; and
- Formulating policy options to create sustainable development benefits, rather than mitigating or compensating for risks.

In addition to setting out how integrated assessment can influence the policy making process, the guidance document includes a comprehensive description and user guide for the tools associated with, and specific to, each of the building blocks.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION	
<ul style="list-style-type: none"> • Institutional coordination and partnerships • Stakeholder engagement • Consensus building • Scenario building 	<ul style="list-style-type: none"> • Situational analysis • Strategic planning and priority setting • Impact and risk assessment
DEVELOPER	USE REQUIREMENTS
UNEP	Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance includes examples of practical applications such as UN Environment’s country-level experiences of integrated assessments of trade-related policies, with a focus on the agriculture sector. Case studies of integrated assessments done in Senegal and Viet Nam with UNEP support are included.

G13

Partnerships for the SDGs



DESCRIPTION

[Maximising the Impact of Partnerships for the SDGs: A Practical Guide to Partnership Value Creation](#) (2018) is designed to help organizations identify, design, and manage effective partnerships that deliver maximum value. It considers the different types of partnerships and the added value that can be created by collaboration on the SDGs. Tools are included to help in assessing the value that a partnership will create overall and the individual value each partner will gain from the collaboration.

STRATEGIC



FUNCTION

- Institutional coordination or partnerships
- Barrier analysis

DEVELOPER

The Partnering Initiative and United Nations Department of Economic and Social Affairs (UNDESA)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guide includes three case studies of partnerships supporting the SDGs.

G14

Stakeholder Engagement



DESCRIPTION

Stakeholder engagement refers to allowing communities, organizations, or individuals to be engaged, in a meaningful way, in decision-making on policies, plans, programs, or projects that will affect them, or in which they have an interest. The [Stakeholder Engagement Manual, Volumes 1 and 2](#) (2005) presents stakeholder perspectives on stakeholder engagement and sets out ways in which corporate entities can undertake more effective stakeholder engagement, but it is also applicable to other types of organizations. Common stakeholder engagement approaches discussed here include public meetings, consultation committees, focus groups, and stakeholder surveys. [Strengthening Participation for Development Results: An Asian Development Bank Guide to Participation](#) (2012) also details a range of tools for stakeholder engagement applicable to policy dialogue.

STRATEGIC



FUNCTION

- Stakeholder engagement

PROCEDURAL



DEVELOPER

UNEP, in coordination with accountability and stakeholder research associates

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The manual contains a wide variety of case studies in which mostly international companies have applied different approaches to stakeholder engagement, while the guide contains examples of stakeholder engagement being applied to Asian Development Bank policies and projects in development.

G15

Strategies for National Sustainable Development



DESCRIPTION

Strategies for National Sustainable Development: A Handbook for Their Planning and Implementation (1994) provides relevant guidance to planners and implementers of an integrated approach to sustainable development, demonstrating how integration requires a participatory approach in order to achieve economic, social, and environmental objectives in a balanced manner.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination or partnership
- Situational analysis
- Strategic planning and priority setting
- Barrier analysis
- Investment and financing

DEVELOPER

International Union for Conservation of Nature (IUCN) and International Institute for Environment and Development (IIED)

USE REQUIREMENTS

Publication must be purchased (\$26.00)

EXPERIENCES OF PRACTICAL APPLICATION

To show how integration can be approached, the handbook draws on a range of strategies and examples from around the world. Experience in Africa, Asia, Latin America, and Organisation for Economic Co-operation and Development (OECD) countries is included.

G16

Design Thinking



DESCRIPTION

[Design Thinking](#) is a methodology that can be used in tackling complex, ill-defined problems. To arrive at a better understanding of the human needs involved, the problems under consideration are reframed in a human-centric manner through participatory processes (such as brainstorming sessions) with the relevant stakeholders. The methodology involves five steps—Empathize, Define, Ideate, Prototype, and Test—each of which requires the participation of the relevant stakeholders.

The Institute of Design at Stanford University has developed the [Design Thinking Guide: What, Why and How](#) and a variety of other resources including [online training](#) in the concept of Design Thinking and [tools](#) for use in the Design Thinking process.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Stakeholder engagement
- Strategic planning and priority setting
- Innovation

DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[Rethinking Learning](#) and [SUST4IN](#) are websites that show how the five steps in Design Thinking can be applied toward SDG achievement. [Making Technologies Work](#) documents applications of Design Thinking methodologies to sustainable energy.

G17

Foresight



DESCRIPTION

[Foresight](#) is a systematic, multidisciplinary, and participatory process that seeks to challenge preconceived assumptions about the future. It is based on the premise that the future can take various paths to achieving a desired outcome, which are shaped to an extent by the stakeholders involved in the Foresight process and the resulting decisions taken. It seeks to anticipate change so that it can be managed.

UNDP Global Centre for Public Service Excellence's [The Foresight Manual – Empowered Futures for the 2030 Agenda](#) (2018) provides guidance on the use of Foresight in SDG implementation. It explains the methodology in the context of development, suggests where and how it can be employed, and offers tips for its effective use. The guidance document includes a review of the most widely used Foresight techniques.

The International Institute for Sustainable Development (IISD) Foresight Group has developed a suite of [Adaptive Scenario Analysis and Planning \(ASAP\)](#) tools for use with the Foresight methodology primarily in relation to climate change, but that could also be used to explore alternative futures in general—ASAP for Stress Testing examines adaptation to external stressors such as economic shocks or climate change; ASAP for Alternative Futures examines what the future might look like; and ASAP for Visioning can be used to create a shared vision of the future.

STRATEGIC



FUNCTION

- Visioning and back-casting
- Scenario building
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

General/Various

USE REQUIREMENTS

Open source. ASAP is a proprietary tool; a license for use must be acquired from IISD.

EXPERIENCES OF PRACTICAL APPLICATION

In Asia and the Pacific, the APEC Center for Technology Foresight is promoting the use of Foresight. [Case studies](#) are available.

Case studies on the use of ASAP can be found in the paper [Recent Progress in Applying Participatory Scenario Development in Climate Change Adaptation in Developing Countries Part II](#) (Bizikova, Pinter, Tubiello 2014).

G18

Natural Step Framework for Strategic Sustainable Development (FSSD)



DESCRIPTION

This [methodology](#) supports policy and decision-making based on five core concepts and four main steps: awareness, baseline analysis, compelling vision, and action. Central to the methodology is back-casting, wherein sustainability principles help decision makers agree on where an organization needs to be in the future and understand where it is at present, so that they can strategize and draw up a plan for meeting their future goals.

STRATEGIC



FUNCTION

- Visioning and back-casting
- Situational analysis
- Strategic planning and priority setting

DEVELOPER

The Natural Step, Canada

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The methodology has been [applied](#) at a variety of levels, from company through city to country level, including the City of Edmonton and British Virgin Islands.

G19

Rapid Integrated Assessment (RIA)**DESCRIPTION**

[Rapid Integrated Assessment](#) (2017) presents a four-stage methodology that seeks to help countries assess their readiness for SDG implementation by reviewing national plans against the SDGs. RIA is a first step in defining a road map for a country to implement the SDGs. It provides a snapshot of the country's current progress, and reviews national development plans and relevant sector strategies to

- determine an SDG's relevance to a country context, both at the national and subnational levels;
- provide an indicative overview of the level of alignment between strategies and plans at the national or subnational level, on the one hand, and the SDG targets, on the other; and
- Identify interlinkages across SDG targets and areas for multi-sectoral coordination.

Key outputs of RIA for which templates are available are (i) a mapping of relevant SDG targets prioritized by sectors and identification of targets not prioritized; (ii) an SDG profile card that elaborates on the prioritized targets, the associated indicators, and the institutions responsible for implementation of the targets; and (iii) a gap analysis.

STRATEGIC**PROCEDURAL****FUNCTION**

- Institutional coordination and partnerships
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Barrier analysis

DEVELOPER

UNDP

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

RIA was pilot-tested in Bhutan, Cabo Verde, Cambodia, Dominican Republic, Jamaica, Liberia, Madagascar, Mexico, Namibia, Panama, and Tonga at the national level, and in India at the subnational level. Sample SDG profile cards for Bhutan and Namibia are provided in the guidance document. In the Dominican Republic, the results of the RIA have been recognized as an official document. In Cambodia and Liberia, RIA informed midterm reviews of the national plan.

G20

Scenario Development or Planning



DESCRIPTION

The Scenario Development or Planning methodology takes into consideration how the present scenario might evolve amid uncertainty. Narratives, rather than actual forecasts or predictions of how the scenario might pan out, are developed to guide the decision-making process. Scenario planning is particularly relevant to dealing with uncertainties associated with environment and climate change.

The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) has produced the guidance document [Scenario Development: A Review of Approaches](#) (2016), setting out different approaches to developing scenarios that can be used to consider synergies and trade-offs between agricultural or other natural resource-based development, and maintaining biodiversity and ecosystem service values.

The Institute for European Environmental Policy, Alterra, Ecologic, Netherlands Environmental Assessment Agency (PBL), and UNEP-WCMC report [Scenarios and Models for Exploring Future Trends of Biodiversity and Ecosystem Services Changes](#) (2009) also looks at the use of scenario development in biodiversity and ecosystems services, based on a European Commission (DG Environment)-contracted study. The overall purpose of the study was to clarify which models and scenarios are being used and can be used to explore biodiversity and ecosystems development, considering different driver and policy assumptions.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Scenario building
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

General/Various

USE REQUIREMENTS

Open source, but expertise in scenario planning facilitation is needed

EXPERIENCES OF PRACTICAL APPLICATION

Case studies are presented in the IISD report [Recent Progress in Applying Participatory Scenario Development in Climate Change Adaptation in Developing Countries Part II](#) (Bizikova, Pinter, and Tubiello 2014).

G21

SDG Acceleration Catalyst Tool (ACT)**DESCRIPTION**

[SDG ACT](#), built on the [Millennium Development Goals \(MDG\) Acceleration Framework](#), is intended to assist in identifying catalytic policy interventions (“accelerators”) that can trigger positive multiplier effects across the various SDGs, and solutions to bottlenecks that impede successful implementation.

It provides a structured methodology that consists of five steps:

- identification of a key development objective (step 1);
- identification of determinants that impede progress on the identified development priority (step 2);
- identification and prioritization of interventions that address the determinants (step 3);
- identification and prioritization of bottlenecks and solutions to the bottlenecks, for the successful implementation of the “accelerators” (step 4); and
- preparation of an implementation and monitoring plan for the proposed solutions (Step 5).

STRATEGIC**FUNCTION**

- | | |
|---|---|
| <ul style="list-style-type: none"> • Stakeholder engagement • Situational analysis • Strategic interlinkage analysis | <ul style="list-style-type: none"> • Strategic planning and priority support • Barrier analysis |
|---|---|

DEVELOPER

UNDP

USE REQUIREMENTS

Open source; but methodology is designed to be used by expert working groups within a country

EXPERIENCES OF PRACTICAL APPLICATION

[Unlocking Progress: MDG Acceleration Framework, Lessons from Pilot Countries](#) (2010) sets out case studies of the application of the predecessor tool to the SDG ACT tool.

G22

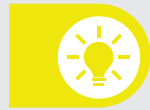
Sustainability (Impact) Assessment



DESCRIPTION

Sustainability Assessment or Sustainability Impact Assessment (SIA) considers all three aspects of sustainable development. Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) (tool E12, section 4) have a narrower focus on environment impact and potential environment–social interactions, whereas SIA also considers socioeconomic costs and benefits alongside the environmental. But, like SEA and EIA, SIA requires consideration of a range of policy alternatives and measures to mitigate the potential negative effects of preferred policy options. The OECD's [Guidance on Sustainability Impact Assessment](#) (2010) explains the methodology for SIA.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Impact and risk assessment

PROCEDURAL



DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

SIA is currently predominantly used in Europe and OECD countries. [Case studies](#) from Europe are available.

G23

SWOT Analysis

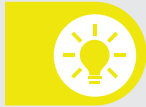


DESCRIPTION

“SWOT” stands for “strengths, weaknesses, opportunities, and threats.” SWOT analysis is used to identify and assess both the internal factors (strengths and weaknesses) and external factors (opportunities and threats) that influence the desired outcome of a plan, project, or organization. It is used in various fields concerned with decision-making.

The World Resources Institute (WRI) developed the [Sustainability SWOT](#) (sSWOT) methodology for companies. It demonstrates how environmental challenges (external threats) can help shape opportunities, in turn helping companies to identify their strengths and weaknesses, and thus their priorities for action. Companies can use the methodology internally or in collaboration with their suppliers, customers, or other stakeholders to help develop strategies and plans that create and sustain long-term value.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Situational analysis
- Strategic planning and priority setting
- Barrier analysis

PROCEDURAL



DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The World Resources Institute (WRI) Sustainability SWOT (sSWOT) was pilot-tested with several companies, and case studies are included in the [SWOT, A Sustainability SWOT, User Guide](#) (2012).

G24

Systems Thinking



DESCRIPTION

Systems thinking is an approach that is particularly suited to addressing complex systems, as it considers the interlinkages and interactions between the system's components and seeks to address them in a holistic manner. Among the tools that are useful in identifying, describing, and communicating systems understanding are behavior-over-time graphs, causal-loop diagrams, stock-and flow diagrams, the iceberg model, and dynamic models.

Integrated Approaches for Sustainable Development Goals Planning: The Case of Goal 6 on Water and Sanitation (2017) by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) highlights how systems thinking, with complementary tools, can ensure the development of strategies and plans for the integrated and holistic implementation of the SDGs. Using SDG 6 as sample goal, the UNESCAP document describes how SDG 6 interlinkages were analyzed in three selected country case studies to identify effective and impactful interventions at the policy level. The analysis made use of the systems thinking approach of causal loop interactions combined with the theory of leverage points. The methods and tools presented can assist in the following:

- reviewing existing institutional architecture and mandates to determine how they relate to the 17 SDGs;
- assessing the impact of policies and identifying effective policy interventions (leverage points) for impactful investment and use of scarce resources; and
- conducting stakeholder mapping and engagement in collectively developing an aspirational qualitative vision for societal change.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination or partnerships
- Stakeholder engagement
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Barrier analysis

DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

Country case studies describe applications of systems thinking in Fiji, Sri Lanka, and Tajikistan, with SDG 6 at the core. UNESCAP has also applied the systems thinking approach toward integrated policy formulation and development of strategic pathways in support of the [National Sustainable Development Vision 2030 for Mongolia](#).

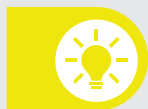
G25

Theory of Change (TOC)

**DESCRIPTION**

TOC helps to explain how the activities associated with a change initiative (e.g., a strategy or plan) can lead to the achievement of the desired outcomes. It is focused on identifying the gaps between the current situation and the intended situation, and thus what needs to be done to move from one to the other. This is achieved by working backward from the desired outcomes and identifying and mapping all the conditions that need to be in place for those outcomes to take place. The process is participatory, with multidisciplinary stakeholders taking part in a series of facilitated sessions. TOC can help with the design of more realistic change initiatives.

The Center for Theory of Change's [Theory of Change Online](#) web-based software provides guidance on the concepts of theory of change, and can be used to undertake and capture the results of a TOC exercise.

STRATEGIC**FUNCTION**

- Stakeholder engagement
- Visioning and back-casting
- Strategic planning and priority setting
- Barrier analysis

DEVELOPER

General/Various

USE REQUIREMENTS

Open source; basic version of TOC Online is available free of charge, but premium version needs to be purchased

EXPERIENCES OF PRACTICAL APPLICATION

TOC has been [used](#) in Cambodia, Nepal, the Philippines Sri Lanka, and Timor-Leste, as elaborated in [Theories of Change in International Development: Communication, Learning, or Accountability?](#) (2014). Other [case studies](#) are available from TOC Online.

G26

World Café or Knowledge Café



DESCRIPTION

The [World Café](#), or [Knowledge Café](#), methodology involves a structured conversational process based on predefined questions, where individuals switch periodically between a series of conversation tables and are introduced to the previous discussion by the table host. In addition to discussing, participants are encouraged to make notes on a shared paper table covering so that when they change tables participants can see what previous discussions were covered and hear the table host's view of the discussion. An underlying assumption of World Café, or Knowledge Café, events is that collective discussion can shift people's conceptions and encourage collective action. Guidance is provided in [A Quick Reference Guide for Hosting World Café](#) (2015).

STRATEGIC



FUNCTION

- Stakeholder engagement
- Consensus building

DEVELOPER

World Café, by Juanita Brown and David Isaacs, and Knowledge Café, by David Gurteen

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[“Lessons learned from training on ‘World Café’ method at an International Organization”](#) is an example of a World Café experience.

G27

Bhutan Gross National Happiness (GNH) Policy Screening Tool



DESCRIPTION

This [tool](#) is used by Bhutan to screen the country's development policies and projects for all three dimensions of sustainable development under the GNH concept. The concept is based on national consciousness of the conditions that are conducive to the happiness and well-being of the country and its people. If policies or projects do not score high enough, the policy or project will need to be redrafted. Scoring is done by a heterogeneous group, whose members reach a consensus on the policy and project impact.

The GNH screening tool forces different sectors to consider all three dimensions of sustainable development during policy and project formulation. It ensures a holistic approach to policy and project development. It also acknowledges unknown potential effects. While it is specific to Bhutan, it could be adapted to other country contexts to help reflect on the impacts of a policy or plan on various environmental media.

STRATEGIC



PROCEDURAL



FUNCTION

- Institutional coordination or partnership
- Stakeholder engagement
- Consensus building
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Impact and risk assessment

DEVELOPER

GNH Commission, Royal Government of Bhutan

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

Bhutan is currently the only country using this tool, as it is only country applying the GNH Index.

G28

Financing for SDGs: Breaking the Bottlenecks of Investment, from Policy to Impact



DESCRIPTION

There is a strong need for the private sector to engage in financing the SDGs. This [toolkit](#) is a web-based portal with the aim of increasing private financing of the SDGs as well as the cooperation of public sector entities. It provides examples of best practice and other initiatives under four categories:

- Providing leadership. Setting guiding principles for investment, galvanizing action, and ensuring policy coherence.
- Mobilizing investment. Raising finance and reorienting financial markets toward investment in SDG sectors.
- Channeling investment. Promoting and facilitating investment in SDG sectors.
- Maximizing investment impact. Increasing the sustainable development benefits and minimizing the risks of investment in SDG-related sectors, for example, agriculture and infrastructure development.

STRATEGIC



PROCEDURAL



FUNCTION

- Investment and financing

DEVELOPER

Office of the President of the UN General Assembly, managed by the United Nations Conference on Trade and Development (UNCTAD)

USE REQUIREMENTS

Open source

G29

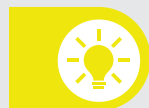
Financing Solutions for Sustainable Development Toolkit (FSSD)

**DESCRIPTION**

This [toolkit](#) includes a searchable database on financing the SDGs to help with reviewing and mobilizing resources to fund national or sectoral development plans and SDG accelerators. It can be searched by financial result, financial instrument, SDG, or sector.

It includes financial instruments such as [blended finance](#), development impact bonds, green bonds (tool E18, section 4), trust funds, challenge funds, guarantees, and impact investment. The characteristics of each instrument, circumstances where its use is feasible, risks or challenges related to its use, and opportunities to maximize the impact of each financial instrument are explained.

The toolkit can be used in conjunction with [Financing the 2030 Agenda - Introductory Guidebook for UNDP Country Offices](#) (2018) to identify the most suitable finance solutions to be included in national road maps. It provides links to other guidance documents related to financial solutions.

STRATEGIC**FUNCTION**

- Investment and financing

DEVELOPER

UNDP

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The toolkit provides links to case studies from a range of countries for each financial instrument.

G30

Global Partnership for Effective Development Cooperation – Monitoring Dashboard



DESCRIPTION

This [dashboard](#) allows users to view and compare data on the effectiveness of their, as well as others', development cooperation and track progress over time. The data cover all countries and organizations that reported to the Global Partnership biennial monitoring rounds since 2014 and from the 2005–2010 Paris Aid Effectiveness monitoring process.

[Country monitoring profiles](#) are available; countries can use the dashboard to

- inform the setting of priorities for increasing the effectiveness of their development cooperation;
- explore their development partners' historical performance, to assess progress over time and spur dialogue on areas needing more focused attention; and
- find out which of their peers are making progress in implementing effectiveness commitments, so that there can be mutual learning on successful approaches.

STRATEGIC



FUNCTION

- Institutional coordination and partnerships
- Situational analysis
- Strategic planning and priority setting
- Indicator development and measurement

PROCEDURAL



DEVELOPER

UNDP

USE REQUIREMENTS

Open source; computer and internet access required

G31

Indicators and a Monitoring Framework



DESCRIPTION

This [web platform](#) allows users to search a proposed set of 100 Global Monitoring Indicators (GMIs) by goal and target. Clicking on an indicator allows users to see the indicator's rationale and definition, potential levels of disaggregation, and some of its limitations. The web platform also identifies the primary data source as the preferred source of robust data for the indicator, with a preliminary assessment of data availability.

The web platform is based on the report, [Indicators and a Monitoring Framework for the Sustainable Development Goals: Launching A Data Revolution](#) (2015), which discusses how a comprehensive indicator framework might be established to support the SDGs, and details the investment needs for robust SDG monitoring and evaluation. It presents 10 principles for GMIs to track the SDGs in a clear and effective manner: GMI indicators should be limited in number; simple, intuitive, and policy-relevant; consensus-based; in line with international standards; relevant to all countries and all people; and able to be disaggregated to track progress for all relevant groups.

STRATEGIC



FUNCTION

- Indicator development and measurement

DEVELOPER

Sustainable Development Solutions Network (SDSN)

USE REQUIREMENTS

Open source; computer and internet access required

G32

Institutional and Context Analysis (ICA) for SDGs



DESCRIPTION

This tool supports SDG implementation with a focus on the acceleration component of the MAPS framework (tool G4) and can assist countries in identifying elements that may help boost the success of policy implementation or overcome barriers to the implementation of existing policies.

The tool can help in identifying the reasons for gaps between formal rules, such as laws or regulations (or how things should work in theory), and informal ones (how things really work in practice), and in mapping elements that shape the status quo. It then looks at the various stakeholders at the international, national, and local levels that can influence practices on a given issue, and at the interests and incentives guiding their actions. [Institutional and Context Analysis for the SDGs: Guidance Note](#) (2017) explains how to undertake an analysis.

The analysis leads to recommendations based on the specific characteristics of the context in question and the profile of relevant stakeholders.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination and partnerships
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Barrier analysis

DEVELOPER

UNDP

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance note provides case studies of how ICA has been undertaken for Mongolia and Sri Lanka.

G33

International Futures (IF) Model

**DESCRIPTION**

The seventh generation of this [model](#), developed over 35 years, is designed to help users think strategically and systematically about key global systems. It incorporates dynamically linked sub-models for population, economy, agriculture, education, energy, sociopolitical, international political, environment, health, infrastructure, and technology for 186 countries. It enables users to explore a variety of potential global scenarios in moving to a situation of environmental sustainability.

The model can help users recognize possible unintended long-term consequences of action or inaction today. It can also help in identifying more effective avenues for achieving stated goals.

STRATEGIC**FUNCTION**

- Visioning and back-casting
- Scenario building
- Dynamic simulation and modeling
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

The Frederick S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#), including the African Futures Project to promote long-term strategic planning and priority setting for African development, are available.

G34

Modeling Tools for Sustainable Development Policies



DESCRIPTION

This is an online [database](#) of five quantitative modeling tools suitable for use in designing policies and strategies related to the SDGs, but with a focus on energy and climate change. It introduces the modeling tools and explains how they can be used. The database features modeling tools for fuel tax development; energy systems analysis; and climate, land, energy, and water systems (CLEWS) (tool E2, section 4).

STRATEGIC



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Dynamic simulation and modeling

DEVELOPER

UNDESA and UNDP

USE REQUIREMENTS

Open source; computer and internet access required

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) for each tool, including those from the Kyrgyz Republic, Mongolia, and Viet Nam, are available.

G35

Nationally Determined Contributions-SDG Interlinkages



DESCRIPTION

This [tool](#) identifies potential alignment between targets, actions, policy measures, and needs in Nationally Determined Contributions and the targets of the SDGs. Results can be browsed and displayed by country.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Indicator development and measurement

DEVELOPER

Climate Watch

USE REQUIREMENTS

Open source; computer and internet access required

G36

Sustainability Accelerator



DESCRIPTION

This is a set of [tools](#) addressing sustainability and built around the Vision–Indicators–Systems–Innovation–Strategy (VISIS) methodology. It is a five-step, sequenced, iterative process of goal setting, assessment, analysis, initiative development, and planning within a sustainable development context. Most of the toolboxes have been designed for use by companies through participatory processes. The Compass tool, based on a four-point framework addressing nature, economy, society, and well-being, can be useful in understanding the concept of sustainability and assessing where a company is currently positioned in the process of sustainability goal setting and reporting, versus where it needs to be. The Pyramid tool is a workshop-based tool for identifying actions based on a sustainability vision.

STRATEGIC



PROCEDURAL



FUNCTION

- Institutional coordination or partnerships
- Stakeholder engagement
- Consensus building
- Visioning and back-casting
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Innovation

DEVELOPER

Alan AtKisson and the Sustainability Accelerator Network

USE REQUIREMENTS

Tool use is licensed. Use of Accelerator Lite is free, but users of Accelerator Pro incur a fee.

EXPERIENCES OF PRACTICAL APPLICATION

[Case study](#) from Townsville City Council for city sustainable development planning is available.

G37

Sustainability Dashboards



DESCRIPTION

Many different sustainability dashboards exist. These are usually web-based tools that facilitate the uploading of regular monitoring results of indicators of sustainable development, and allow users to instantly summarize and report on trends to relevant stakeholders at the regional and national levels.

Two sustainability dashboards related to the SDGs are the [Interactive SDGs Dashboard](#) produced by SDSN as part of their [SDG Index and Dashboards Report](#) series, including [country profiles](#) covering Asia and the Pacific, and the [SDG dashboard](#) produced by iTech Mission.

The New Zealand Sustainability Dashboard Project's report [A Survey of Sustainability Dashboards in Use Internationally](#) (2013) provides details of existing sustainability dashboards available, but with a focus on agriculture.

STRATEGIC



PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

General/Various

USE REQUIREMENTS

Open source

G38

Sustainable Development Analysis Grid



DESCRIPTION

This [tool](#) is a Microsoft Excel spreadsheet with supporting guidance [How is Sustainable Development Analyzed? User Guide for the Sustainable Development Analysis Grid](#) (2016), which covers six dimensions of sustainability (social, ecological, economic, cultural, ethical, governance) and is designed for participatory use. The spreadsheet requires a series of goals related to the six dimensions and reflective of the SDGs, to be weighted by participants. It automatically populates information and generates graphs and tables to support decision makers in identifying which goals should be prioritized.

STRATEGIC



FUNCTION

- Consensus building
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

Chaire en éco-conseil, Université du Québec à Chicoutimi, and Organisation Internationale de la Francophonie (Institut de la Francophonie pour le développement durable)

USE REQUIREMENTS

Open source

G39

SDG Community Implementation Flashcards



DESCRIPTION

These [flash cards](#) are designed to facilitate community-focused conversations about how to implement the 17 SDGs and their 169 targets at the local level in ways that are carefully adapted to the bio-cultural uniqueness of each location.

The flash cards contain more than 200 questions classified into the four dimensions of Gaia Education's systems approach to sustainability (social, ecological, economic, and worldview). Participants explore these four dimensions for each of the 17 SDGs in small-group conversations that invite them to collaboratively identify actions and solutions aimed at implementing the SDGs in ways that are relevant to their lives and their communities. The [SDG Multipliers Handbook](#) (2018) details how training using the flash cards can be run.

The flash cards are available in English and other languages.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Strategic communication and awareness raising
- Training and capacity development

DEVELOPER

Gaia Education

USE REQUIREMENTS

Handbook is open source; flash cards can be purchased from Gaia Education website shop at GBP 18

EXPERIENCES OF PRACTICAL APPLICATION

Gaia Education has undertaken [training](#) making use of the flash cards.

G40

SDG Interactions Framework



DESCRIPTION

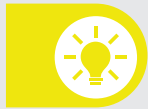
This [tool](#) identifies and scores the causal and functional relationships underlying progress toward achievement of the SDGs. Systematic assessment of the relationships supports and provides guidance on horizontal policy coherence within and between sectors, including identifying resource effective options and mapping responsibilities for clusters of targets. The tool is designed to be used in a participatory manner to help deepen understanding of SDG target interactions and trade-offs, and induce interagency policy dialogue and cooperation.

Positive interactions between SDGs are assigned scores of +1 (enabling), +2 (reinforcing), or +3 (indivisible), while interactions characterized by trade-offs are given scores of -1 (constraining), -2 (counteracting), or -3 (canceling), and neutral interactions are assigned a score of zero. This scoring helps in identifying “accelerator interventions” and critical clashes between SDG targets. It can help overcome data constraints by combining qualitative and quantitative data.

[A Guide to SDG Interactions: from Science to Implementation](#) (2017) developed by the Stockholm Environment Institute (SEI) and International Council for Science (ICSU) examines the interactions between the SDGs and their targets, determining to what extent they reinforce or conflict with each other. The report includes a detailed analysis of four select SDGs and how they interact with the other SDGs:

- Zero Hunger (SDG 2);
- Good Health and Well-Being (SDG 3);
- Affordable and Clean Energy (SDG 7); and
- Life below Water (SDG 14).

STRATEGIC



FUNCTION

- Institutional coordination or partnerships
- Consensus building
- Strategic interlinkage analysis
- Barrier analysis

DEVELOPER

SEI and ICSU

USE REQUIREMENTS

Open source; but benefits from use of trained users to guide participatory approach

EXPERIENCES OF PRACTICAL APPLICATION

SEI has [pilot-tested](#) the tool in Mongolia, Sri Lanka, and other countries.

G41

SDG Interlinkages Analysis and Visualization Tool



DESCRIPTION

This is a web-based [tool](#) (version 2.0) that can be run in nine Asian countries allowing users to

- visualize the interlinkages between SDG targets;
- identify potential synergies and trade-offs between SDG targets;
- explore indicator-level time-series data for the selected countries; and
- compare how a given country is progressing and performing over time.

[Sustainable Development Goals Interlinkages and Network Analysis: A Practical Tool for SDG Integration and Policy Coherence](#) (2017) provides guidance in using the tool. Users can visualize the interlinkages and explore indicator-level time-series data for the country, SDG, or target they are interested in. Binary linkages between each pair of SDG targets (from the total of 169 SDG targets) and indicator-level time-series data are based on an extensive review of existing scientific literature and relevant international policy documents. This research enables users to construct a network of interlinkages, presenting causal links between the SDG targets.

STRATEGIC



FUNCTION

- | | |
|-----------------------------------|---|
| • Situational analysis | • Barrier analysis |
| • Strategic interlinkage analysis | • Indicator development and measurement |

DEVELOPER

Institute for Global Environmental Strategies

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The tool is currently populated for use in [Bangladesh](#), Cambodia, India, Indonesia, Japan, the Philippines, the People's Republic of China, the Republic of Korea, and Viet Nam, with country examples included in the guidance.

G42

SDG Monitoring and Reporting Toolkit for United Nations Country Teams



DESCRIPTION

This [toolkit](#) is a web-based portal bringing together guidance in preparing voluntary national reviews. It is organized into four parts:

- Global policies and guidelines, providing background information on SDG monitoring and reporting architectures and effective SDG monitoring;
- Data resources, linking to the global SDG indicators database, baseline reports, and thematic and regional data portals;
- SDG localization and implementation, providing guidance in how to adapt the global targets and indicators to national conditions; and
- Capacity building and coordination, providing tools to help in assessing national statistical capacity, and gaps and capacity development needs for SDG monitoring.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination or partnerships
- Barrier analysis
- Indicator development and measurement
- Data management, reporting, and verification
- Training and capacity development

DEVELOPER

UN Statistics Division

USE REQUIREMENTS

Open source

G43

SDG Nexus Dialogues Visualization Tool

**DESCRIPTION**

This [tool](#) is an online mapping visualization tool using [Kumu](#) software, which maps the key UN actors working on the different SDGs, with a view to enhancing coordination and partnerships. It displays the areas in which the UN system is well positioned to deliver on the SDGs and where there are gaps, by incorporating how the UN entities are contributing to the SDGs. This information can be used to identify potential strategic initiatives or partnerships. The tool also maps potential synergies within and between the SDGs and demonstrates the indivisibility of the targets. The tool can be tailored to examine different nexuses and has the potential to map similar interactions at the national level.

STRATEGIC**FUNCTION**

- Institutional coordination and partnerships
- Situational analysis
- Strategic interlinkage analysis

DEVELOPER

SEI for UN Environment Management Group (EMG)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The tool was used for the UN EMG Nexus Dialogues 2017 Series; for each dialogue, selected SDG targets were chosen to demonstrate the interactions.

G44

Threshold 21: Integrated Sustainable Development Goals (iSDG) Simulation Tool

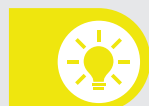


DESCRIPTION

The [iSDG tool](#) is an interactive simulation tool that can generate country-specific development scenarios to show the implications of a policy for a country's progress toward the SDGs. It enables decision makers to understand the interconnectedness of policies related to 36 areas that are designed to achieve the SDGs and test potential impact before the policies are adopted.

The iSDG model can be used in the early stages of policy design, when different options are being considered, and later in the process, when specific interventions designed for various sectors can be jointly simulated to assess their combined effect. It is structured to allow analysis of country-specific development issues beyond the SDGs.

STRATEGIC



FUNCTION

- Scenario building
- Strategic interlinkage analysis
- Dynamic simulation and modeling
- Strategic planning and priority setting

DEVELOPER

Millennium Institute (MI)

USE REQUIREMENTS

iSDG is a proprietary tool that must be used through, and is customized to each country, by MI. This is to ensure that the model reflects the unique development dynamics of a given country and the country's requirements.

EXPERIENCES OF PRACTICAL APPLICATION

The Threshold 21 model has been used in countries including Kenya, Peru, the Philippines, the People's Republic of China, Senegal, Swaziland, and Venezuela. The iSDG tool has been used in the [Ivory Coast](#).

G45

Toolbox for Localizing the SDGs



DESCRIPTION

This [toolbox](#) provides links to tools and other resources related to localizing the SDGs, classified according to the three stages of initializing the process, enabling institutional arrangements for SDG implementation, and capacity strengthening. It includes a training module with an introduction to the SDGs; awareness-raising advocacy and dialogue for SDG localization; alignment of local and regional development plans with the SDGs; and monitoring, evaluation, and follow-up. The toolkit emphasizes the importance of local officials in the development of policies, plans, programs, and projects aligned with the SDGs at the subnational and local levels. Examples of tools included are:

- UNDP's [Diagnostic Tool to Support the Localization of the SDGs at Subnational Level in Asia-Pacific](#) (2016); and
- United Cities and Local Governments (UCLG) Asia-Pacific's [City Enabling Environment Rating: Assessment of the Countries in Asia and the Pacific](#) (2018).
- UNDP, UCLG, and United Nations Human Settlements Programme's (UN-HABITAT) [Roadmap for Localizing the SDGs: Implementation and Monitoring at Subnational Level](#) (2016).

STRATEGIC



FUNCTION

- | | |
|---|---|
| <ul style="list-style-type: none"> • Institutional coordination or partnerships • Strategic communication and awareness raising • Barrier analysis | <ul style="list-style-type: none"> • Investment and financing • Data management, reporting, and verification • Training and capacity development |
|---|---|

DEVELOPER

UCLG, together with UNDP and UN-HABITAT

USE REQUIREMENTS

Open source

G46

UNESCAP Online Statistical Database



DESCRIPTION

This [statistical database](#) for Asia and the Pacific allows users to browse, tabulate, and download data for any of the 350 indicators (disaggregated into 1200 data series) contained in the database. Users can navigate through 16 topics: demographic trends, health, education, poverty, gender, energy and natural resources, disasters, environment, gross domestic product, labor, trade, and finance. Comparing the latest available data with an earlier reference year can highlight development progress. Data for two areas (within a country or a group of countries) for any given indicator can be [compared](#), with the help of charts and tables showing the similarities and differences. Data is updated every 2–3 months or so.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Data management, reporting, and verification

PROCEDURAL



DEVELOPER

UNESCAP Statistical Division

USE REQUIREMENTS

Open source; computer and internet access required

G47

UNESCAP SDG Helpdesk



DESCRIPTION

The [SDG Helpdesk](#) provides links to a variety of online training and resources, including statistical data portals and toolkits (searchable by SDG) for SDG implementation.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic planning and priority setting
- Barrier analysis
- Indicator development and measurement
- Data management, reporting, and verification
- Training and capacity development

DEVELOPER

UNESCAP

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The SDG Helpdesk section on [best practices](#) provides links to case studies on SDG integration from Asia and the Pacific.

4

TOOL INVENTORY FOR THE ENVIRONMENTAL DIMENSIONS OF THE SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals (SDGs) have been formulated to form an indivisible set of goals and targets, with the environmental dimensions closely related to the socioeconomic dimensions of development. This section sets out the tool inventory relevant to strengthening the implementation of these environmental dimensions of the SDGs, in general, with an emphasis on the selected environment-related goals and targets shown in Figure 1.1. Further information about the tools can be obtained from the hyperlinks.

TOOLS APPLICABLE TO THE ENVIRONMENTAL DIMENSIONS OF THE SUSTAINABLE DEVELOPMENT GOALS, IN GENERAL

E1

Framework for the Development of Environment Statistics (FDES)



DESCRIPTION

[Framework for the Development of Environment Statistics \(FDES 2013\)](#) (2017) provides a structure for, and guidance in, the collection and compilation of environmental statistics at the national level. Environmental statistics, once collected and compiled, can inform all stages of the policy cycle. But the main objective of FDES 2013 is to guide countries in the early stages of developing environmental statistics programs. Countries are using its structure to organize their own environmental statistics databases and compendiums.

A core set of 100 tier 1 environmental statistics, including consideration of crosscutting issues, has been identified. This is complemented by a set of tier 2 and tier 3 environmental statistics that can be implemented in a flexible and incremental manner depending on national priorities and resources. Together, these compose the [basic set](#) of 458 environmental statistics with accompanying [methodological guidance](#) that have been [mapped](#) onto the SDGs.

FDES 2013 includes the [Environment Statistics Self-Assessment Tool \(ESSAT\)](#). ESSAT assists countries in improving their ability to assess their current position with respect to environmental statistics, setting the basis for building capacity to produce environmental statistics, based on the FDES 2013 and in support of the SDGs. It assesses and compares the basic set of environmental statistics contained in the FDES 2013 with available national environmental statistics, environmental policy objectives, and reporting requirements/user requests, among others.

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

United Nations (UN) Statistical Division

USE REQUIREMENTS

Open source; countries can use FDES 2013 independently, but they should engage with intergovernmental panels or committees of

- national statistical offices or institutes,
- environmental and other environmentally relevant line ministries or authorities, and
- national experts and researchers with extensive and in-depth knowledge of the environment.

EXPERIENCES OF PRACTICAL APPLICATION

FDES 2013 [compendiums](#) include those for Indonesia and the Philippines. Bangladesh, Bhutan, Maldives, Mongolia, and Nepal have all engaged in test implementation of FDES 2013. Indonesia, Mongolia, and the Philippines have been using the ESSAT self-assessment tool.

E2

Nexus Approaches to Environmental Resource Management



DESCRIPTION

Nexus approaches examine the interlinkages between environmental resources in a complex system. The nexus approach relies on quantitative modeling of the resource systems to assess system interactions and the impact of changes in one system on the other systems.

The Food-Water-Energy (FEW) Nexus, introduced in [Understanding the Nexus Background Paper for the Bonn2011 Nexus Conference](#) (2011) during the Bonn 2011 Conference on the Water, Energy and Food Security Nexus, provides a framework for assessing the interlinkages between food security, energy, and water resource use. To support the FEW Nexus approach, a variety of [tools](#) have been developed.

Developed by the United Nations Economic Commission for Europe (UNECE), the Water-Food-Energy-Ecosystems (WFEE) Nexus is being used to assess trans-boundary river basin systems, as elaborated on in their publication [Methodology for Assessing the Water-Food-Energy-Ecosystems Nexus in Transboundary Basins and Experiences from Its Application: Synthesis](#) (2018).

Developed by the Royal Institute of Technology (KTH) Sweden in cooperation with the United Nations Department of Economic and Social Affairs (UNDESA), the Climate, Land Use, Energy and Water Development (CLEWD) Nexus presented in the [Prototype Global Sustainable Development Report](#) (2015) provides a framework for assessing the interlinkages between climate change and land, energy, and water resource use. The associated [Global Climate, Land Use, Energy and Water System \(CLEWS\) model](#) provides insights into the analysis of interlinkages between climate, energy, land, and water use at the global level through a comparison of different climate change scenarios selected from a dropdown menu. There are four scenarios: (i) baseline scenario, (ii) 4 degrees Celsius (°C) scenario, (iii) 2°C scenario, and (iv) carbon tax scenario.

Developed by the United National University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES), the Water-Soil-Waste Nexus presented in [Advancing A Nexus Approach for the Sustainable Management of Water, Soil and Waste](#) (2015) provides a framework for assessing the interlinkages between water use, soil contamination, and waste generation.

The Poverty-Environment-Climate Nexus is supported by the [Poverty-Environment Initiative](#) (PEI).

STRATEGIC



FUNCTION

- Situational analysis
- Dynamic simulation and modeling
- Strategic interlinkage analysis
- Barrier analysis

PROCEDURAL



DEVELOPER

General/Various

USE REQUIREMENTS

Open source; Global CLEWS model requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

FEW Nexus [case studies](#) include several from Asia and the Pacific.

Under the UNECE Water Convention Programme of Work, [pilot assessments](#) of the WFEE Nexus in 13 river basin systems, including the Mekong and Pacific, have been completed.

Nine United Nations Educational, Scientific and Cultural Organization (UNESCO) [pilot assessments](#) using the CLEWD Nexus were undertaken for the Sustainable Management of Marginal Drylands project.

E3

System of Environmental-Economic Accounting (SEEA)



DESCRIPTION

[SEEA](#) is a framework that brings together a comprehensive set of economic and environmental accounts to measure the condition of the environment, the contribution of the environment to the economy, and the impact of the economy on the environment. The SEEA supports improved understanding of the interactions between the economy and the environment, and includes a description of current stocks of environmental assessments and changes in them. It can aid the integration of environmental indicators and the relationship between those indicators and the economy into national statistical programs.

[SEEA 2012 Central Framework](#) (2014) contains an internationally accepted set of standard concepts, definitions, classifications, and accounting rules and tables to guide the compilation of internationally consistent and comparable statistics.

Complementary additional guidance on [SEEA 2012 Applications and Extensions](#) (2017) provides a bridge between compliers and users of SEEA-based environmental-economic accounts and shows how these accounts can be used to inform the policy making process.

The [System of Environmental-Economic Accounts for Energy](#) (SEEA-Energy) addresses the physical flow of energy between the environment and the economy, on the one hand, and the quantity of mineral and energy resources and changes in these resources over an accounting period, on the other, in terms of resource availability or in monetary terms, to show the contribution of natural capital from energy resources and its depletion.

The [System of Environmental-Economic Accounts for Water](#) (SEEA-Water), together with the International Recommendations for Water Statistics adopted by the United Nations Statistical Commission, provides the conceptual framework for monitoring progress toward water policy objectives in individual countries and on an international scale.

[SEEA Experimental Ecosystem Accounting](#) (SEEA-EEA) provides a framework for measuring the extent and condition of ecosystem service flows and linking these with the economy and other human activities. The SEEA-EEA is complex and, for this reason, is currently a less advanced subset of the SEEA.

SEEA [e-learning resources](#) are available from the UN Statistics Division.

PROCEDURAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Budgeting
- Investment and financing
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

UN, European Commission, Food and Agriculture Organization of the United Nations (FAO), Organisation for Economic Co-operation and Development (OECD), International Monetary Fund, and World Bank Group

USE REQUIREMENTS

Open source, but a certain level of expertise is required to implement the SEEA

EXPERIENCES OF PRACTICAL APPLICATION

[Lessons Learned from Environmental Accounting: Findings from Nine Case Studies](#) (2000) produced by the International Union for Conservation of Nature (IUCN) provides some early case studies of SEEA application from Asia and the Pacific and other regions, including its use in the Philippines.

E4

Environmental Finance Tools



DESCRIPTION

The [International Guidebook of Environmental Finance Tools, A Sectoral Approach: Protected Areas, Sustainable Forests, Sustainable Agriculture and Pro-Poor Energy](#) (2012) provides guidance in developing and implementing commonly used, widely applicable, and potentially high-impact environmental finance tools that are already in use. The tools included—fees, loans, payment for ecosystem services (tool L19, section 6); market-based mechanisms (tool E23); clean development mechanisms; and voluntary emission reductions, subsidies, and taxes—have been successfully applied to protect the environment and promote pro-poor and predominantly rural development.

The guidebook is intended to help decision makers and practitioners in the government, nongovernment organizations (NGOs), and industry develop and apply financial tools for environmental management in developing economies. It takes a sector (as opposed to tool-focused) approach since financing decisions tend to have a sectoral context. The four sectors addressed are pro-poor energy access, protected areas, sustainable agriculture, and sustainable forestry.

STRATEGIC



PROCEDURAL



FUNCTION

- Investment and financing

DEVELOPER

United Nations Development Programme (UNDP)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidebook includes case studies from developing countries with respect to four sectors: pro-poor energy, protected areas, sustainable agriculture, and sustainable forestry.

E5

Green Finance Catalyzing Facility (GFCF)



DESCRIPTION

This [guidance](#) has four interrelated parts, each aimed at identifying key knowledge acquired from an analysis of green finance literature and infrastructure financing experience from Asia and the Pacific. These component parts are:

- The Green Finance Priority (Part A).
- The Green Bankability Conundrum (Part B).
- The Emerging Lessons from Green Finance Initiatives (Part C).
- The Green Finance Catalyzing Facility (GFCF) (Part D).

The part on GFCF illustrates how it is possible for countries to design financially bankable and environmentally sustainable projects, and how private sector finance can be crowded in to support investment.

STRATEGIC



FUNCTION

- Investment and financing

PROCEDURAL



DEVELOPER

Asian Development Bank (ADB)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The GFCF contains 16 examples of green finance initiatives and 34 examples of green finance projects.

E6

Interactive Handbook to Strengthen Planning and Budgeting Processes



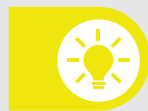
DESCRIPTION

Mainstreaming Environment and Climate for Poverty Reduction and Sustainable Development: The Interactive Handbook to Strengthen Planning and Budgeting Processes (2017) was developed to guide the work of the PEI.

It provides guidance and tools for use in mainstreaming pro-poor environmental, natural resource, and climate objectives into development policies, strategies, plans, budgets, and monitoring programs at the national, subnational (regions, districts, municipalities), and sectoral levels. The tools included have been successfully applied in PEI case studies.

Following a discussion on why mainstreaming poverty–environment–climate concerns matter and the politics of mainstreaming, it sets out a programmatic approach to mainstreaming poverty–environment in planning and budgeting processes, sector strategies and subnational planning, national monitoring processes, and management of private investment.

STRATEGIC



PROCEDURAL



FUNCTION

- Institutional coordination or partnerships
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Barrier analysis
- Innovation
- Budgeting
- Investment and financing
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

PEI—a joint program of UNDP and UN Environment

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance is illustrated with case studies; additional PEI [case studies](#), including those from Bangladesh, Bhutan, the Lao People's Democratic Republic, and Nepal are available.

E7

Integrated Environmental Assessment Tools for Improved Multilateral Environmental Agreement (MEA) Implementation



DESCRIPTION

The [Achieving National and Sectoral Development Priorities: The use of Integrated Assessment Tools for Improved MEA Implementation](#) (2013) training module consists of six steps, each of which features the use of a tool, the relevance of MEAs to national and sectoral development priorities, and the important synergies between them. The steps and tools in the training module are as follows:

- **Clarify focal MEAs, status, and linkages with development priorities**, including an MEA Priorities Mapping Tool, which identifies ecosystem services supported by MEAs and explores how they relate to human well-being.
- **Identify synergies among focal MEAs, including an MEA Synergies Mapping Tool** to help illustrate the commonalities among the various MEAs that have been ratified by a country and thus increase the efficiency of implementation efforts.
- **Articulate desired future outcomes**, including identifying key progress indicators and targets related to future MEA outcomes and setting an MEA Challenge Scenario for the future, recognizing the synergies among MEAs and their relevance to national development priorities.
- **Identify portfolio of MEA policies for achieving future outcomes**, including a Policy Mapping Tool that uses the Driving Forces–Pressure–State–Impact–Response (DPSIR) analysis framework to inventory key policies in support of a specific MEA, identify major gaps, and make recommendations for achieving desired future MEA outcomes.
- **Assess risks and opportunities, and improve and adapt as necessary**, including a Policy Stress Testing Tool to help identify MEA implementation risks and opportunities under different plausible future scenarios.
- **Prepare MEA policy planning brief**, including a compilation worksheet from prior sessions designed to help politicians and policy makers understand (with supporting evidence) the importance of successful MEA implementation in advancing their national development priorities.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Visioning and back-casting
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Indicator development and measurement

DEVELOPER

International Institute for Sustainable Development (IISD)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The training module was developed for use in improving national development priorities in the Caribbean through more effective MEA implementation. MEAs that were the focus of this work included the Cartagena Protocol on Biosafety, the Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean, the Protocol Concerning Pollution from Land-Based Sources and Activities, and the Convention on Biological Diversity.

E8

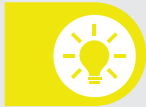
Integrated Planning, Budgeting, and Investment Tools for Achieving the SDGs



DESCRIPTION

Integrated Planning, Budgeting and Investment Tools for Achieving the SDGs: PEI Asia-Pacific in Focus (2017) provides information on 60 mainstreaming tools and approaches initiated and developed through PEI's long-term country engagement in Asia and the Pacific. It includes tools that support the integration of sustainable development into plans, public and private investments, institutions, and information systems.

STRATEGIC



FUNCTION

- | | |
|--|--|
| <ul style="list-style-type: none"> • Stakeholder engagement • Situational analysis • Strategic planning and priority setting • Impact and risk assessment • Barrier analysis • Budgeting | <ul style="list-style-type: none"> • Investment and financing • Indicator development and measurement • Data management, reporting, and verification • Training and capacity development |
|--|--|

DEVELOPER

PEI—a joint program of UNDP and UN Environment

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance includes case studies from Bangladesh, Bhutan, Indonesia, the Lao People's Democratic Republic, Mongolia, Myanmar, Nepal and the Philippines.

E9

Managing Mining for Sustainable Development



DESCRIPTION

Managing Mining for Sustainable Development: A Sourcebook (2018) provides guidance on incorporating social and environmental sustainability considerations in policies and legal frameworks, regulatory and participatory tools that can be used to protect communities and the environment, and tools for enhancing fiscal benefits and increasing employment opportunities. While focused on commercial-scale mining, it is also relevant to other natural resource industries—oil, gas, hydropower, commercial-scale agriculture, and logging.

STRATEGIC



FUNCTION

- Situational analysis
- Training and capacity development

DEVELOPER

PEI—a joint program of UNDP and UN Environment

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance includes case studies of policies and practices for managing mining toward sustainable development, including several from countries in Asia and the Pacific.

E10

Budget Tagging and Scoring

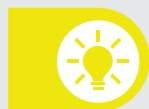


DESCRIPTION

Budget tagging is a system of tracking, monitoring, and reporting expenditures, and flagging budget codes relevant to environmental actions (such as climate change mitigation). It enables governments to identify and report the proportion of the government's expenditure allocated to and spent on environmental actions. Most budget tagging has so far been for climate change mitigation and forest management, but the methodology could also be applied to other environmental dimensions of the SDGs.

Budget scoring helps governments identify the impact of spending on the environment, and thus allows decision makers to prioritize actions that maximize the environmental benefits of their expenditure.

STRATEGIC



PROCEDURAL



FUNCTION

- Budgeting
- Investment and financing
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

UNDP's [Climate Budget Tagging: Country Driven Initiatives for Tracking Climate Expenditures](#) (2015) describes the experience of climate budget tagging in Bangladesh, Indonesia, Nepal, and the Philippines.

Nepal undertook a Climate Public Expenditure and Institutional Review (CPEIR) in 2010 resulting in the institutionalization of a [climate change budget code](#) in the country's financial system.

The Indonesian Ministry of Finance with support from the Poverty-Environment Initiative—a joint program of UNDP and UN Environment—produced a guidance on the [Low Emission Budget Tagging and Scoring System \(LESS\) for Climate Change Mitigation Expenditures in Indonesia](#) (2014), summarizing the process of developing a budget tagging system for climate change mitigation expenditures in Indonesia. Use of budget tagging in Indonesia enabled the issuance of Indonesia's first public green bond (tool E18) in 2018.

E11

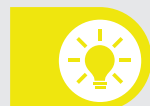
Environmental Cost-Benefit Analysis (CBA)



DESCRIPTION

Environmental CBA is a method of appraising in monetary terms the environmental costs and benefits of a plan or project. Environmental costs include the regulatory costs to the government of implementing and enforcing environmental laws and regulations and compliance costs of meeting them. Benefits are more challenging to quantify in monetary terms since they do not necessarily have a market value and may not be tangible, in which case valuation exercises are required. OECD has produced guidance on [Cost-Benefit Analysis and the Environment: Recent Developments](#) (2006) and [Cost-Benefit Analysis and the Environment Further Developments and Policy Use](#) (2018) which explore recent developments in environmental CBA, including ecosystem services valuation (tool L15, section 6).

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Budgeting
- Investment and financing

DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The Government of Nepal, with PEI support, has developed guidance on the [Economic Analysis of Local Government Investment in Rural Roads, Nepal](#) (2011), which accounts for climate change and environment impact, specifically considering labor-versus equipment-intensive road construction approaches.

The [Mining Financial Modelling Tool](#), developed by PEI with inputs from the Department of Mines of Myanmar, is an easy-to-read cash-flow forecast for the life of a mine that is responsive to changes in economic variables (e.g., commodity price change, exchange rate fluctuation, delays in construction, ore deposit depletion) and includes estimates of the required costs of environmental management and social development. It allows governments to see if a developer has sufficiently considered the environmental and social cost-benefits of their mining operations in developing their financial model.

E12

Environmental Assessment



DESCRIPTION

Strategic Environmental Assessment (SEA) is a method of assessing the potential impact of policies, plans, and programs on the environment, and taking environmental considerations into account in the decision-making process. Meaningful SEA can engage a range of stakeholders and challenge policy makers to identify and explore alternative approaches and preferred options, which could minimize negative impact and enhance positive effects.

SEA evolved from the field of Environmental Impact Assessment (EIA) on the premise that assessment at the level of policies, plans, and programs could overcome the limitations of assessments conducted at the project level. EIA is primarily applied to a project after policy, plan, and program decisions have been made, by which time there is limited opportunity to explore alternative approaches. Both approaches include the stages of screening and scoping to identify issues that need to be considered further, conduct of public consultations, baseline establishment, impact assessment, formulation of measures for managing the identified impact, and determination of monitoring requirements.

Both SEA and EIA require decision makers to account for environmental impact in their decisions and to justify their decisions following environmental studies and public consultation. SEA is focused on policies, plans, and programs, while the EIA focus is at the project level. Environmental and Social Impact Assessment (ESIA) addresses both environmental with social impact in a single process.

Many SEA guidance documents have been produced. These include the following:

- UNECE [Resource Manual to Support Application of the UNECE Protocol on Strategic Environmental Assessment](#) (2011);
- UNECE [Practical Guidance on Reforming Legal and Institutional Structures with Regard to the Application of the Protocol on Strategic Environmental Assessment](#) (2017);
- World Bank [SEA for Policies: An Instrument for Good Governance](#) (2008);
- World Bank [Strategic Environmental Assessment in Policy and Sector Reform](#) (2011); and
- European Union (EU) [Handbook on SEA for Cohesion Policy 2007–2013](#) (2006). Since SEA is a generic methodology, the handbook can also be referred to by those outside the EU.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Impact and risk assessment

PROCEDURAL



DEVELOPER

General/Various

USE REQUIREMENTS

Open source, but assessment requires expertise in environmental assessment methodology

EXPERIENCES OF PRACTICAL APPLICATION

[Assessing Environmental Impacts – A Global Review of Legislation](#) (2018) produced by UNEP reviews the current status of national legislation and institutional arrangements of relevance to SEA and EIA, as well as emerging issues and trends.

OECD has reviewed SEA in nine case study countries in [Strategic Environmental Assessment in Development Practice: A Review of Recent Experience](#) (2012) while World Bank has also reviewed [Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements, Practices and Lessons Learned in East and Southeast Asia](#) (2006).

E13

Environmental Performance Review (EPR)



DESCRIPTION

EPR is a voluntary assessment of a country's environmental performance, either carried out by an international organization or in the form of peer review where countries review each other. [OECD](#) and [UNECE](#) both have EPR programs. These involve an assessment of the progress a country has made in meeting its international environmental commitments. EPR report recommendations assist countries in reconciling their economic and social development with environmental protection.

PROCEDURAL



FUNCTION

- Situational analysis

DEVELOPER

General/Various

USE REQUIREMENTS

EPRs are carried out by external parties with the permission of the country involved.

EXPERIENCES OF PRACTICAL APPLICATION

Examples of EPR reports from [OECD](#) and [UNECE](#) that include developing countries in Asia and the Pacific are available.

E14

Environmental Risk Assessment



DESCRIPTION

Environmental risk assessment is a methodology for determining the risk of damage to ecosystems or human health from pollution, the introduction of invasive species, climate change, and other factors. Environmental risk assessments generally involve hazard identification and risk assessment, followed by the development of a control plan for managing risks and keeping them at an acceptable level.

The Partnerships in Environmental Management for the Seas of East Asia's (PEMSEA's) [Environmental Risk Assessment Manual: A Practical Guide for Tropical Ecosystems](#) (1999) provides the basis for identifying and prioritizing risks from human activity to tropical ecosystems and human health, and allows policy makers, regulators, and technical personnel to understand better the key principles and practices of environmental risk assessment. Illustrative examples and exercises are included.

Other documents providing environmental risk assessment guidance are as follows:

- The United States Environmental Protection Agency's [web-based guidance](#);
- The United Kingdom Department of Environment, Food, and Rural Affairs' (Defra's) [Guidelines for Environmental Risk Assessment and Management, Green Leaves III](#) (2011); and
- Commonwealth of Australia's [Environmental Risk Assessment: An Australian Perspective](#) (1995).

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Impact and risk assessment

DEVELOPER

General/Various

USE REQUIREMENTS

Open source, except for the PEMSEA manual, which must be obtained from PEMSEA at a cost of \$15.25

EXPERIENCES OF PRACTICAL APPLICATION

Environmental risk assessments following PEMSEA guidance have been conducted for Bali in Indonesia, Manila Bay in the Philippines, Bohai Sea in the People's Republic of China, and Da Nang in Viet Nam. The results have shown, to varying degrees, the common issues and problem areas, as well as the underlying causes, of resource decline, habitat loss and degradation, and contamination of coastal waters. The associated recommendations from environmental risk assessments have been used as input in risk management responses, including coastal strategy development and implementation, coastal use zoning schemes, investments in environmental infrastructure improvements, integrated environmental monitoring, and other issue- and area-specific action programs.

E15

Public Environment Expenditure Review (PEER)



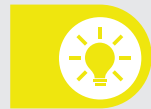
DESCRIPTION

[Public Environment Expenditure Review](#) (PEER) can be used to understand the scale of the government's expenditure related to the environment. It can be used to evaluate current environmental priorities as reflected in public expenditure, and to aid the planning and prioritization of environmental investments.

[A Methodological Guidebook: Climate Public Expenditure and Institutional Review \(CPEIR\)](#) (2015), developed by PEI and UNDP Governance of Climate Change Finance, is specifically focused on identifying and analyzing budget allocations and expenditures in relation to climate change mitigation and adaptation, as well as on examining institutional coherence in climate financing.

The [Poverty-Environment Expenditure Accounting Framework \(PEAF\): Application to Inform Public Investments in Environment, Climate Change and Poverty](#) (2017) offers the opportunity to link the state of the environment to improvements in the poverty situation of local communities. It aims to improve the system of national accounts and supports the use of PEER and CPEIR to better analyze the efficiency and effectiveness for public expenditure, contributing to environmental sustainability and poverty reduction.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic planning and priority setting
- Budgeting
- Investment and financing

PROCEDURAL



DEVELOPER

PEI—a joint program of UNDP and UN Environment

USE REQUIREMENTS

Open source

ORGANIZATIONAL



EXPERIENCES OF PRACTICAL APPLICATION

PEI has supported PEER in [Bhutan](#) and CPEIR in [Bangladesh](#), and at the provincial level in [Indonesia](#) and Nepal.

The PEER for Bhutan addressed the size and composition of budget allocations and expenditures in relation to the environment. It assessed the effectiveness, efficiency, and accountability of expenditures, broken down into nine clusters: (i) environmental protection; (ii) urban, rural, and industrial environmental management; (iii) biodiversity conservation; (iv) information and knowledge; (v) natural resource management; (vi) soil conservation and land management; (vii) climate change; (viii) environmental mainstreaming; and (ix) miscellaneous.

The provincial-level CPEIR for Indonesia shed light on sectoral differences in climate spending, as well as on the importance of provincial climate allocation and spending for national climate targets.

E16

State of the Environment (SOE) Reporting



DESCRIPTION

SOE reports aggregate and summarize environmental data and information to help policy makers identify the current state of the environment, and thus the environmental issues that need to be addressed. Reports can be produced at the global, regional, national, or subnational level.

Many guidance documents on SOE reporting have been produced. These include the following:

- The South Pacific Regional Environment Programme's (SPREP's) SOE reporting [toolkit](#), including [State of Environment Report Guidelines](#) for Pacific countries preparing SOE reports, with advice on the process of developing an SOE report and how SOE reporting can inform the policy making process;
- European Commission [Guidelines for the Preparation of Indicator-based Environmental Assessment Reports](#) (2007) for Eastern Europe, Caucasus, and Central Asia countries, with suggested improvements in the data-based component of SOE reports to support the setting of priorities and targets for environmental policy and the evaluation of environmental measures; and
- European Environment Agency's [A Checklist for State of Environment Reporting](#) (1999), with a comprehensive list of SOE reporting approaches, practices, and terminology, to harmonize environmental information.

PROCEDURAL



FUNCTION

- | | |
|---|---|
| <ul style="list-style-type: none"> • Strategic communication and awareness raising • Situational analysis | <ul style="list-style-type: none"> • Indicator development and measurement • Data management, reporting, and verification |
|---|---|

DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The UNEP [Global Environment Outlook](#) is an example of a global-level SOE report. Most countries in Asia and the Pacific produce periodic SOE reports. The frequency of reporting varies from 1 to 5 years. An example of an SOE for the Marshall Islands is accessible from SPREP's toolkit.

E17

Ecological Footprinting



DESCRIPTION

[Ecological footprinting](#) compares the resource demands of an individual, business, or country against the supply of resources.

Developed by the Global Footprint Network, National Footprint Accounts measure the ecological assets that a population requires to produce the natural resources it consumes, including plant-based food and fiber, livestock and fish, timber and other forest products, plus space for urban infrastructure, and to absorb its waste, especially carbon emissions. They also identify the productivity of ecological assets including cropland, grazing land, forestland, fishing grounds, and built-up land. The demand–supply balance metrics determine whether a bio-capacity reserve or a deficit exists. The calculations in the National Footprint Accounts are based on UN data sets, including [data](#) published by the Food and Agriculture Organization, the UN Commodity Trade Statistics Database, and UN Statistics Division data, as well as data from the International Energy Agency.

Other footprinting approaches focusing on specific topics (such as carbon footprinting following the Greenhouse Gas Protocol and water footprinting methods) have also been developed. [Handprinting](#) techniques are also being established, these focus on the positive ecological, economic and social sustainability impacts of products.

STRATEGIC



PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Indicator development and measurement

DEVELOPER

Global Footprint Network

USE REQUIREMENTS

Open source for national footprint accounts; but in-depth analysis and certain uses of the data require [licensing](#) and expertise in ecological footprint accounting

EXPERIENCES OF PRACTICAL APPLICATION

National footprint accounts are published for several [countries](#) including those in Asia and the Pacific. An ecological footprint accounting case study is available for the [Philippines](#).

E18

Green Bonds



DESCRIPTION

[Green bonds](#) are financial instruments whose proceeds are invested exclusively (through specified use of the proceeds, direct project exposure, or securitization) in green projects (e.g., renewables and energy efficiency measures, sustainable transport, waste management, and biodiversity conservation) that generate climate or other environmental benefits. Green bonds are the same as traditional bonds in terms of deal structure, but requirements for reporting, auditing, and allocation of proceeds differ.

Green bonds can be used to mobilize financial resources from both domestic and international capital markets. Green bonds may be (i) green labeled, certified as green by a third party, which establishes that the proceeds are funding projects that generate environmental benefits, or (ii) unlabeled, but linked to projects that produce environmental benefits. Many green bonds are developed in accordance with the voluntary [Green Bond Principles](#) developed by the International Capital Market Association.

Climate bonds are a subcategory of green bonds whose proceeds are linked to projects that specifically address climate change. The Climate Bond Initiative has developed a [Climate Bond Standard](#). SDG bonds and [Blue Bonds](#) (SDG 14) have also been launched.

PROCEDURAL



FUNCTION

- Investment and financing

DEVELOPER

General/Various

USE REQUIREMENTS

Development of green bonds requires treasury expertise

EXPERIENCES OF PRACTICAL APPLICATION

Green bond case studies are provided in Deutsche Gesellschaft für Internationale Zusammenarbeit's (GIZ's) publication [Green Bonds – Ecosystem, Issuance Process and Case Studies](#) (2018). Green bond issuers include the [World Bank](#) and [ADB](#).

E19

Green Economy Toolbox



DESCRIPTION

This [toolbox](#) includes several related UNECE tools. Categories of tools include legislation, norms and standards, training and skills development, and monitoring and evaluation. A toolbox search according to tool purpose (such as environmental protection and resource efficiency, social inclusiveness, or economic development) or sector (such as finance, forests, health, energy, transport, or industry) can be conducted.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Stakeholder engagement
- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Barrier analysis
- Innovation
- Budgeting
- Investment and financing
- Indicator development and measurement
- Data management, reporting, and verification
- Training and capacity development

DEVELOPER

UNECE

USE REQUIREMENTS

Open source; computer and internet access required

EXPERIENCES OF PRACTICAL APPLICATION

The toolbox tools include case studies from different regions and countries.

E20

Green Growth Knowledge Platform (GGKP)



DESCRIPTION

The [platform](#) is a searchable database of guidance to support the implementation of the green growth concept, plus a data visualization tool. Guidance includes, for example, the [Inclusive Green Growth Index: A New Benchmark for Quality of Growth](#) (2019) produced by the ADB.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- | | |
|---|---|
| <ul style="list-style-type: none"> • Stakeholder engagement • Situational analysis • Strategic planning and priority setting • Impact and risk assessment • Barrier analysis • Innovation | <ul style="list-style-type: none"> • Budgeting • Investment and financing • Indicator development and measurement • Data management, reporting, and verification • Training and capacity development |
|---|---|

DEVELOPER

Global Green Growth Institute, OECD, UNEP, and World Bank

USE REQUIREMENTS

Open source; computer and internet access required

EXPERIENCES OF PRACTICAL APPLICATION

Platform guidance includes [case studies](#) from different regions and countries.

E21

Green Investment Profiles and Green Loans



DESCRIPTION

Green investment profiles are primarily a marketing tool aimed at helping the subnational government to identify, prioritize and promote green investment within their jurisdiction in line with national and regional environmental priorities. For financing of landscape level biodiversity initiatives, the [Landscape Investment and Finance Tool](#) (LIFT) can help identify potential investors and develop pitch materials to obtain finance. Green loans are loans designed exclusively for financing environmentally sustainable projects. The Green Loan Principles developed by the Loan Market Association provide a framework for use by the green loan market, referring to the [Green Bond Principles](#) (tool E18) in terms of defining eligible projects.

STRATEGIC



FUNCTION

- Strategic communication and awareness raising
- Strategic planning and priority setting
- Investment and financing

DEVELOPER

PEI—a joint program of UNDP and UN Environment

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

PEI has supported the development of profiles for six districts in the Lao People's Democratic Republic ([Houaphanh](#), [Phongsaly](#), [Salavanh](#), [Savahnakhet](#), [Oudomxay](#), and [Vientiane province](#)). So far, 32 investment projects have been identified by these provincial governments, with some already selected by the government for investment.

PEI has also developed [legal templates for investments](#) in the agriculture and tourism sectors in the Lao People's Democratic Republic that guides drafting memorandum of understanding (MOU) with prospective investors prior to granting a concession agreement. The MOU template considers poverty-environment issues, setting out strong terms and conditions which the investor is legally required to comply with. In addition, environmental and social issues are clearly indicated, making it easier to monitor the contract in accordance with these poverty-environment considerations. Once an investor has met the terms of the MOU, they can enter into concession agreement negotiation, using the Concession Agreement template.

E22

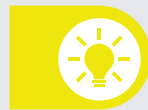
InforMEA



DESCRIPTION

This [portal](#) provides information about the various MEAs, and can be searched by MEA topic, with all treaties, goals, and declarations included in the database; by region; or by country, including national plans and reports. It also provides access to [e-learning courses](#) related to the MEAs, including courses in biodiversity, chemicals and waste, oceans, and freshwater.

STRATEGIC



FUNCTION

- Situational analysis
- Training and capacity development

DEVELOPER

UNEP

USE REQUIREMENTS

Open source; computer and internet access required; online training is available

E23

Market-Based Instruments (MBIs)



DESCRIPTION

Command and control instruments are based on mandatory compliance with laws and regulations (permissions, prohibitions, standards) and the government enforcement of these in order to implement environmentally sustainable behavior. The United States Environmental Protection Agency's [National Pollution Discharge Elimination System, Compendia of Next Generation Compliance Examples](#) (2016) provides examples of pollution-related command and control instruments and their enforcement. MBIs, on the other hand, are policy instruments that encourage environmentally sustainable behavior through market forces. MBIs are intended to address the failure of the market to incorporate or value environmental externalities by ensuring that these external costs are reflected in financial decisions. Examples of MBIs are green taxes, charges and subsidies, emissions trading and other tradable permit systems, deposit-refund systems, environmental licensing, and economic property rights.

The ADB working paper on [Market Based Approaches for Managing the Asian Environment: A Review](#) (2008) provides guidance in the use of MBIs in Asia. The OECD brochure [Policy Instruments for the Environment](#) (2017) provides guidance on the use of six types of MBIs (taxes, fees and charges, tradable permits, deposit refund systems, subsidies, and voluntary approaches) and the Policy Instruments for the Environment (PINE) [database](#) of MBIs which can be searched by type, country, industry sector, or environmental domain, such as, air pollution, water pollution, biodiversity, waste management, or land management.

STRATEGIC



PROCEDURAL



FUNCTION

- Budgeting
- Investment and financing

DEVELOPER

General/Various

USE REQUIREMENTS

MBI development requires environmental economics expertise. Supporting laws and regulations will also need to be developed to facilitate the use of MBIs.

EXPERIENCES OF PRACTICAL APPLICATION

The ADB working paper includes examples of MBI application. The PINE database contains over 3,400 national examples of MBIs including details of when they were introduced; their application, including industries covered and environmental domains addressed; their geographical coverage—examples of Asian countries included in the database are Indonesia, the Philippines, and the People's Republic of China; revenues, costs, or rates; and exemptions.

E24

UNEP Live and Indicator Reporting Information System (IRIS)



DESCRIPTION

[UNEP Live](#) supports dynamic, interactive analysis and reporting with a focus on providing open access to global, regional, and national environmental data and guidance. With this tool, the government ministries or agencies responsible for reporting on national, regional, and global obligations can collect, analyze, and publish high-quality environmental information in a timely manner. UNEP Live includes a range of analytical, mapping, search, and visualization tools, plus an SDGs/MEAs synergies portal.

IRIS is a template-based interactive, multi-sector reporting tool for consistent and simplified reporting on national, regional, and global environmental obligations. It provides user countries with a dashboard, access to data sources, indicator workbooks and resources, and reporting templates that can be customized.

STRATEGIC



FUNCTION

- Situational analysis
- Indicator development and measurement
- Data management, reporting, and verification

PROCEDURAL



DEVELOPER

UNEP

USE REQUIREMENTS

Open source; IRIS technology is transferred to countries so that they own and manage the software and its use locally (deployed on local servers)

EXPERIENCES OF PRACTICAL APPLICATION

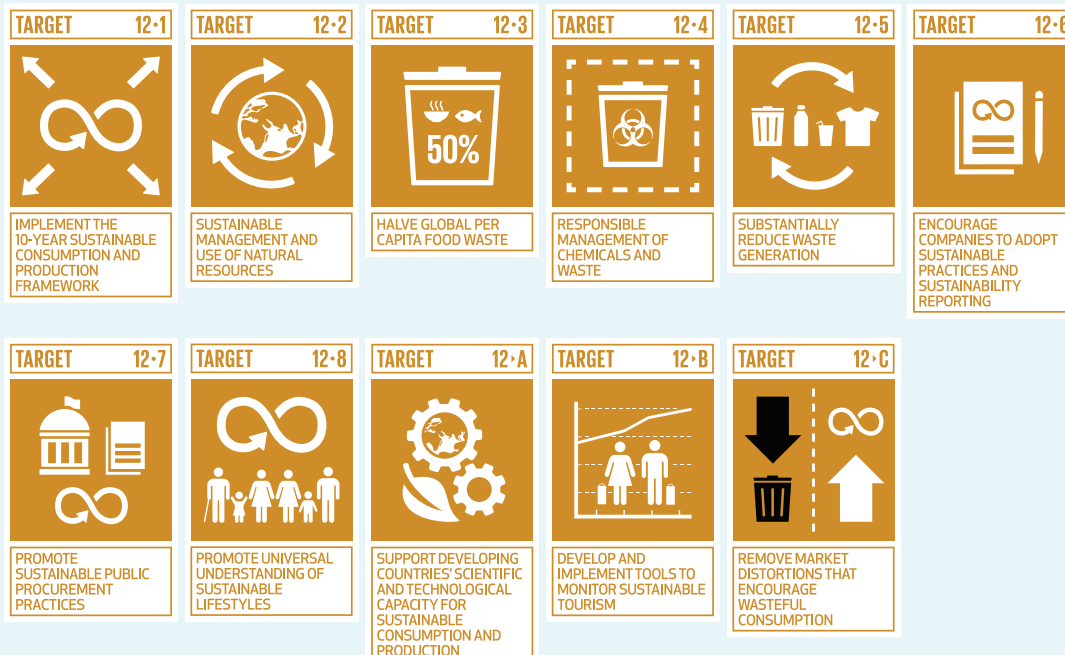
UN Environment is currently testing IRIS in six developing countries—Bangladesh, Bhutan, Maldives, Mongolia, Nepal, and Samoa—in Asia and the Pacific.

5

TOOL INVENTORY FOR SUSTAINABLE DEVELOPMENT GOAL 12

Sustainable Development Goal (SDG) 12 (Figure 5.1) covers a wide range of topics to facilitate the decoupling of economic growth from natural resource use with the aim of achieving the sustainable management and efficient use of natural resources by 2030 and implementation of the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP) adopted at Rio+20 in 2012. The 10YFP is aimed at developing, replicating, and scaling up sustainable consumption and production and resource efficiency initiatives at the regional and national levels, while decoupling environmental degradation and resource use from economic growth. Decoupling is much needed, as material footprints and domestic material consumption have increased globally, decisions made now are locking in resource-intensive consumption and production patterns for generations. This section sets out the tool inventory of relevance to SDG 12, which was a focus of the TA project. Further information about the tools can be obtained from the hyperlinks.

Figure 5.1: Sustainable Development Goal 12 Targets



Source: Asian Development Bank; <https://www.globalgoals.org/12-responsible-consumption-and-production>.

TOOLS APPLICABLE TO SUSTAINABLE DEVELOPMENT GOAL 12 (RESPONSIBLE CONSUMPTION AND PRODUCTION)

R1

**International Organization for Standardization (ISO)
14000 Series (Environmental Management Systems)**



DESCRIPTION

This [series](#) provides a framework of standards for organizations seeking to manage their environmental impact, and a set of tools for assessing environmental performance. ISO 14001:2015 focuses on environment management systems, while other standards focus on specific approaches such as environmental audits, communications, environmental labeling, and life cycle analysis. The standards are designed to be mutually supportive, but they can also be used independently.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment

DEVELOPER

ISO

USE REQUIREMENTS

Standards can be previewed online or purchased from the ISO secretariat. ISO certification to ISO 14001:2015 requires external auditing and verification.

EXPERIENCES OF PRACTICAL APPLICATION

An [ISO survey](#) identified more than 300,000 certifications to ISO 14001 in 171 countries around the world. ISO standards are widely applied in supply chain management.



ISO 26000 (Social Responsibility)

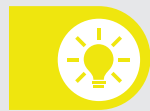


DESCRIPTION

This [standard](#) provides a framework for organizations seeking to operate in a socially responsible manner. ISO 26000:2010 helps organizations understand the concept of social responsibility and provides guidance in translating the concept into action. It is aimed at all organizations, regardless of business type, size, or location.

The guidance document [ISO 26000 and SDGs](#) (2016) describes how this standard can contribute to achieving the SDGs.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION	
<ul style="list-style-type: none"> Situational analysis Strategic planning and priority setting Impact and risk assessment 	
DEVELOPER	USE REQUIREMENTS
ISO	Standards can be previewed online or purchased from the ISO secretariat.

EXPERIENCES OF PRACTICAL APPLICATION

[Benefits in Applying ISO 26000 - Selected Case Studies as a Result of the SR MENA Project](#) (2016) provides case studies on ISO 26000 applications.

R3

SDG Compass



DESCRIPTION

[SDG Compass](#) guides companies in aligning their business strategy with the SDGs, as well as in measuring and managing their contribution to the SDGs. It was developed with a focus on large multilaterals, but it also provides guidance to small and medium enterprises. The five components of the SDG Compass address the following concerns:

- understanding the SDGs;
- defining priorities;
- setting goals;
- integrating the business strategy; and
- reporting and communicating results.

The SDG Compass includes a comprehensive inventory of business tools that can be searched by SDG, and an inventory of existing business indicators, from sources such as the Global Reporting Initiative (GRI), mapped against the 17 SDGs and their 169 targets.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Stakeholder engagement
- Situational analysis
- Strategic planning and priority setting
- Indicator development and measurement

DEVELOPER

GRI, United Nations (UN) Global Compact, and World Business Council for Sustainable Development (WBCSD)

USE REQUIREMENTS

Open source

R4

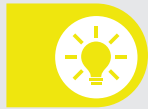
Global Opportunity Explorer



DESCRIPTION

This [portal](#) presents ideas about how businesses and cities can engage in innovation that contributes to sustainable development, and create new business opportunities to engender ideas and partnerships. The portal gives guidance on 55 different business markets, such as [illuminating supply chains](#) and the [regenerative ocean economy](#), and the opportunities associated with them.

STRATEGIC



FUNCTION

- Strategic planning and priority setting
- Innovation

DEVELOPER

Sustainia DNV GL and UN Global Compact

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The portal includes innovative business [case study](#) solutions with examples from transportation, food, waste, energy, climate change mitigation and adaptation, and other areas. Case studies are being crowdsourced and continually updated.

R5

Green Industrial Policy and Trade



DESCRIPTION

The [green industrial policy trilogy](#) comprises the following:

- [Green Industrial Policy: Concept, Policies, Country Experiences](#) (2017) providing guidance on the different types of instruments available, including regulatory and market-based instruments, for implementing green industrial policies and discussing their use and barriers to implementation.
- [Practitioner's Guide to Green Industrial Policy](#) (2016) guiding policy makers and green economy professionals in using the methodology and tools for planning and implementing a green industrial policy strategy, including tools related to systems thinking and the theory of change.
- [Green Industrial Policy and Trade: A Tool Box](#), (2017) designed to assist policy makers and green economy professionals in using a subset of policy options at the intersection of green industrial policy and trade. The toolbox is concerned with trade policies that can be harnessed to promote green industries and green industrial policies that are of relevance from an international trade standpoint. The document explains available trade-related green industrial policy instruments, clarifying their structure and operation, and outlining their trade policy implications. Tools introduced include border measures, support schemes, standards, sustainable public procurement and manufacturing policies and procedures, provisions in trade agreements reserving or promoting green industrial policy, and employment-related schemes.

Also available is an e-learning course on [Successful Organic Production and Export](#).

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

Partnership for Action on Green Economy

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[Green Industrial Policy: Concept, Policies, Country Experiences](#) (2017) includes case studies from four countries at different levels of income and technological capacity.

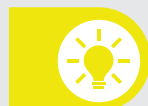
[Green Industrial Policy and Trade: A Tool-Box](#) refers to case study examples of tool use, successful as well as unsuccessful.

R6

Indicators for a Resource Efficient and Green Asia and the Pacific

**DESCRIPTION**

Indicators for a Resource Efficient and Green Asia and the Pacific - Measuring Progress of Sustainable Consumption and Production, Green Economy and Resource Efficiency Policies in the Asia-Pacific Region (2015) provides a set of indicators for monitoring resource use at the national and regional levels. Knowledge of current patterns of resource use can help countries design and implement policies for resource efficiency. Information provided, and country-level data presented, can help support decision-making, with key messages of importance for high-level regional policy makers flagged. The guidance is also intended to assist countries in monitoring their policy achievements and, if necessary, redesigning their policy tools and in some cases revisiting their policy objectives. Countries thus gain a solid foundation for starting to measure and publish their own data.

STRATEGIC**PROCEDURAL****FUNCTION**

- Situational analysis
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

United Nations Environment Programme (UNEP) and SWITCH-Asia

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance contains 25 country profiles from Asia and the Pacific.

R7

Practical Tools for Sustainable Consumption and Production



DESCRIPTION

Practical Tools for Sustainable Consumption and Production: Promoting Mainstreaming and Implementation at National Level (2017) provides information about the added value of an integrated approach, and presents the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP) and the opportunities it offers to support policy design and implementation at the country level. It includes tools for presenting and promoting the 10YFP to various audiences at the national level, perhaps with a complementary overview of national sustainable consumption and production (SCP) policies and initiatives across sectors. Sections address (i) creating ownership, strengthening capacity, and coordinating action; (ii) supporting the design and implementation of national policies on sustainable consumption and production; and (iii) mobilizing resources.

Similar guidance that explains the concept of SCP and how it can be mainstreamed during all stages of the policy cycle includes:

- UNEP's (2008) [Planning For Change Guidelines for National Programmes on Sustainable Consumption and Production](#).
- UNEP's (2009) [Mainstreaming Sustainable Consumption and Production and Resource Efficiency into Development Planning](#).
- UNEP and SWITCH-Asia's [Sustainable Consumption and Production: A Handbook for Policy Makers, Second Edition, Asia-Pacific Region](#) (2015) and associated [training materials](#) which discuss policy tools and instruments that can be used to achieve SCP during all stages of the policy cycle. Thematic policy opportunities are discussed in relation to resource efficiency and cleaner production; sustainable lifestyles; resource efficient cities; sustainable public procurement; sustainable tourism; and energy efficiency as well as fiscal reform and education.
- UNEP, the Institute for Global Environmental Strategies (IGES), and SWITCH Asia's (2015) [Sustainable Consumption Guide for Policymakers: Debunking Myths and Outlining Solutions \(Asia Edition\)](#).
- SWITCH-Asia's [Sustainable Consumption and Production Policies, A Policy Toolbox for Practical Use](#) (2010).

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination and partnerships
- Stakeholder engagement
- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Investment and financing

DEVELOPER

Secretariat of the 10YFP hosted by UN Environment

USE REQUIREMENTS

Open source

R8

Sustainable Public Procurement



DESCRIPTION

International Council for Local Environmental Initiatives (ICLEI)–Local Governments for Sustainability and the European Secretariat’s [Procura+ Manual: A Guide to Implementing Sustainable Procurement, 3rd Edition](#) (2016) guides public authorities and others in developing a sustainable procurement policy and implementing it within the context of European Union (EU) regulations. It addresses the costs and benefits of sustainable procurement in different sectors, and discusses the tendering process, taking environmental, social, and innovation aspects into account. The manual is specific to the EU—it is aligned with EU laws and regulations—but the advice and practices it contains can be useful for countries in Asia and the Pacific. The manual reflects the experience of Procura+ Network members, together with the findings from several large-scale studies and sector-specific initiatives.

World Resources Institute (WRI) and WBCSD’s [Sustainable Procurement Guide for Wood and Paper-based Products, 3rd Edition](#), advises sustainability officers and procurement managers on the development and implementation of policies for the procurement of wood- and paper-based products. It identifies and examines issues central to the sustainable procurement of such products and presents reference sources. It also addresses the latest advances in technological and data management systems for tracing and controlling forest product supply chains. The [resource directory](#) is searchable by different topics, including climate, pollution, sustainable forest management, and others, and is searchable by stage in the supply chain, including forest production, processing/manufacturing, retail/use, and trade.

UNEP’s [Comparative Analysis of Green Public Procurement and Eco-labelling Programmes in China, Japan, Thailand and the Republic of Korea: Lessons Learned and Common Success Factors](#) (2017) compares green public procurement programs from four Asian countries to gain an understanding of their framework and the factors behind high-impact green and sustainable procurement. The comparative analysis is based on a review of different elements of green public procurement programming in each country, including the legal framework governing the procurement of environmentally preferred products; national eco-labeling programs, guidelines, and procedures; priority product categories; and enforcement and monitoring of green public procurement. Through this guidance document, insights may be gained into the implementation and promotion of green public procurement tools and approaches.

Green Purchasing Network Malaysia’s [A Sampling of Successes in Green Public Procurement: Case Studies of Green Public Procurement Implementation in Asia-Pacific Countries](#) (2017) features six examples of successful green public procurement programs in four different countries in Asia and the Pacific, including the conditions leading to the implementation of green procurement actions and a summary of actions taken. It includes references to policies, frameworks, methodologies, and tools used, and discusses implementation challenges as well as factors that determine the success of green procurement activities.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION	
<ul style="list-style-type: none"> Situational analysis Strategic planning and priority setting Budgeting 	
DEVELOPER	USE REQUIREMENTS
General/various	Open source

continued on next page

R8 Sustainable Public Procurement *continued*

EXPERIENCES OF PRACTICAL APPLICATION

Japan, the People's Republic of China, the Republic of Korea, and Thailand were selected as illustrative Asian examples for the UNEP guidance document because these countries have taken steps to institutionalize green public procurement through legislation, eco-labeling programs, prioritization of green public procurement products, and green public procurement promotion and incentive programs.

Green Purchasing Network Malaysia's six case studies from Japan, the People's Republic of China, the Republic of Korea, and Thailand provide examples of green purchasing in the public sector, covering a range of products including the procurement of fire extinguishers, packaging ink, ballpoint pens, textbooks, LED lights, and house paints.

Republic of the Philippines' [The Philippine Green Public Procurement Roadmap](#) (2017), supported by SWITCH-Asia, provides a systematic sequence of strategic actions that ministries and agencies must take when purchasing certain common-use supplies and equipment (CSE) and non-CSE products. It explains how green public procurement works and includes good practices and lessons learned from global experience. The road map includes a discussion on green public procurement in the Philippine context. It focuses on options that are possible, given the country's existing legislation and procedures for public procurement. Though developed specifically for the Philippines, the road map provides guidance that other countries will find useful in developing their own policies and procedures.

R9

Toolbox for Decision Making in Chemicals Management



DESCRIPTION

The [toolbox](#) enables countries seeking to address specific national issues regarding chemical management to identify the most appropriate and efficient national actions, with emphasis on simple, cost-effective solutions. It includes guidance on the following:

- national management schemes for pesticides;
- occupational health and safety systems;
- chemical accident prevention, preparedness, and response systems for major hazards;
- pollutant release and transfer registers;
- industrial chemical management systems;
- classification and labeling systems; and
- support systems for health authorities in the public health management of chemicals.

The toolbox also has the following modules:

- Organisation for Economic Co-operation and Development's (OECD) [Environmental Risk Assessment of Chemicals Toolkit](#) describing a four-step risk assessment process (hazard identification, hazard characterization, exposure assessment, and risk characterization) and providing tools suitable for the environmental risk assessment of chemicals;
- World Health Organization's (WHO) Human Health Risk Assessment Toolkit;
- Food and Agriculture Organization of the United Nations' (FAO) Toolkit for Pesticides Registration Decision Making;
- United Nations Industrial Development Organization (UNIDO) Toolkit on Chemical Leasing; and
- UNIDO Toolkit on Innovative, Safe and Resource Efficient Application of Chemicals in Industry.

Interactive features allow governments to use the toolbox as a platform for collaboration among ministries, agencies, and other stakeholders, such as industry. Users can save their information, add comments, and share and discuss chemical management issues with colleagues and partners.

STRATEGIC



PROCEDURAL



FUNCTION

- Stakeholder engagement
- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Data management, reporting, and verification

DEVELOPER

Inter-Organizational Programme for the Sound Management of Chemicals

USE REQUIREMENTS

Open source

continued on next page

R9 Toolbox for Decision Making in Chemicals Management *continued*

EXPERIENCES OF PRACTICAL APPLICATION

The OECD [Environmental Risk Assessment of Chemicals Toolkit](#) includes six working examples:

- risk assessment of a textile dye;
- risk assessment of a pesticide;
- establishment of environmental quality standards;
- compliance with air-pollution limits set in a permit;
- risk assessment of a metal; and
- initial screening of substances for persistent, bio-accumulative, and toxic properties.

R10

Circularity Indicators Project



DESCRIPTION

The [Circularity Indicators Project: An Approach to Measuring Circularity](#) is aimed at measuring the effectiveness of a product or company in making the transition from a linear to a circular economy model. The approach consists of a main indicator, the Material Circularity Indicator, which measures the restorative quality of the material flows of a product or company, and complementary indicators, which consider additional impact and risks.

The approach includes a Microsoft Excel-based model showing how the approach works at the product level, and a spreadsheet for the aggregation of the product-level Material Circularity Indicators at the company level. In addition, a commercially available web-based tool allows businesses to track their progress and ensure that their products fit the circular economy model.

The Material Circularity Indicator is mainly a decision-making tool for companies and their designers. But it can also inform procurement decisions through the comparative rating or evaluation of a product or a company's performance.

STRATEGIC



FUNCTION

- Situational analysis
- Dynamic simulation and modeling
- Innovation

DEVELOPER

Ellen MacArthur Foundation

USE REQUIREMENTS

Open source, except for the commercially available web-based tool, which requires a web app or computer-aided design system

EXPERIENCES OF PRACTICAL APPLICATION

The methodology was tested by European businesses with real product data. [Case studies](#) are available.

R11

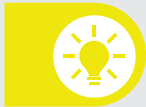
Delivering the Circular Economy



DESCRIPTION

Delivering the Circular Economy: A Toolkit for Policymakers (2015) is a step-by-step methodology for a circular economy transformation. The core concepts of a circular economy and the role of policy in the transformation are introduced, together with the methodology for designing a strategy to accelerate the transition.

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Strategic planning and priority setting
- Innovation

DEVELOPER

Ellen MacArthur Foundation

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The toolkit application was demonstrated through a pilot case study from Denmark. The range of policy options that Denmark could pursue to achieve a circular economy are discussed.

R12

Life Cycle Assessment (LCA)



DESCRIPTION

LCA is a methodology for assessing environmental impact across the full life cycle of a material, product, service, or process—from raw material acquisition through manufacturing, use, and disposal, in the case of a product.

UNEP and the Society of Environmental Toxicology and Chemistry's (SETAC) Life Cycle Initiative have produced LCA guidance and training documents, including the following:

- [Evaluation of Environmental Impacts in LCA](#) (2003);
- [Life Cycle Approaches: The Road From Analysis to Practice](#) (2005);
- [Background Report for a UNEP Guide to Life Cycle Management - A Bridge to Sustainable Product](#) (2006);
- [LCA Training Kit Material](#) (2008);
- [Life Cycle Management, A Business Guide to Sustainability](#) (2007);
- [Greening the Economy Through Life Cycle Thinking](#) (2012);
- [Guidance on Organizational Life Cycle Assessment](#) (2015);
- [Hotspots Analysis: An Overarching Methodological Framework and Guidance for Product and Sector Level Application](#) (2017); and
- [E-learning Introduction to Lifecycle Thinking](#) (2018).

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Innovation
- Training and capacity development

DEVELOPER

General/Various, including UNEP

USE REQUIREMENTS

Open source, but expertise in LCA methodology is needed to complete an LCA assessment

EXPERIENCES OF PRACTICAL APPLICATION

[Road Testing Organizational Life Cycle Assessment Around The World: Applications, Experiences and Lessons Learned](#) (2017) contains LCA case studies including several on countries in Asia and the Pacific such as Indonesia.

[Life Cycle Management: a Business Guide to Sustainability](#) (2007) gives 21 examples of how LCA is being used by businesses.

R13

Sustainability Reporting



DESCRIPTION

Sustainability reporting enables organizations to measure, understand, and communicate publicly how they are performing against economic, environmental, social, and governance criteria, and thus their contributions (either positive or negative) to sustainable development.

The GRI is an independent international organization that pioneered sustainability reporting methodologies. The [GRI Sustainability Reporting Standards](#) (GRI Standards) are internationally recognized standards for sustainability reporting developed through multi-stakeholder contributions and used by many companies worldwide. The standards include a menu of mandatory and optional disclosures including those on emissions, energy, water, and waste management. They improve transparency and accountability for sustainability performance by creating a common language for organizations and stakeholders, and enhancing global comparability and quality of information. GRI provides a range of [tools](#) and training programs to assist companies with sustainability reporting, and has mapped its sustainability reporting disclosures into the SDGs at the level of the 169 targets as set out in the GRI, the UN Global Compact, and the PricewaterhouseCoopers publication [Business Reporting on the SDGs: An Analysis of the Goals and Targets](#) (2017), giving companies a way to incorporate the SDGs into their reports and guiding them on actions they could take to help achieve the goals. It also lists existing and established indicators that businesses can use in reporting on their actions and measuring progress against the 169 targets.

GRI and the UN Global Compact’s [Integrating the SDGs into Corporate Reporting: A Practical Guide](#) (2018) helps companies prioritize SDG targets to act and report on, set related business objectives, and measure and report on progress, while GRI, the UN Global Compact, and Principles for Responsible Investment’s [In Focus: Addressing Investor Needs in Business Reporting on the SDGs](#) (2018) provides guidance on the information that investors require from companies.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Situational analysis
- Strategic interlinkages analysis
- Strategic planning and priority setting
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

General/Various, including the GRI

USE REQUIREMENTS

Open source; any organization can produce a sustainability report following the GRI Standards, which are free to download

EXPERIENCES OF PRACTICAL APPLICATION

Many companies, from multinationals to small and medium-sized enterprises, produce sustainability reports. Examples of sustainability reports from [GRI’s sustainability disclosures database](#), a searchable global repository of all sustainability reports GRI is currently aware of, are included.

R14

Blockchain Technology



DESCRIPTION

A [blockchain](#) is a continuously growing list of records (essentially a ledger), called “blocks,” which are linked and secured through cryptography. By design, blockchains are inherently resistant to modification of the data contained; therefore, transparency and accountability are assured as the data are both verifiable and permanent. A blockchain is typically managed by a peer-to-peer network collectively adhering to a protocol for validating new blocks. Blockchains are therefore potentially suitable for the recording of events, data, and other management activities.

Blockchains are now possible repositories of the “big data” required for global SDG management. In addition, the procurement of raw materials through a blockchain platform allows “asset tagging” of those raw materials. This ensures full transparency and traceability throughout the supply chain, and product sourcing in line with sustainability claims (e.g., carbon neutrality, sustainable production, or ecosystem service benefits).

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Innovation
- Investment and financing
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

Satoshi Nakamoto

USE REQUIREMENTS

Computer and internet access required; blockchain expertise required to develop system

EXPERIENCES OF PRACTICAL APPLICATION

Blockchain technology has been introduced to [the Pacific Islands’ tuna industry](#) to address issues surrounding illegal fishing. This use of blockchains, the first such use in Asia and the Pacific, was implemented by the WWF in partnership with the global blockchain venture studio ConsenSys, information and communications technology implementer TraSeable, and tuna fishing and processing company Sea Quest Fiji Limited. A car manufacturer in the People’s Republic of China has [released](#) a blockchain-based carbon credit application.

R15

Circular Economy Toolkit



DESCRIPTION

This [toolkit](#) is organized around an assessment tool that is designed to identify potential improvements in a company transitioning to a circular economy model. The tool addresses seven key opportunity areas and provides guidance on each of them. Based on simple answers (yes/partly/no or high/medium/low) to 33 questions under these seven key opportunity areas, it analyzes products and services sold and gives guidance on how these could be improved. [Guidance](#) is also offered on how to run a workshop for a company to facilitate its transition to a circular economy model.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic planning and priority setting
- Innovation
- Training and capacity development

DEVELOPER

University of Cambridge

USE REQUIREMENTS

Open source; requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

The [toolkit](#) includes examples of companies applying the assessment tool and running workshops, and shows them to be already turning a profit from the transition to a circular economy model.

R16

Eco-Labeling and Eco-Certification Schemes



DESCRIPTION

There are many different eco-labels and eco-certification schemes covering a range of issues such as energy efficiency, fair trade, organic standards, and sustainable use of natural resources. Some cover niche issues while others address environmental performance, in general.

Participation in eco-certification is generally voluntary. Eco-labels are symbols that manufacturers can place on products or services to show consumers that they have complied with the environmental requirements of the associated eco-certification scheme. But other types of eco-labels and eco-certification, such as energy efficiency labeling of cars and electrical appliances, are mandatory under the government policy.

STRATEGIC



PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Indicator development and measurement

DEVELOPER

General/Various

USE REQUIREMENTS

Eco-labels and certifications are primarily developed and managed by nongovernment organizations

EXPERIENCES OF PRACTICAL APPLICATION

Examples of voluntary eco-labels and eco-certification schemes:

- [Forest Stewardship Council](#) for wood and wood-based products;
- [Marine Stewardship Council](#) for sustainable fisheries;
- [Rain Forest Alliance Certification](#); and
- [EU Eco Label](#).

R17

Food Loss Waste Accounting and Reporting



DESCRIPTION

The [Food Loss Waste Accounting and Reporting Standard \(FLW Standard\) Version 1.0](#) (2016) global standard sets out an approach to quantifying and reporting on “food loss and waste” (the weight of food or associated inedible parts removed from the food supply chain). It provides guidance on what and how to measure FLW and encourages consistency and transparency in reporting data.

Countries, cities, companies, and others using the standard can develop inventories of FLW generation and disposal to help focus FLW minimization strategies. [Guidance](#) in using the FLW standard is provided.

The FLW Protocol also provides [training webinars](#) in the use of the FLW Standard.

STRATEGIC



PROCEDURAL



FUNCTION

- Situation analysis
- Indicator development and measurement
- Data management, reporting, and verification
- Training and capacity development

DEVELOPER

FLW Protocol

USE REQUIREMENTS

Open source; requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) showing experience in measuring FLW using the FLW standard at company level are available.

R18

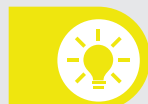
Global Protocol on Packaging Sustainability (GPPS)



DESCRIPTION

The [Global Protocol on Packaging Sustainability \(GPPS\) 2.0](#) (2011) provides a common language for discussing and assessing the relative sustainability of packaging options to the consumer goods and packaging industries and the government agencies dealing with the packaging industry and waste. It includes a framework and a measurement system with metrics. The protocol ensures that questions about the sustainability of packaging products can be addressed in a standard way. It is linked to [ISO 18601:2013 Packaging and the Environment - General Requirements for the Use of ISO Standards in the Field of Packaging and The Environment](#).

STRATEGIC



PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Indicator development and measurement

DEVELOPER

Consumer Goods Forum, an independent global parity-based consumer goods network

USE REQUIREMENTS

Open source, but the exchange of product information on the [Global Data Synchronisation Network](#) (GDSN) requires membership in a tested and certified data pool

EXPERIENCES OF PRACTICAL APPLICATION

GPPS metrics are incorporated in product information available from the GDSN, enabling buyers to automate cost-efficiently the exchange of real-time data on product packaging sustainability from retailers or suppliers.

R19

Global Sustainable Consumption and Production Resources Database



DESCRIPTION

This [database](#) provides access to a range of guidance resources related to sustainable consumption and production (SCP). It can be searched by region, country, sector, and theme, as well as the type of program the guidance is related to: consumer information, sustainable buildings and construction, sustainable food systems, sustainable lifestyles and education, sustainable public procurement, and sustainable tourism.

STRATEGIC



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Investment and financing
- Indicator development and measurement

DEVELOPER

UNEP

USE REQUIREMENTS

Open source; requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

The supporting [Global SCP Projects](#) database provides numerous case studies, including several from Asia and the Pacific, which can be searched by region, country, sector, and theme. Members can share resources or projects.

R20

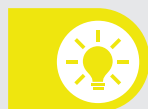
Sustainable Consumption Self-Assessment Checklist



DESCRIPTION

This [tool](#) helps in analyzing the current state of sustainable consumption activities, and in identifying entry points for sustainable consumption activities at the country, city, or community level. It is organized into six categories of action: food, housing and land use, economic development and alternative business models, consumer goods, climate action planning, and institutional. For each category, current conditions are first assessed, then opportunities are identified and next steps and a strengths–weaknesses–opportunities–threats (SWOT) analysis to test the activities are proposed.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic planning and priority setting

PROCEDURAL



DEVELOPER

Urban Sustainability Directors Network

USE REQUIREMENTS

Open source; checklist can be used online or downloaded as a PDF file

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#), primarily from the United States, are available.

R21

Water Risks and Opportunities Tools

**DESCRIPTION**

The [Global Water Tool \(GWT\)](#), [Global Environment Management Initiative \(GEMI\) Water Sustainability Tool](#), and [GEMI Local Water Tool](#) are all designed to help companies identify corporate water risks and opportunities and develop water management strategies for building sustainability and resilience.

The GWT is particularly useful to companies operating in several countries, as it gives them access to, and analyses of, water-related data sets. With a workbook and the mapping function, users can map their company locations and water use data for a given site (consumption, efficiency, and intensity) against water, sanitation, population, and biodiversity data sets, as well as stress indicators on a country and watershed basis. They can then assess risks related to their global operations, supply chains, and new activities. Metrics can be used for communication with internal and external stakeholders and in sustainability reporting (tool R13). In addition to the general sector tools, versions have been developed for specific sectors.

The GWT is compatible with the GEMI Local Water Tool, which can be used to build water management plans for a given site.

STRATEGIC**FUNCTION**

- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Data management, reporting, and verification

DEVELOPER

WBCSD and GEMI

USE REQUIREMENTS

Open source; requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

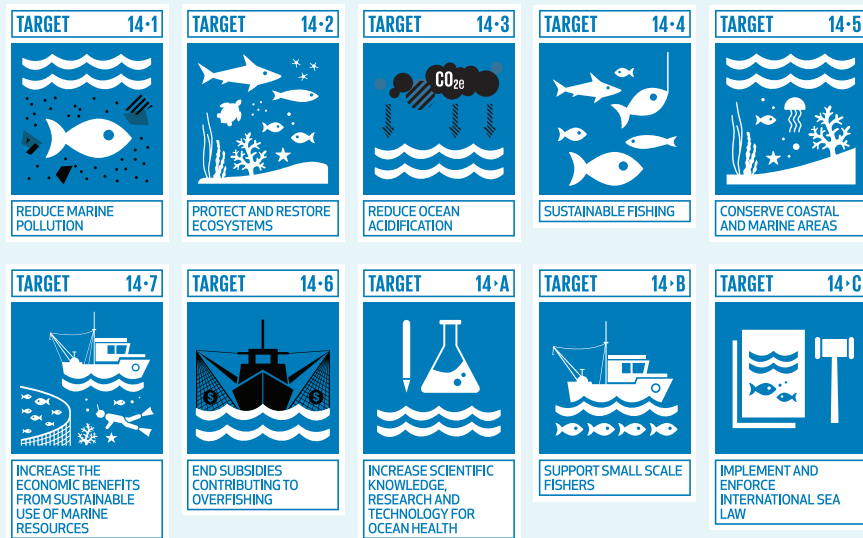
[Case studies](#) of companies making use of these water risks and opportunities tools are available.

6

TOOL INVENTORY FOR SUSTAINABLE DEVELOPMENT GOALS 14 AND 15

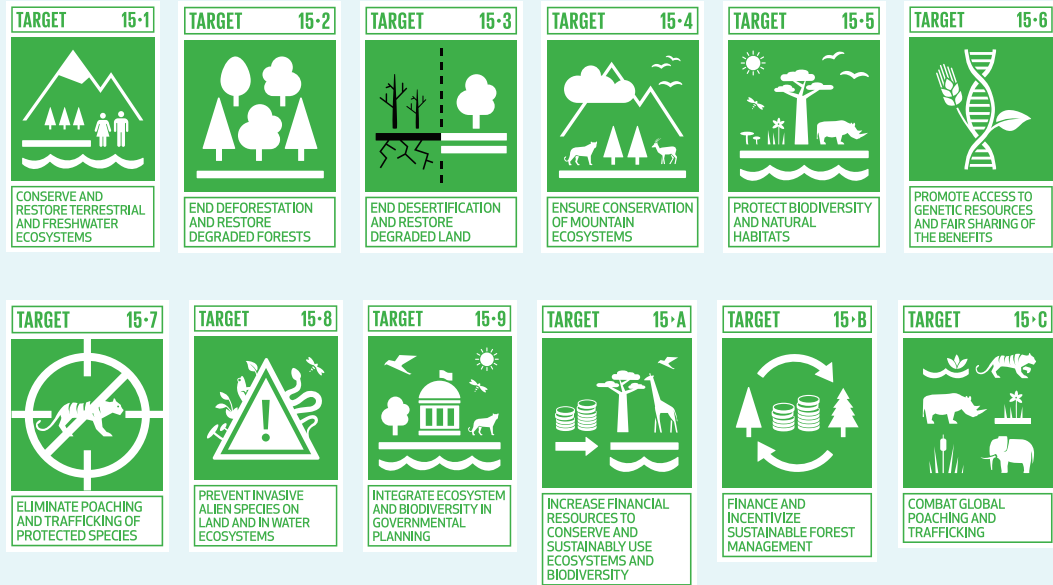
Sustainable Development Goal (SDG) 14 on Life below Water (Figure 6.1) addresses a set of problems that are becoming increasingly serious both in terms of direct impact and the additional sets of stresses they are creating on other environmental media. For example, ocean acidification, overfishing, and marine pollution and eutrophication are resulting in deterioration of coastal and marine ecosystems. In many ways, SDG 15 on Life on Land (Figure 6.2) attempts to achieve objectives similar to those of SDG 14 but with a focus on terrestrial, as opposed to marine, ecosystems. Given that both SDGs relate to biodiversity conservation and restoration, many of the tools for strengthening implementation are common to both. This section sets out the tool inventory according to relevance to SDGs 14 and 15, which are a focus of the TA project. The inventory is split into tools relevant to both of these biodiversity goals, and tools relevant to only SDG 14 (p. 138) and SDG 15 (p. 144). Further information about the tools can be obtained from the hyperlinks.

Figure 6.1: Sustainable Development Goal 14 Targets



Source: Asian Development Bank; <https://www.globalgoals.org/14-life-below-water#targets>.

Figure 6.2: Sustainable Development Goal 15 Targets



Source: Asian Development Bank; <https://www.globalgoals.org/15-life-on-land#targets>.

TOOLS APPLICABLE TO SUSTAINABLE DEVELOPMENT GOAL 14 (LIFE BELOW WATER) AND SUSTAINABLE DEVELOPMENT GOAL 15 (LIFE ON LAND)

L1

Biodiversity Strategies and Action Plans



DESCRIPTION

[National Biodiversity Strategies and Action Plans](#) (NBSAPs) are the principal instruments for implementing the Convention on Biological Diversity (CBD) at the national level. NBSAPs define the biodiversity status of a country, identify threats, and establish strategies and priority actions that will ensure biodiversity conservation and sustainable use. The following guidance and training documents are included here:

- guidance in preparing and implementing NBSAPs, developed by the [Secretariat of the CBD](#) and [other sources](#);
- [training materials](#) covering NBSAP preparation, communication, stakeholder engagement, the mainstreaming biodiversity into sector and cross-sector strategies, and financing of NBSAP implementation;
- guidance from the [United Nations Development Programme](#) (UNDP) explaining how NBSAPs can contribute to the achievement of the SDGs; and
- national biodiversity targets documented in a [searchable database](#) that can be searched by country or by Aichi target.

[Biodiversity and the 2030 Agenda for Sustainable Development, Policy Brief](#) (2018) and the accompanying [Biodiversity and the 2030 Agenda for Sustainable Development, Technical Note](#) (2018) illustrate the linkages between the SDGs and the Aichi biodiversity targets.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Stakeholder engagement
- Strategic communication and awareness raising
- Situational analysis
- Strategic interlinkage analysis
- Investment and financing
- Indicator development and measurement
- Data management, reporting, and verification
- Training and capacity development

DEVELOPER

Secretariat of the CBD, hosted by UN Environment

USE REQUIREMENTS

Open source, although NBSAP preparation is required only of countries that are signatories to the CBD

EXPERIENCES OF PRACTICAL APPLICATION

Since the 10th meeting of the Conference of Parties (COP10) for the CBD, 161 NBSAPs have been produced by [countries](#) that are signatories to the CBD including those in Asia and the Pacific.

In the region, Regional Biodiversity Strategies and Action Plans (RBSAPs) have also been developed by the Association of Southeast Asian Nations (ASEAN), Greater Mekong Subregion Biodiversity Conservation Corridors Initiative, Heart of Borneo Initiative, South Pacific Regional Environment Programme (SPREP), and Southeast Asian Fisheries Development Center (SEAFDEC), while subnational plans have been produced by the People's Republic of China.

The NBSAP Forum documents best-practice practical applications and provides further guidance and an e-learning platform.

L2

Green List of Protected and Conserved Areas

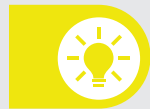


DESCRIPTION

The [Green List of Protected and Conserved Areas: Standard, Version 1.1 \(2017\)](#) provides an international benchmark for the management of protected areas. It sets out 17 criteria and 48 indicators with means of verification under the four components of good governance, sound design and planning, effective management, and sound conservation outcomes.

The [Green List of Protected and Conserved Areas: User Manual, Version 1.1 \(2018\)](#) provides further guidance in implementing a green list at the national level and adapting the generic indicators to the national context.

STRATEGIC



PROCEDURAL



FUNCTION	
<ul style="list-style-type: none"> Stakeholder engagement Strategic communication and awareness raising Visioning and back-casting Situational analysis 	<ul style="list-style-type: none"> Strategic planning and priority setting Indicator development and measurement Data management, reporting, and verification
DEVELOPER	USE REQUIREMENTS
International Union for Conservation of Nature (IUCN) and the World Commission on Protected Areas	Open source; participation in green listing program requires voluntary commitment to the IUCN Green List of Protected and Conserved Areas Program

EXPERIENCES OF PRACTICAL APPLICATION

Countries that have developed green lists across the globe include the [People's Republic of China](#) in Asia and the Pacific. Viet Nam and other countries in the region are in the process of establishing green lists.

L3

Red Lists of Ecosystems and Threatened Species



DESCRIPTION

The Red Lists of [Ecosystems](#) and [Threatened Species](#) categories and criteria are the global standards for assessing the conservation status of ecosystems and threatened species, and are applicable at the local, national, regional, and global levels. Ecosystems (terrestrial, marine, freshwater, and subterranean) and threatened species are evaluated against these standards to determine whether they have reached a state of collapse or extinction; are threatened at critically endangered, endangered, or vulnerable levels; or do not currently face significant risks (least concern).

Red List assessments can facilitate the monitoring of biodiversity-related multilateral environment agreements (MEAs) and the SDG targets in a manner that is comparable and repeatable over time. For threatened species, the global IUCN Red List Index measures trends in the overall extinction risk (conservation status) of birds, mammals, amphibians, and corals as an indicator of global biodiversity status.

Guidance materials available include:

- [An Introduction to the IUCN Red List of Ecosystems: The Categories and Criteria for Assessing Risks to Ecosystems \(2016\)](#);
- [The Guidelines for the application of IUCN Red List of Ecosystems Categories and Criteria, Version 1.1 \(2016\)](#);
- [Guidelines for Application of the IUCN Red List Criteria at Regional and National Levels, Version 4.0 \(2012\)](#); and
- [IUCN Red List Index, Guidance for National and Regional Use \(2009\)](#).

Online [training](#) in the use of red lists of threatened species is also available.

STRATEGIC



PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Indicator development and measurement
- Data management, reporting, and verification
- Training and capacity development

DEVELOPER

IUCN

USE REQUIREMENTS

Open source; Red List assessors have completed Red List assessments accepted for publication

EXPERIENCES OF PRACTICAL APPLICATION

Many species from Asia and the Pacific are listed on the [Global Red List of Threatened Species](#). Several countries across the globe have developed national Red Lists for [Ecosystems](#) and [Threatened Species](#); these countries include Nepal, the Philippines, the People's Republic of China, Sri Lanka, and Viet Nam.



Biodiversity-Related Conventions



DESCRIPTION

The [Compendium of Guidance on Achieving Synergies Among Biodiversity-related Conventions at the National Level](#) (2018) provides a single point of reference for access to existing guidance materials on synergies among biodiversity-related conventions, particularly with respect to CBD COP decision XIII/24 on cooperation with other conventions. It includes general guidance on cooperation; harmonization of reporting; mainstreaming of biodiversity; and biodiversity planning including NBSAPs, synergies with the SDGs, synergies with protected areas, synergies with climate change, and other publications. The compendium is primarily designed for those responsible for implementing biodiversity-related conventions at the national level, although it will also be useful to other stakeholders.

The [Compendium of Guidance for Capturing, Managing and Using Biodiversity Related Data and Information](#) (2018) and the [Compendium of Guidance on Key Global Databases Related to Biodiversity Related Conventions](#) (2018) support efforts to improve the coordination of data and information systems and help governments maximize cost-effectiveness when reporting on different biodiversity-related conventions at the national level.

The data compendium contains an inventory of 54 tools, classified according to use, in the context of biodiversity and ecosystem services, to

- define data and information needs, and design systems to address those needs;
- capture data and information, and combine data and information from various sources;
- manage data and information, and build data networks;
- share data and information, and develop and communicate output; and
- use data and information in assessments and analyses against indicators.

It is designed for those responsible for the capture, management, and use of data and information pertaining to the implementation of biodiversity-related conventions at the national level. Its users are likely to have a semi-technical background and to be familiar with environmental issues and terms.

The database compendium provides access to 64 biodiversity databases broken down into those for species distribution, areas of biodiversity importance, biogeographic classification, environmental descriptor, ecosystem services and natural capital, ecological status and impact, and databases and data portals.

STRATEGIC



PROCEDURAL



FUNCTION	
<ul style="list-style-type: none"> • Situational analysis • Institutional arrangements • Strategic interlinkage analysis • Strategic planning and priority setting 	<ul style="list-style-type: none"> • Indicator development and measurement • Data management, reporting, and verification
DEVELOPER	USE REQUIREMENTS
United Nations Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC)	Open source

EXPERIENCES OF PRACTICAL APPLICATION

The [Sourcebook of Opportunities for Enhancing Cooperation Among the Biodiversity-related Conventions at National and Regional Levels](#) (2015) produced by the United Nations Environment Programme (UNEP) includes case studies of how countries have addressed implementation, monitoring and reporting of biodiversity-related conventions.

L5

Bio-Trade



DESCRIPTION

Bio-trade is defined as the collection, production, transformation, and commercialization of goods and services derived from biodiversity in a way that is environmentally, socially, and economically sustainable. The [Guidelines for a Methodology to Support Value Chains for Bio-Trade Products, from the Selection of Products to the Development of Sector Strategies](#) (2009) describe five steps to be taken in consolidating and supporting value chains for bio-trade products, particularly those destined for international markets. They address the identification and selection of goods and services, and the development and implementation of strategies, that promote the sustainable trade of products derived from the use of genetic resources and associated traditional knowledge from biodiversity by ensuring legal access and fair and equitable sharing of the benefits.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Barrier analysis
- Strategic planning and priority setting

PROCEDURAL



DEVELOPER

BioTrade Facilitation Programme under the BioTrade Initiative of the United Nations Conference on Trade and Development (UNCTAD)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

In Asia and the Pacific, bio-trade has been explored in Viet Nam in respect of value chains for food, cosmetics, and pharmaceutical ingredients.

L6

Ecosystems-Based Adaptation



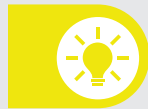
DESCRIPTION

Ecosystems-based adaptation (EBA) relates to the use of biodiversity and ecosystem services as part of an overall strategy for climate change adaptation. Publications of the development agency Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) provide guidance on the use of EBA relates to the use of biodiversity and ecosystem services as part of an overall strategy for climate change adaptation:

- [Solutions in Focus: Ecosystem-Based Adaptation from Mountains to Oceans – How People Adapt to Climate Change by Using Nature](#) (2018)
- [Climate Risk Assessment for Ecosystem-Based Adaptation – A Guidebook for Planners and Practitioners](#) (2018)
- [Finance options and instruments for Ecosystem-based Adaptation: Overview and Compilation of Ten Examples](#) (2018)
- [Valuing the Benefits, Costs and Impacts of Ecosystem-Based Adaptation Measures: A Sourcebook of Methods for Decision-Making](#) (2017) explains how to measure and analyze the benefits, costs, and impact arising from the implementation of EBA measures. Different approaches to EBA valuation are described, along with best practices and lessons learned from real world application. Methodological and information gaps, as well as the use of EBA valuation to mainstream EBA in adaptation policies, plans, and programs, are addressed.

The [adaptationcommunity.net](#) web portal provides links to EBA [training materials](#).

STRATEGIC



PROCEDURAL



FUNCTION	
<ul style="list-style-type: none"> • Stakeholder engagement • Strategic communication and awareness raising • Situational analysis • Strategic interlinkage analysis • Strategic planning and priority setting 	<ul style="list-style-type: none"> • Impact and risk assessment • Innovation • Investment and financing • Training and capacity development
DEVELOPER	USE REQUIREMENTS
General/Various	Open source

EXPERIENCES OF PRACTICAL APPLICATION

[Valuing the Benefits, Costs and Impacts of Ecosystem-Based Adaptation Measures: A Sourcebook of Methods for Decision-Making](#) (2017) includes 40 case studies, accessible via hyperlinks, showing how EBA valuation methods have been applied in practice in adaptation decision-making. Case studies from Indonesia, the Philippines, and Viet Nam are included.

The [adaptationcommunity.net](#) web portal provides additional links to EBA case studies, including those from the [Philippines](#) and Viet Nam.

Examples of UNDP EBA projects include those from [Bangladesh](#) on coastal ecosystems, [Bhutan](#) on agricultural ecosystems, and [Nepal](#) on mountain ecosystems.

EBA was also pilot-tested in the [Greater Mekong subregion](#) (the Lao People’s Democratic Republic and Viet Nam) by the WWF in partnership with the World Bank.

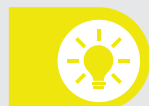
IUCN’s [Ecosystem-Based Adaptation: A Natural Response to Climate Change](#) (2009) and UNEP’s [Green Infrastructure Guide for Water Management: Ecosystem-Based Management Approaches for Water-Related Infrastructure Projects](#) (2014) include a series of case studies.

L7

Ecosystem Services Indicators

**DESCRIPTION**

Measuring Ecosystem Services, Guidance on Developing Ecosystem Service Indicators (2014) identifies the challenges associated with identifying ecosystem service indicators and provides guidance on developing and mainstreaming appropriate indicators.

STRATEGIC**PROCEDURAL****FUNCTION**

- Situational analysis
- Indicator development and measurement

DEVELOPER

UNEP-WCMC

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guidance includes indicator examples developed and pilot-tested in South Africa.



High Conservation Values (HCVs)



DESCRIPTION

Originating from the Forest Stewardship Council, High Conservation Values (HCVs) are biological, ecological, social, or cultural values considered outstandingly significant or critically important, at the national, regional, or global level. HCV identification, management, and monitoring forms part of several eco-certification schemes.

The [Common Guidance for the Identification of High Conservation Values \(HCVs\): A Good Practice Guide for Identifying HCVs Across Different Ecosystems and Production System](#) (2013) outlines the process of identifying, managing, and monitoring HCVs. It is directed primarily at land-based production practices, but is also applicable to other sectors such as aquaculture and marine systems. It provides detailed definitions and guidance on the interpretation and identification of six HCV categories, and the conduct of HCV assessments. The categories are (i) species diversity, (ii) landscape-level ecosystems and mosaics, (iii) ecosystems and habitats, (iv) ecosystem services, (v) community needs, and (vi) cultural values.

[Common Guidance for the Management and Monitoring of HCVs: A Good Practice Guide for the Adaptive Management of HCVs](#) (2014, amended 2018) further explains how a management plan and monitoring system is developed.

Separate [assessment guidance](#) is also available for use by HCV assessors.

STRATEGIC



PROCEDURAL



FUNCTION	
<ul style="list-style-type: none"> Stakeholder engagement Situational analysis Strategic planning and priority setting 	<ul style="list-style-type: none"> Impact and risk assessment Indicator development and measurement
DEVELOPER	USE REQUIREMENTS
HCV Resource Network	Open source; an assessor licensing scheme is available through the HCV Resource Network

EXPERIENCES OF PRACTICAL APPLICATION

The guidance documents include examples and case studies for each of the six HCV categories. Indonesia and Viet Nam have undertaken [national interpretations](#) of HCVs in Asia and the Pacific.

L9

Integrated Ecosystem Assessment



DESCRIPTION

Ecosystems and Human Well-Being: A Manual for Assessment Practitioners (2010) is intended for public sector decision makers and provides guidance in assessing the effects of ecosystem change on people. It discusses conceptual frameworks and provides detailed guidance in assessing the status and trends of ecosystems; developing and using scenarios; assessing policy options; and establishing, designing, and running an integrated ecosystem assessment. It seeks to encourage decision makers to use information about ecosystem services (including the four broad categories of provisioning services, such as the provision of food, water, timber and fiber; regulatory services, such as the regulation of climate, floods, disease, and the quality of water; cultural services, such as those offering recreational, aesthetic, and spiritual benefits; and supporting services, such as soil formation, photosynthesis, and nutrient cycling) to strengthen economic and social development policies and strategies.

STRATEGIC



PROCEDURAL



FUNCTION

- Stakeholder engagement
- Strategic communication and awareness raising
- Scenario building
- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment

DEVELOPER

UNEP and UNDP

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

Integrated ecosystem assessment builds on experiences and lessons learned from the global [Millennium Ecosystem Assessment](#) and over 30 assessment initiatives at the local, national, and regional levels.

L10

Key Biodiversity Areas (KBAs)



DESCRIPTION

The [A Global Standard for the Identification of Key Biodiversity Areas \(KBAs\) Version 1.0](#) (2016) defines, sets the criteria and thresholds, and establishes procedures for the identification of KBAs. It can be used to identify sites contributing significantly to the global persistence of biodiversity in terrestrial, inland water, and marine environments. It seeks to assist national governments and other stakeholders in the following:

- harmonizing existing approaches to the identification of important sites for biodiversity;
- identifying important sites for elements of biodiversity not considered in existing approaches;
- applying a consistent system in a repeatable manner through different users and institutions, in different places, and over time; and
- providing decision makers with a better understanding of why particular sites are important for biodiversity.

The KBA Partnership’s [Guidelines on Business and KBAs: Managing Risk to Biodiversity](#) (2018) support the effective management of biodiversity risks to KBAs that may arise from business activities and are of relevance to companies, certification schemes, and others. They can also be integrated into green procurement practices for goods and services where their production (supply chain) could affect KBAs.

STRATEGIC



PROCEDURAL



FUNCTION	
<ul style="list-style-type: none"> • Strategic communication and awareness raising • Situational analysis 	<ul style="list-style-type: none"> • Strategic planning and priority setting • Impact and risk assessment
DEVELOPER	USE REQUIREMENTS
IUCN	Open source; the KBA Secretariat cohosted by BirdLife International and IUCN is responsible for confirming nominated KBAs

EXPERIENCES OF PRACTICAL APPLICATION

KBAs from Asia and the Pacific are listed on the [World Database of KBAs](#).

L11

PANORAMA



DESCRIPTION

[PANORAMA, Solutions for a Healthy Planet](#) brings together real-world, case-based solutions to conservation and development challenges across four thematic portals—protected areas, marine and coastal conservation, EBA, and agriculture and biodiversity. A search for possible solutions can also be conducted with the help of a map-based tool.

Following the adoption of the Aichi targets in 2010, several organizations promoted the concept of building on success, rather than the more familiar focus of pointing at failures. Each solution has proven positive impact and is documented in a standard format that identifies replicable success factors and the context in which the solution was implemented.

STRATEGIC



FUNCTION

- Strategic communication and awareness raising
- Scenario building
- Strategic planning and priority setting
- Innovation

DEVELOPER

Panorama Partnership between IUCN and GIZ

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The portals provide [85 solutions](#) for Asia and the Pacific, which can be searched by ecosystem or theme.

L12

Biodiversity Finance Initiative (BIOFIN)



DESCRIPTION

BIOFIN is a methodology enabling countries to measure their current biodiversity expenditures, assess their biodiversity finance needs over the medium term, and identify the most suitable finance solutions that will bridge their national biodiversity finance gaps. The methodology relies on building national partnerships for biodiversity finance, including those between the government and the private sector, and culminates in the development of a biodiversity finance plan identifying and prioritizing solutions to address the biodiversity finance gap. BIOFIN provides technical support for the implementation of such solutions.

The methodology is informed by three assessments developed in cooperation with stakeholders:

- The biodiversity finance policy and institutional review examines the national policy and institutional context of biodiversity finance and identifies the key stakeholders;
- The biodiversity expenditure review analyzes public and private expenditures on biodiversity to establish past, present, and projected biodiversity expenditures; and
- The financial needs assessment estimates the financing required to deliver national biodiversity targets and plans, usually described in NBSAPs.

The methodology has a strong focus on in-depth stakeholder consultation and capacity development. Further guidance is provided in the 2018 BIOFIN [workbook](#), as well in in [webinars](#) on the methodology and finance solutions. There is also a searchable online [database of biodiversity finance solutions](#) that can be searched by financial result, type, and sector.

Data generated from BIOFIN are aligned with the country reporting requirements under the CBD’s Financial Reporting Framework.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION	
<ul style="list-style-type: none"> • Stakeholder engagement • Strategic communication and awareness raising • Strategic interlinkage analysis • Strategic planning and priority setting 	<ul style="list-style-type: none"> • Barrier analysis • Budgeting • Investment and financing
DEVELOPER	USE REQUIREMENTS
UNDP-Biodiversity Finance Initiative (BIOFIN)	Open source for methodology and workbook; interested governments can contact the BIOFIN team for more information on how to engage

EXPERIENCES OF PRACTICAL APPLICATION

BIOFIN is now being implemented in 31 [countries](#), 12 of which are in Asia and the Pacific (including Bhutan, Indonesia, Kazakhstan, Mongolia, the Philippines, Sri Lanka and Viet Nam).

L13

Ecological Fiscal Transfers



DESCRIPTION

Fiscal transfers redistribute revenue between and within governments according to agreed fiscal allocation formulas. [Ecological fiscal transfers](#) incorporate ecological performance in the fiscal allocation formulas. Ecological fiscal transfers can be unconditional (governments can decide how they are used) or conditional (the additional income must be invested in conservation or restoration).

The simplest measure of ecological performance is the area and habitat quality of protected areas managed. This compensates financially for the conservation costs of managing protected areas and incentivizes habitat restoration through financial reward. In the absence of ecological fiscal transfers, governments are encouraged to allocate land use rights for purposes other than biodiversity management to generate revenue.

Ecological fiscal transfers can help in introducing results or performance-based budgeting if the environmental performance measures used can measure progress toward defined ecological results, unlike traditional formulas that rely on static metrics.

PROCEDURAL



FUNCTION

- Strategic planning and priority setting
- Budgeting
- Investment and financing

DEVELOPER

General/Various

USE REQUIREMENTS

Open source; but requires level of environmental economic expertise to implement

EXPERIENCES OF PRACTICAL APPLICATION

The [Environment and Natural Resources Data Management Tool](#) is a data management platform developed by the Poverty-Environment Initiative and the Bureau of Local Government Finance of the Philippine Department of Finance. It captures information related to natural resource revenues from extractive industries such as oil, gas, and mining sites. The aim of the tool is to promote transparency in the allocation of revenues generated from natural resources and the revenue share allocated to the local government hosting the extractive industries and directly affected by their operations the Philippines being a member of the [Extractive Industries Transparency Initiative](#). It was developed for the Philippines with the aim of supporting good governance of the country's natural resources, including benefits to affected local communities.

L14

Ecosystem Service Review



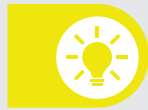
DESCRIPTION

[Weaving Ecosystems Services into Impact Assessment, A Step-by-Step Method, Version 1.0](#) (2013) sets out a structured methodology for ecosystem service review that acquaints project developers with the approach, and guides impact assessment practitioners through a six-step methodology for incorporating ecosystem services in environmental impact assessment (EIA) at the scoping, baseline, impact assessment, and mitigation stages. Comprehensive technical instructions on each step can be found in the report’s technical appendix.

The output of ecosystem service review for impact assessment comprises a list of ecosystem services, for inclusion in EIA terms of reference; identified priority ecosystem services to be considered and stakeholders to be engaged in further stages of the EIA process; an assessment of project impact and dependency on priority ecosystem services; and measures intended to mitigate project impact on the benefits provided by ecosystems or to manage project dependency on priority ecosystem services.

[Corporate Ecosystem Services Review, Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change, Version 2.0](#) (2012) is a guidance resource for identifying business risks and opportunities arising from ecosystem change. It describes an analytical framework and a five-step methodology for performing an ecosystem service review for a business, with associated tools including a “dependence and impact assessment” spreadsheet. It also includes a discussion on the economic valuation of ecosystem service approaches. [Training materials](#) on corporate ecosystems service reviews are available.

STRATEGIC



PROCEDURAL



FUNCTION	
<ul style="list-style-type: none"> Situational analysis Strategic interlinkage analysis Strategic planning and priority setting 	<ul style="list-style-type: none"> Impact and risk assessment Training and capacity building
DEVELOPER	USE REQUIREMENTS
World Resources Institute (WRI), Meridian Institute, and World Business Council for Sustainable Development (WBCSD)	Open source; but requires technical understanding of the EIA process

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) of corporate ecosystem service reviews by businesses representing a range of sectors across different countries are available.

L15

Ecosystem Service Valuation



DESCRIPTION

[The Economics of Ecosystems and Biodiversity](#) (TEEB) study initiated by the G8+5 environment ministers (2007–2010) emphasized the concept of ecosystem service valuation as a practical and influential aid to the decision-making process.

Ecosystem service valuation is a methodology for assessing impact on ecological systems by assigning an economic value to the affected ecosystem or its ecosystem services. It enables the demonstration of the full value of an ecosystem, not just the cost or benefit of those values entering the market. The challenge in undertaking a thorough assessment is identifying all ecosystem services affected and obtaining enough information to conduct the valuation. Available approaches to valuation include valuation based on market price, revealed preference, cost, stated preference, and transfer of values.

Capturing the value of ecosystem services involves the introduction of mechanisms that incorporate the values of ecosystems into decision-making through incentives and price signals such as payments for ecosystem services, the reform of environmentally harmful subsidies, or the introduction of tax breaks for conservation.

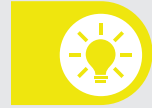
Documents with general guidance on ecosystem service valuation include the following (the tool inventory also contains details on some of the specific tools listed):

- IUCN's [Tools for Measuring, Modelling, and Valuing Ecosystem Service: Guidance for Key Biodiversity Areas, Natural World Heritage sites, and Protected Areas](#) (2018), which aims to help practitioners select the most appropriate tool for assessing ecosystem services including ARIES (tool L21), InVEST (tool L26), PA-BAT (tool L27) and six other tools—Co\$tingNature, Ecosystem Services Toolkit, Multiscale Integrated Model of Ecosystem Services (MIMES), Social Values for Ecosystem Services (SoIVES), Toolkit for Ecosystem Services Site-Based Assessment (TESSA) (tool L39), and WaterWorld suitable for use in terrestrial, freshwater, coastal, and marine ecosystems;
- GIZ's [Economic Valuation of Ecosystem Services](#) (2012);
- The United Kingdom (UK) Department of Environment, Food, and Rural Affairs' (Defra's) [An Introductory Guide to Valuing Ecosystem Services](#) (2007); and
- WBCSD's [Guide to Corporate Ecosystem Valuation, A Framework for Improving Corporate Decision-Making](#) (2011), which seeks to give companies a better understanding of the benefits and value of ecosystem services. It explains how issues such as the following are examined: environmental risks of operations, stakeholder compensation options, potential revenue opportunities in emerging environmental markets, and the impact of regulatory changes on the availability of natural resources. It supports improved business decision-making by providing a closer alignment between the financial, ecological, and societal objectives of companies. It has two parts: part 1, on assessing the need to undertake corporate ecosystems valuation (CEV) through a series of screening questions; and part 2, outlining the five-stage CEV process (scoping, planning, valuation, application, embedding) and presenting a set of 12 principles for businesses undertaking CEVs.

continued on next page

L15 Ecosystem Service Valuation *continued*

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Investment and financing
- Indicator development and measurement

DEVELOPER

WRI, Meridian Institute, and WBCSD

USE REQUIREMENTS

Open source; but requires technical understanding of the EIA process

EXPERIENCES OF PRACTICAL APPLICATION

The [Guide to Corporate Ecosystem Valuation, A Framework for Improving Corporate Decision-Making](#) (2011) includes case studies on the application of the framework by companies.

L16

Natural Capital Accounting



DESCRIPTION

Biodiversity data are incorporated in the System of Environmental–Economic Accounting Experimental Ecosystem Accounting (SEEA–EEA) framework (tool E3, section 4) through biodiversity accounts. Further explanation is available in the technical guidance developed by UNEP–WCMC on [Experimental Biodiversity Accounting as a Component of the System of Environmental–Economic Accounting Experimental Ecosystem Accounting](#) (2015).

More [detailed guidance](#) on natural capital accounting comprises the following:

- A Perspective on Capacity and Capability in the Context of Ecosystem Accounting;
- A Functional Approach to EEA for Units and Ecosystem Services (Technical Guide 1);
- Land Accounts and Ecosystem Extent (Technical Guide 2);
- Land and Ecosystem Condition and Capacity (Technical Guide 3);
- Water and Ecosystem Accounting (Technical Guide 4);
- Carbon and Ecosystem Accounting (Technical Guide 5);
- Linkage between Ecosystem Service Accounts and Ecosystems Asset Accounts (Technical Guide 6);
- Compilation of Data, Tools, Methods, and Pilots in Canada (Technical Guide 7);
- Spatial Units, Scaling, and Aggregation (Technical Guide 8); and
- Biophysical Modeling and Analysis of Ecosystem Services in an Ecosystem Accounting Context (Technical Guide 9).

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Investment and financing
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

TEEB Initiative and UNEP–WCMC

USE REQUIREMENTS

Open source; but requires level of environmental economic expertise to use

EXPERIENCES OF PRACTICAL APPLICATION

SEEA–EEA [guidance](#) (2015) includes case studies; TEEB [case studies](#) include those on Indonesia and Viet Nam from Asia and the Pacific. TEEB also provides a [database of valuations](#) from country level research.

The [Wealth Accounting and the Valuation of Ecosystem Services](#) partnership seeks to ensure that natural resources are mainstreamed into development planning and national economic accounts. The partnership is working with Indonesia and the Philippines in Asia and the Pacific.

L17

Natural Capital [Ecosystem Services] Assessment



DESCRIPTION

Natural capital (ecosystem service) assessments (NCAs) are landscape-focused assessments that consider the values supported, and the benefits provided, by natural capital stocks within a landscape planning unit and how these stocks can best be used or managed without being damaged or depleted. The assessments are also designed to provide an evidence base for understanding and mapping the distribution of natural capacity within a landscape planning unit, evaluating status and trends, and exploring relationships with priority economic sectors and livelihoods. Each assessment process is determined by its context. NCA also provides a foundation for the valuation of natural capital and the construction of natural capital accounts (tool L36).

[The Economics of Ecosystems and Biodiversity in Local and Regional Policy and Management](#) (2012) sets out the TEEB's six-step approach to NCA, which was developed to provide guidance in identifying ecosystem service opportunities in ecosystem management:

- Specify and agree on the problem with stakeholders (Step 1).
- Identify which ecosystem services are most relevant to the decision being made and the stakeholders involved (Step 2).
- Identify the information needs and select appropriate assessment methods (Step 3).
- Assess expected changes in the availability and distribution of ecosystem services (Step 4).
- Identify and appraise policy options on the basis of the analysis of expected changes in ecosystem services (Step 5).
- Assess the social and environmental impact of policy options, given that changes in ecosystem services will have differing effects on stakeholders (Step 6).

TEEB country studies identify the ecosystem services required to meet a country's policy priorities and recommend how these ecosystems services can be integrated into policies. The [Guidance Manual for TEEB Country Studies, Version 1.0](#) (2013) sets out the approach.

The [TEEB Manual for Cities: Ecosystem Services in Urban Management](#) (2011) identifies how ecosystem services can benefit cities.

GIZ's [Integrated Ecosystem Services into Development Planning. A Stepwise Approach for Practitioners Based on the TEEB Approach](#) (2012) provides guidance in operationalizing the TEEB six-step approach to NCA.

UNEP's guidance on [Natural Capital Assessments at the National and Sub-national Level \(2016\)](#) presents an eight-step methodology for natural capital assessment, starting with a series of questions. Checklists at the end of each step highlight key actions to be undertaken to achieve the required outcomes, together with considerations related to stakeholder engagement, communication, and capacity development.

The Natural Capital Coalition and WBCSD's [Natural Capital Protocol](#) (2016) is designed to help generate trusted, credible, and actionable information for businesses seeking to make informed decisions, by considering the causal relationship and linkages between their business activity and natural capital. It provides a means by which business can identify, measure, and value impact and dependency on natural capital. The protocol comprises four linear stages—"why," "what," "how," and "what next" stages—which are further broken down into nine steps, from getting started to taking action. At each step, a business carrying out a natural capital assessment must answer specific questions. Templates are provided to help businesses structure the output of each of the nine steps, and sector guidance is available for certain sectors. The related [Natural Capital Toolkit](#) identifies tools businesses can use in applying the Natural Capital Protocol. A tool search can be conducted; it can be based on the nine steps, the impact drivers or dependencies, geographic or sectoral scope, or other parameters.

L17 Natural capital [ecosystem services] assessment *continued*

STRATEGIC



PROCEDURAL



FUNCTION

- Stakeholder engagement
- Strategic communication and awareness raising
- Scenario building
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Impact and risk assessment

DEVELOPER

TEEB Initiative and UNEP-WCMC

USE REQUIREMENTS

Open source, but requires level of technical expertise to use

EXPERIENCES OF PRACTICAL APPLICATION

The [Guide to Corporate Ecosystems Valuation, A Framework for Improving Corporate Decision-Making](#) (2011) includes case studies on the application of the framework by companies.

L18

Natural Resource Damage Assessment



DESCRIPTION

Natural resource damage assessment (NRDA) is commonly undertaken by governments when hazardous substances, such as an oil or chemical spill, enter the environment. The assessment is made to determine the natural resources that were affected and the extent of damage in physical and economic terms in order that damages can be recovered from those responsible and the required restoration activities can be identified.

The Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) [Natural Resources Damage Assessment Manual](#) (1999) presents economic methods for NRDA for tropical ecosystems and habitats, such as mangroves and coral reefs, given that these environments also support coastal economic activities (mariculture, fishing, and coastal resorts, among others) that are highly vulnerable to transboundary marine pollution, and are important sources of livelihood as well as other benefits to coastal populations.

PROCEDURAL



FUNCTION

- Situational analysis
- Investment and finance

DEVELOPER

General/Various

USE REQUIREMENTS

PEMSEA manual can be obtained only from PEMSEA, at a cost of \$15.25.

EXPERIENCES OF PRACTICAL APPLICATION

A [case study](#) describing an NRDA for the Malacca Straits is available from PEMSEA.

L19

Payments for Ecosystem Services (PES)



DESCRIPTION

[Payments for ecosystem services](#) occur when a beneficiary or user of an ecosystem service pays whoever preserves or maintains it. Guidance in applying PES includes:

- Forest Trends, The Katoomba Group and UNEP [Payments for Ecosystem Services, Getting Started: A Primer](#) (2008);
- Forest Trends and The Katoomba Group [Payments for Ecosystem Services, Getting Started in Marine and Coastal Ecosystems: A Primer](#) (2010);
- the Center for International Forestry Research's [Payments for Ecosystem Services: A Practical Guide to Assessing the Feasibility of PES Projects](#) (2014); and
- UK Defra's [Payments for Ecosystem Services: A best practice guide](#) (2013).

PROCEDURAL



FUNCTION

- Strategic planning and priority setting
- Budgeting
- Investment and financing

DEVELOPER

General/Various

USE REQUIREMENTS

Open source, but requires level of environmental economic expertise to implement

EXPERIENCES OF PRACTICAL APPLICATION

An Asian Development Bank (ADB) Institute study, [Market-Based Approaches to Environmental Management: A Review of Lessons from Payment for Environmental Services in Asia](#) (2009), reviews eight case studies of ongoing PES initiatives in Asia related to watershed services, biodiversity conservation, carbon sequestration, and the establishment of markets for landscape value.

[Review of International Case Studies of Payment for Ecosystem Services](#) (2013) is a compilation of PES case studies from Asia.

L20

ALivE: Adaptations, Livelihoods and Ecosystems Planning Tool



DESCRIPTION

[ALivE](#) is a computer-based, rapid qualitative assessment tool that considers how vulnerable groups, livelihoods, and ecosystems are affected by climatic and non-climatic stressors. For a given ecosystem, it enables the user to do the following:

- understand and analyze linkages among ecosystems, livelihoods, and climate change;
- identify and prioritize effective and feasible EBA options for community and ecosystem resilience;
- design project activities that facilitate the implementation of priority EBA options, with emphasis on adaptive management; and
- identify key elements and indicators for a monitoring and evaluation framework.

The [ALivE Adaptation, Livelihoods and Ecosystem Planning Tool: User Manual, Version 1.0](#) (2018) provides a framework and methodologies for collecting and organizing the information required to use the ALivE planning tool. Guidance is also provided in identifying entry points for integrating EBA into land use and development policies, plans, and programs.

The tool is related to [CRISTAL](#) (Community-based Risk Screening Tool–Adaptation Livelihoods), a qualitative risk-screening tool for identifying and prioritizing climate risks and identifying livelihood resources most important to climate adaptation, with a view to designing adaptation strategies.

PROCEDURAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Innovation
- Indicator development and measurement

DEVELOPER

International Institute for Sustainable Development (IISD) and UNEP

USE REQUIREMENTS

Open source; requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

IISD has tested the ALivE planning tool in the context of the [Mountain Ecosystems \(EBA Flagship\) Project](#), implemented by IUCN in the Panchase Protected Forest Area of Western Nepal.

L21

Artificial Intelligence for Ecosystem Services (ARIES)



DESCRIPTION

[ARIES](#) is an integrated, collaborative modeling software which can be used for ecosystem service assessment and valuation. It specifically assesses carbon sequestration, river and coastal flood regulation, freshwater supply, sediment regulation, fisheries, recreation, aesthetic viewsheds, and open-space proximity values, and allows for a detailed and dynamic assessment of how nature provides benefits to people.

PROCEDURAL



FUNCTION

- Situational analysis
- Dynamic simulation and modeling
- Strategic planning and priority setting
- Innovation
- Data management, reporting, and verification

DEVELOPER

The ARIES Consortium (University of Vermont, Earth Economics, Conservation International)

USE REQUIREMENTS

ARIES Explorer web interface is in development, but k.LAB software, on which it is currently based, may be used by those with training in semantic modeling.

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) of models covering a broad range of ecosystem services in a variety of ecological and socioeconomic settings are available; where possible, these were designed using local, high-resolution spatial data sets to populate models.

L22

Biodiversity Indicators Partnership (BIP) Dashboard



DESCRIPTION

The [BIP Dashboard](#) allows the user to search biodiversity indicators by country mapped by the Aichi Biodiversity Targets, MEAs, and SDGs. For any given indicator, spatial information at various scales can be viewed together with downloadable graphs of trend data.

[Cross-mapping of the indicators within the Biodiversity Indicators Partnership to Aichi Biodiversity Targets and SDGs](#) (2018) helps with the identification of indicator synergies between the two processes.

The BIP website also allows the global indicators to be viewed and provides a range of [guidance resources](#) on biodiversity indicator development including [Guidance for National Biodiversity Indicator Development and Use](#) (2011) related to the national [Biodiversity Indicator Development Framework](#).

STRATEGIC



PROCEDURAL



FUNCTION

- Indicator development and measurement

DEVELOPER

BIP

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) of national biodiversity indicator development are available from several countries, including the Philippines.

L23

Capacity Development Assessment Tool (CDAT)



DESCRIPTION

[CDAT](#) supports the design and evaluation of capacity development activities for biodiversity-related decision-making at the individual, network, or organization level. The tool is presented as a Microsoft Excel workbook that provides a systematic approach to assessing capacity development, resulting in numerical scores for existing capacity and the feasibility of capacity improvement. It thus helps determine the appropriate capacity development, besides providing a baseline for a future impact evaluation.

Four workbooks supported by the [UNEP-WCMC Capacity Development Assessment Tool: User Guidelines, Version 3.0](#) (2016) are available. The three workbooks for assessment at the individual, network, or organization level include predetermined elements of capacity depending on the scale being considered. The fourth enables the creation of a tailored assessment tool through the selection of elements of capacity to focus on. Competencies, resources, and the enabling environment are considered.

PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination and partnerships
- Situational analysis
- Barrier analysis
- Innovation
- Training and capacity development

DEVELOPER

UNEP-WCMC

USE REQUIREMENTS

Open source; requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

The tool has been used for [capacity assessment for area-based planning in areas beyond national jurisdiction](#) for the Permanent Commission for the South Pacific.

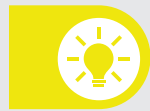
L24

Data Basin**DESCRIPTION**

[Data Basin](#) is a science-based mapping and analysis platform that is intended to support environmental stewardship by allowing its users (including researchers, practitioners, educators, students, and citizens) to

- explore and organize spatial natural resource data and information;
- create custom visualizations, drawings, and analyses;
- use collaborative tools in groups;
- publish data sets, maps, and galleries; and
- develop decision-support and custom tools.

Data Basin includes various existing natural resources data sets and maps for Asia, but limited data sets and maps for the Pacific subregion. Maps can be customized to showcase spatial natural resources data and information for a geographic area, topic, project, or organization. Data Basin gateways can be integrated into existing websites, thereby creating new ways for stakeholders to explore, access, and interpret data and information.

STRATEGIC**PROCEDURAL****FUNCTION**

- Strategic communication and awareness raising
- Situational analysis
- Strategic planning and priority setting
- Innovation
- Data management, reporting, and verification

DEVELOPER

Conservation Biology Institute

USE REQUIREMENTS

Open source; main features of Data Basin with 1GB of hosting are accessible for free, but subscription is required for additional features

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) of how Data Basin has been used and examples of [gateways](#) (both geographic and thematic) powered by Data Basin are available.

L25

Earth Observation, Remote Sensing, and Geographic Information Systems (GIS)



DESCRIPTION

Spatial tools such as remote sensing and GIS can help inform decision makers by improving their understanding of spatially related environmental issues. Remote sensing refers to aerial or satellite data. Landsat MSS, TM, Spot, and IRS remote sensing data have been widely used in natural resource management, primarily in the inventory and measurement of natural resources, as well as in the monitoring of change. GIS is a computer-based tool for the input, management, analysis, and output of spatial data and information, including remote sensing data. Used together, these tools are particularly helpful in understanding natural resource issues at all scales, from global to local.

The Committee on Earth Observation Satellites and the European Space Agency have produced a manual, [Satellite Earth Observations in Support of the Sustainable Development Goals](#) (2018), explaining how remote sensing and GIS can be used to understand spatial issues and monitor progress. It is accompanied by a [database](#) of satellite missions, instruments, and measurements.

STRATEGIC



PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Innovation
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

General/Various

USE REQUIREMENTS

Remote sensing data can be free of charge depending on the scale required. Use of GIS requires purchase of licensed software. Expertise in remote sensing and GIS is required to input, manage, and analyze the data.

EXPERIENCES OF PRACTICAL APPLICATION

Many examples of the use of remote sensing and GIS data in natural resource management exist, including the following open source applications:

- [Global Forest Watch](#) for monitoring trends in forest cover in real time;
- Michigan State University's [Telecoupling Toolbox](#), a suite of GIS-based tools for spatially analyzing socioeconomic-environmental system interactions for systems linked over distance, due to, for example, trade, tourism, species migration, or transfer of water;
- [United Nations \(UN\) Biodiversity Lab](#) for analyzing five of the Aichi targets that can be monitored using spatial data;
- WRI's [Suitability Mapper](#) on the identification of degraded land for sustainable palm oil production in Indonesia;
- WWF's [Smart Infrastructure Planner](#) for evaluating land use and infrastructure development in light of conservation requirements; and
- BirdLife International, IUCN, and UNEP-WCMC's [Integrated Biodiversity Assessment Tool \(IBAT\) for Business](#), accessed through subscription with different rates for businesses, nongovernment organizations (NGOs), and research institutions. This assessment tool facilitates basic risk screening for biodiversity. It provides GIS-based access to globally recognized biodiversity data sets, including KBAs, which can either be viewed with the help of an interactive mapping tool or downloaded.

A European Space Agency and ADB study, [Earth Observation for a Transforming Asia and Pacific](#) (2017), provides case studies from several countries in Asia and the Pacific.

L26

InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs)



DESCRIPTION

[InVEST 3.50](#) is a suite of 18 ecosystem services models (including carbon, coastal blue carbon, coastal vulnerability, crop pollination, fisheries, habitat quality, habitat risk assessment, marine fish aquaculture, and water purification) that can be used to map and value ecosystem services. They can help in exploring how changes in ecosystems lead to changes in the flows of benefits to people, as well as in assessing quantified trade-offs in managing the various uses of natural resources.

The models are designed for use with terrestrial, freshwater, marine, and coastal ecosystems. They are spatially explicit, using maps as information sources and producing maps as output. Results are presented in either physical or economic terms. The models are supported by a [user guide](#), [online courses](#), and tools that can assist users in locating and processing input data and in understanding and visualizing the output:

- [Scenario Generator](#) offers a relatively simple method of generating scenarios based on user-defined principles of the possible location of land changes and their likely extent.
- [Overlap Analysis Tool](#) estimates the relative importance of regions for human use with output maps to visualize hot spots of land or ocean use, and areas where the compatibility of various activities should be investigated. The output can help decision makers weigh potential conflicts among spatially explicit management options.

PROCEDURAL



FUNCTION

- Scenario building
- Situational analysis
- Dynamic simulation and modeling
- Strategic planning and priority setting
- Impact and risk assessment
- Training and capacity development

DEVELOPER

Natural Capital Project and WWF

USE REQUIREMENTS

Open source; requires computer and internet access. InVEST models can be run independently, or as script tools in the ArcGIS ArcToolBox environment. Computer mapping software, such as ArcGIS, is required to view results although some model results may be viewed in InVEST Dashboards. Knowledge of GIS is also required.

EXPERIENCES OF PRACTICAL APPLICATION

Case studies are available, while the InVEST library has examples of use in Viet Nam and other countries outside Asia and the Pacific.

L27

Protected Areas Benefits Assessment Tool (PA-BAT)



DESCRIPTION

Protected Areas Benefits Assessment Tool, A Methodology (2009) is aimed at identifying values of protected areas, and the current and potential benefits that these areas bring to a range of stakeholders, from the local to the global level. It is designed for use in planning by protected area managers working in conjunction with stakeholders, but it can also be used by NGOs and community-based organizations to help promote the benefits of protected areas.

Outcomes can assist with

- developing community relationships and use agreements in relation to values and benefits,
- informing research and monitoring activities in relation to resource use, and
- informing the development of management plans in relation to managing the values and benefits of the protected area.

Since the tool includes a standard typology of values and benefits, results can be aggregated to provide an overview of a portfolio of individual protected areas.

The tool could also be applied more widely, beyond protected areas, for example, in assessing the benefits of forest management units, agricultural landscapes, or recreational areas.

PROCEDURAL



FUNCTION

- Stakeholder engagement
- Consensus building
- Strategic communication and awareness raising
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

WWF

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The testing and use of PA-BAT methodology has primarily been undertaken in relation to [European protected areas](#).

L28

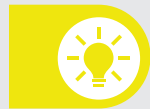
Protected Planet World Database on Protected Areas



DESCRIPTION

This [tool](#) is a global database of terrestrial and marine protected areas. Protected areas data is updated monthly and can be either be viewed using an interactive mapping tool or downloaded. The tool can also be used to calculate the national protected area coverage.

STRATEGIC



FUNCTION

- Situational analysis
- Indicator development and measurement

DEVELOPER

UNEP-WCMC and IUCN

USE REQUIREMENTS

Open source

L29

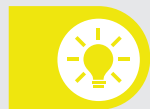
ValuES Methods Database



DESCRIPTION

The [ValuES Methods Database](#) is a searchable database of methods for undertaking Natural Capital (ecosystem service) Assessment (NCA) for integrating ecosystem services into policies and plans. It can be searched by policy area, purpose, type of method, or ecosystem service.

STRATEGIC



FUNCTION

- Scenario building
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Impact and risk assessment

DEVELOPER

GIZ

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The ValuES website also contains [case studies](#) on the application of NCA in several countries, including Indonesia, Mongolia, and the Philippines.

TOOLS APPLICABLE TO SUSTAINABLE DEVELOPMENT GOAL 14 (LIFE BELOW WATER)

L30

Marine Spatial Planning (MSP)



DESCRIPTION

MSP provides countries with an operational framework to help maintain the value of marine biodiversity, while at the same time allowing sustainable use of the economic potential of their oceans.

The 10-step approach proposed in *Marine Spatial Planning: A Step-by-Step Approach toward Ecosystem-based Management* (2009) by the United Nations Educational, Scientific and Cultural Organization (UNESCO) explains what MSP is about and how a successful MSP initiative that can help achieve ecosystems-based management can be set up, and presents lessons learned. It is primarily directed at professionals responsible for planning and managing marine areas and their natural resources and covers the following:

- identifying need and establishing authority,
- obtaining financial support,
- organizing the process through preplanning,
- organizing stakeholder participation,
- defining and analyzing existing conditions,
- defining and analyzing future conditions,
- preparing and approving the spatial management plan,
- Implementing and enforcing the spatial management plan,
- monitoring and evaluating performance, and
- adapting the marine spatial management process.

UNESCO's *Evaluating Marine Spatial Plans* (2014) provides guidance in monitoring the performance and reviewing the success of MSP activities.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination or partnerships
- Stakeholder engagement
- Consensus building
- Scenario building
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Indicator development and measurement

DEVELOPER

UNESCO

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

MSP activities have been implemented in many [countries](#) worldwide, including Indonesia, the Philippines, the People's Republic of China, and Viet Nam in Asia and the Pacific.

United Nations Environment Programme–World Conservation Monitoring Center's *Cross-Border Cooperation in Marine Spatial Planning* (2017) provides lessons learned and recommendations from four case studies, including the Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security, and Marine Functional Zoning in Xiamen, the People's Republic of China.

L31

Integrated Coastal Management (ICM)



DESCRIPTION

ICM can be used by national and local governments with responsibility for managing coastal and marine areas by helping them to consider the use of these zones in an integrated manner. It can help overcome the limitations of a sector-based approach in addressing the complexities of coastal and marine use.

Partnerships in Environmental Management for the Seas of East Asia's (PEMSEA's) [Framework for Sustainable Development of Coastal Areas \(SDCA\) Through ICM Implementation](#) addresses six components of governance that are critical to achieving sustainable development:

- policies, strategies, and action plans;
- institutional arrangements;
- legislation;
- information and public awareness programs;
- financing mechanisms; and
- capacity development.

It also addresses five aspects of sustainable development in coastal and marine areas that are likely to be priorities for the government:

- natural and human-made disaster prevention and response management;
- natural coastal habitat protection, restoration, and management;
- water use and supply management;
- pollution and waste reduction management; and
- food security and livelihood management.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination or partnerships
- Stakeholder engagement
- Strategic communication and awareness raising
- Consensus building
- Strategic planning and priority setting
- Barrier analysis
- Indicator development and measurement
- Training and capacity development

DEVELOPER

General/Various

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) on ICM implementation include those from Preah Sihanouk in Cambodia, Batangas in the Philippines, Xiamen in the People's Republic of China, and Da Nang in Viet Nam.

L32

State of the Coasts (SOC) Reporting



DESCRIPTION

SOC reporting is based on the principles of State of the Environment (SOE) reporting (tool E16, section 4), but the assessment is spatially limited to the state of the coastal and marine environment.

PEMSEA, in partnership with UNDP, the Global Environment Fund, and the United Nations Office for Project Services, has developed a [Guidebook on the State of Coasts Reporting for Local Governments Implementing ICM in the East Asian Seas Region](#) (2012) on the preparation of SOC reports. It includes a suite of 35 core indicators and their data requirements for monitoring purposes.

PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Impact and risk assessment
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

PEMSEA

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[SOC reports](#) have been produced at the national level for Cambodia, Indonesia, the Philippines, and the People's Republic of China, at the local level for Bataan, Batangas, Cavite, and Guimaras in the Philippines; and Dongying in the People's Republic of China.

L33

Integrated Information Management Systems for Coastal and Marine Environments (IIMS)



DESCRIPTION

IIMS is a database application for the management of environmental data for coastal and marine areas, river basins, or a combination of both. The objectives of the IIMS are:

- to standardize data collection and recording;
- to improve the quality and uniformity of data collected; and
- to integrate data into a common software system for time and cost-effective analyses (this software enables storage, retrieval, and analysis of data).

The data categories available cover biological, socioeconomic, demography, pollution sources, environmental quality, physiographic, water resource management, natural and anthropogenic hazards, hydrometeorological, soils, and institutional data. Thus, IIMS data analyses can support decision-making on the marine and coastal environment or river basins and their interconnections with human activities.

The [Guide to Establishing IIMS](#) (2005) explains how an IIMS is established, while the [User Manual on IIMS for Coastal and Marine Environment](#) (2005) provides guidance in encoding data, generating reports through a query system, and linking IIMS with external applications such as GIS and predictive models.

PROCEDURAL



FUNCTION	
<ul style="list-style-type: none"> • Situational analysis • Indicator development and measurement • Data management, reporting, and verification 	
DEVELOPER	USE REQUIREMENTS
PEMSEA	To use the tool, users must contact PEMSEA, which manages the software and the central site.

EXPERIENCES OF PRACTICAL APPLICATION

Countries in which IIMS is operational include Cambodia (Sihanoukville), Indonesia (Bali), the Philippines (Bataan, Batangas, Cavite, and Manila Bay), the People’s Republic of China (Bohai Sea), and Viet Nam (Da Nang).

Because of its capacity to provide a wide range of data and information necessary for marine and coastal management, IIMS has been adopted by the Philippine Department of Environment and Natural Resources as its database platform, not just for coastal areas but also for river basin management. Its use is being demonstrated in the Pampanga river basin.

L34

Ocean Data Viewer



DESCRIPTION

This [tool](#) enables users to view and download about 180 global data sets on coastal and marine biodiversity, including mangroves, sea grasses, and corals. The data sets can aid in coastal and marine spatial planning, as well as in habitat mapping and biodiversity assessment.

The data sets are sourced from internationally respected scientific institutions and other organizations. They are available in standard GIS formats or can be viewed with a mapping interface facilitating the exploration of individual or overlaid data sets.

The associated [Manual of Marine and Coastal Datasets of Biodiversity Importance](#) (2015) and the online Ocean+ Data portal provide an overview of marine and coastal datasets of biodiversity importance, with detailed metadata sheets and information about the various challenges, gaps, and limitations presented.

STRATEGIC



FUNCTION

- Situational analysis
- Indicator development and measurement

PROCEDURAL



DEVELOPER

UNEP-WCMC

USE REQUIREMENTS

Open source; requires computer and internet access

L35

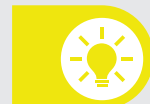
Our Pacific Ocean, Our Stories: An Ocean Toolkit for Pacific Media



DESCRIPTION

This [toolkit](#) was created to help the Pacific media develop news stories on the Pacific Ocean. Four initial factsheets addressed the Pacific Ocean, Marine Debris, Marine Plastic Pollution, and Coral Reef, and other factsheets are being added at a rate of two per month. The factsheets help the media in Fiji and the Pacific become familiar with ocean issues and tell stories of challenges and successes as the people and governments of the region work toward ocean conservation. Though the approach is specific to the Pacific Ocean, a similar approach could be taken in other marine or even terrestrial habitats. There is also an accompanying [Our Pacific Ocean Media Award](#).

STRATEGIC



FUNCTION

- Strategic communication and awareness raising
- Situational analysis

DEVELOPER

Secretariat of the Pacific Regional Environment Programme (SPREP)

USE REQUIREMENTS

Open source

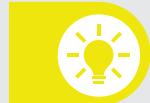
L36

Seas of East Asia (SEA) Knowledge Bank**DESCRIPTION**

This is a [knowledge platform](#) for those interested in scaling up ICM and investment in sustainable development coastal and marine areas across East Asia, although it would also be applicable to other parts of Asia and the Pacific.

It provides an e-library of guidance documents and reports on ICM, State of the Coast reports and indicators, and links to other knowledge portals, as well as a discussion-forum space.

The knowledge platform also includes guidance in preparing for investment—how to identify and develop a pipeline of bankable projects. Rapid assessments in the form of online questionnaires can help with assessing the enabling environment for investment; gaps and opportunities for investment, in coastal and ocean sectors with the potential for both positive environmental and social impact and financial returns; and investment readiness.

STRATEGIC**PROCEDURAL****FUNCTION**

- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Investment and financing
- Indicator development and measurement

DEVELOPER

PEMSEA, with support from the World Bank Group and the Global Environment Facility

USE REQUIREMENTS

Open source; requires computer and internet access

EXPERIENCES OF PRACTICAL APPLICATION

Case studies on ICM programs from East Asia are available via the [e-library](#) of the knowledge platform.

TOOLS APPLICABLE TO SUSTAINABLE DEVELOPMENT GOAL 15 (LIFE ON LAND)

L37

Integrated Ecosystem Management



DESCRIPTION

The [Framework for Integrated Ecosystem Management in the Hindu Kush Himalaya](#) (2017) is aimed at supporting program- and project-level interventions in rural areas and landscapes that conserve and restore ecosystems as one of the most important pillars of sustainable development in mountainous regions, thereby helping to strengthen existing development and livelihood activities. It was developed to support the management of mountain environments in the eight countries of the Hindu Kush Himalayan region, but it is also applicable to most other terrestrial ecosystems. It seeks a more systematic and practical approach to managing ecosystem services instead of current ad hoc approaches.

To help apply the framework, [Planning Management for Ecosystem Services – an Operations Manual](#) (2017) presents a six-step methodology with supporting guidance for rural communities and governments in planning for the management of mountain environments in a manner that integrates the need to manage ecosystem services associated with individual sites as well as broader landscapes. It gives guidance on the management of grasslands, forests, and agricultural lands for ecosystem services, and thus is not just applicable to mountain environments. Each step of the methodology is explained in detail. Different types of ecosystem services are listed and described; a workbook is provided for use in applying the methodology; and an example of a management plan is presented.

STRATEGIC



PROCEDURAL



ORGANIZATIONAL



FUNCTION

- Institutional coordination or partnerships
- Stakeholder engagement
- Consensus building
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting
- Barrier analysis
- Innovation
- Indicator development and measurement

DEVELOPER

International Centre for Integrated Mountain Development

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

Marine spatial planning activities have been implemented in many countries worldwide including Indonesia, the Philippines, the People's Republic of China, and Viet Nam in Asia and the Pacific.

The manual includes a case study on the village of Bans Maitoli in Pithoragarh District, Uttarakhand, India, completed for the Kailash Sacred Landscape Conservation and Development Initiative.

L38

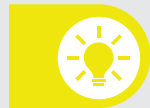
TEEBAgriFood Evaluation Framework



DESCRIPTION

This [framework](#), as elaborated in the [TEEB for Agriculture and Food Scientific and Economic Foundations Report](#) (2018), provides a means of ensuring that adequate attention is paid to the relationships, in terms of impact and dependencies, that food systems have with the economy, society, health, and environment. It includes four components, which capture system interactions—stocks, comprising produced capital, natural capital, human capital, and social capital; flows, encompassing production and consumption activity, ecosystem services, purchased input, and residual flows; outcomes in terms of quantitative and qualitative changes in the stock of capital; and impact in terms of human well-being. Exploratory [studies](#) in the areas of agroforestry, inland fisheries, livestock, maize, palm oil, and rice are available.

STRATEGIC



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

The Economics of Ecosystems and Biodiversity for Agriculture and Food (TEEBAgriFood) Initiative

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The exploratory [studies](#) include case studies on the application of TEEB (tool L17) in the agriculture and food sector.

L39

Ecosystem Service Site-Based Assessment



DESCRIPTION

The [Toolkit for Ecosystem Service Site-based Assessment \(TESSA\), Version 2.0](#) (2017) provides guidance on low-cost methods for evaluating the benefits people receive from biodiversity at the site level, particularly in protected areas or other sites of biodiversity importance. It is aimed primarily at conservation practitioners, and can be used online and in the field.

The tools are applicable to all terrestrial and wetland habitats; marine habitats are currently excluded. Real-field measurements, rather than theoretical scenarios or extrapolations from global models, are used to generate information about the value of the following ecosystem services: coastal protection, cultivated goods, cultural services, global climate regulation, harvested wild goods, nature-based recreation, pollination, and water supply quality and flood control.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting

PROCEDURAL



DEVELOPER

Anglian Ruskin University, Birdlife International, University of Cambridge, the Royal Society for the Protection of Birds, Tropical Biology Associated and UNEP-WCMC

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

[Case studies](#) available from the pilot-testing of the tools include those from Cambodia, Fiji, Nepal, Sri Lanka, and Viet Nam in Asia and the Pacific, and cover temperate as well as tropical forest and wetland habitat. [Birdlife's Guide for Rapid Economic Valuation of Wetland Ecosystem Services](#) (2016) provides case studies from Myanmar and Viet Nam of establishing the ecosystem services value of wetlands.

L40

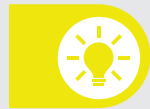
Investing in Locally Controlled Forestry (ILCF)



DESCRIPTION

The [Guide to Investing in Locally Controlled Forestry](#) (2012) provides the case and a framework for structuring enabling investments, and preparing the ground for asset investments that yield acceptable returns and reduced risk, not only for investors, but also for local forest right-holders, communities, and national governments. It addresses the business stages of proposition, establishment, validation, preparation, negotiation, and performance management, with practical advice for investors and local forest right-holders.

STRATEGIC



FUNCTION

- Situational analysis
- Investment and financing

DEVELOPER

Growing Forest Partnerships

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The guide includes 17 case studies of various entities, ranging from start-ups to established businesses, in countries across the globe, highlighting opportunities to invest in locally controlled forestry.

L41

Land-Use Change Modeling



DESCRIPTION

Land-use change modeling can be used to explore potential impact on biodiversity and ecosystem services and to evaluate trade-offs between different demands on land use.

[A Review of Land Use Change Models](#) (2016) provides an overview of the current state of land-use modeling, as well as the usability, applicability, and availability of different land-use models, particularly in relation to land-use change as a driver of change in biodiversity and ecosystem services. It includes an overview of existing land-use models, along with their data requirements and different scenarios that can be used to drive them.

In general, land-use change modeling is complex, time-consuming, and requires many input data sets. For this reason, only a few models are made available outside the developing institutions. However, some of the freely available or low-cost models, such as CLUE and IDRISI Land Change Modeler (Clark labs), could be useful and viable for smaller projects.

PROCEDURAL



FUNCTION

- Situational analysis
- Dynamic simulation and modeling

DEVELOPER

UNEP-WCMC

USE REQUIREMENTS

Open source

L42

Mechanisms for Addressing Human Wildlife Conflict (HWC)



DESCRIPTION

Tackling HWC: A Prerequisite for Linking Conservation and Poverty Alleviation: A Decision Makers Guide to Financial and Institutional Mechanisms (2012) provides guidance in developing mechanisms that address human wildlife conflict (HWC) at the local level and dealing with wildlife damage to crops and livestock; introducing sustainable financing mechanisms, considering the social and economic impact caused by HWC; and enhancing the capacity of local communities to conserve wildlife and the environment.

STRATEGIC



PROCEDURAL



FUNCTION

- Institutional coordination or partnerships
- Stakeholder engagement
- Situational analysis
- Strategic planning and priority setting
- Barrier analysis
- Investment and financing

DEVELOPER

International Institute for Environment and Development (IIED)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

Poverty–Environment Initiative, a joint program of UNDP and UN Environment, developed a locally managed and self-sustaining financing mechanism that addresses HWC at the local level and deals with wildlife damage to crops and livestock in Kangpara Gewog, Trashigang District in [Bhutan](#). An HWC management committee was set up and a community insurance scheme established to compensate for livestock and crop damage by wildlife.

IIED have published [case studies](#) on mechanisms for addressing HWC, including a compensation scheme for Chitwan National Park, Nepal.

L43

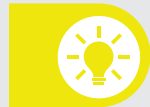
Natural Capital Accounting for Water and Wetlands



DESCRIPTION

The Economics of Ecosystems and Biodiversity for Water and Wetlands (2013) applies the TEEB six-step approach (tool L17) to the economics of water and wetlands. It identifies major gaps and inconsistencies in current knowledge, provides insights into critical water-related ecosystem services, and recommends how the value of water and wetlands can be mainstreamed in decision-making.

STRATEGIC



PROCEDURAL



FUNCTION

- Situational analysis
- Strategic interlinkage analysis
- Strategic planning and priority setting

DEVELOPER

Institute for European Environmental Policy
and Ramsar Secretariat

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

A case study showing the use of a payment-for-ecosystem-services scheme to improve water provisioning in Moyobamba, Peru is included in the guidance.

L44

Biodiversity Risk and Opportunity Assessment (BROA)



DESCRIPTION

BROA is a methodology for companies looking to conserve biodiversity in the agricultural landscapes within which they work, and where the communities they rely upon live. It requires the involvement of all stakeholders relevant to the landscape in question—including managers, employees, farmers, local government, and NGOs—and covers terrestrial biodiversity, soil biodiversity, and aquatic biodiversity.

The methodology involves the following activities:

- identifying the impact and dependencies of the biodiversity operations of businesses in agricultural landscapes,
- assessing and prioritizing the risks and opportunities arising from the impact and dependencies, and
- producing action and monitoring plans to address the identified risks and opportunities.

The *BROA Handbook* (2012) provides guidance in carrying out a biodiversity risk and opportunity assessment, including whom to include in the assessment and how to manage their input transparently. A Microsoft Excel workbook can be used in planning, information capture, and assessment.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Situational analysis
- Strategic planning and priority setting
- Indicator development and measurement

DEVELOPER

British American Tobacco's Biodiversity Partnership

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

BROA has been used in British American Tobacco's growing operations in 20 countries.

L45

Restoration Opportunities Assessment Methodology (ROAM)



DESCRIPTION

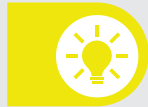
ROAM is a way for countries to rapidly identify and analyze forest landscape restoration potential and locate specific areas of opportunity to inform restoration programs at a national or subnational level. The methodology has three phases: preparation and planning; data collection and analysis; and results and recommendations. It can help countries define and implement pledges to the Bonn Challenge target of restoring 150 million hectares worldwide by 2020, and thereby meet their international commitments under the CBD, the UN Convention to Combat Desertification, and the UN Framework Convention on Climate Change. Using ROAM can also help improve land-use decision-making and form a basis for better allocation of resources in restoration programs.

A Guide to the ROAM Methodology (2014) describes the six components of ROAM and explains how they can be combined and sequenced to suit different needs:

- stakeholder prioritization of restoration interventions,
- mapping of restoration opportunities,
- restoration economic modeling and valuation,
- restoration cost–benefit carbon modeling,
- restoration diagnostic for the presence of key success factors, and
- restoration finance and resourcing analysis.

[Videos](#) describing the ROAM methodology are available.

STRATEGIC



PROCEDURAL



FUNCTION

- Stakeholder engagement
- Situational analysis
- Strategic planning and priority setting
- Barrier analysis
- Budgeting
- Investment and financing

DEVELOPER

IUCN and WRI

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

ROAM projects have been conducted in several Asian countries, including Bangladesh, Cambodia, Indonesia, and Viet Nam. In addition, the IUCN's [InfoFLR](#) web platform provides case studies of forest landscape restoration activities.

L46

Agrobiodiversity Index



DESCRIPTION

Sustainable food systems should have as their basis farms that adopt the principles of agrobiodiversity—increasing total productivity and quality of nutrition in the diet, while at the same time improving resilience, soil health, and water quality, and reducing water use and chemical application.

The [Agrobiodiversity Index](#) is a means of measuring and benchmarking agrobiodiversity at a country, organization, or project level. It considers the following:

- status of agrobiodiversity, using seven indicators that measure diversity of crops, crop wild relatives, fish, livestock, and pollinators at different levels;
- commitments toward an agrobiodiversity outcome (e.g., maintaining livestock varietal diversity) through the use of 21 indicators; and
- actions (policies, investments, and practices) at the institutional, production, or market level that support biodiversity in food and agriculture, through the use of five indicators.

[Mainstreaming Agrobiodiversity in Sustainable Food Systems: Scientific Foundations for an Agrobiodiversity Index](#) (2017) provides the technical background behind the development of the index.

STRATEGIC



PROCEDURAL



FUNCTION

- Strategic communication and awareness raising
- Situational analysis
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

Biodiversity International

USE REQUIREMENTS

Open source

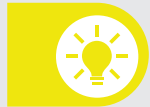
L47

Global Forest Watch (GFW)**DESCRIPTION**

GFW is an interactive online forest monitoring and alert system that was designed for sharing information to facilitate better management and conservation of forest landscapes.

Current and accurate information provided about the status of forest landscapes includes near-real-time alerts showing suspected locations of recent tree cover loss. This information is provided through a complex alert system of satellites and mobile technologies, monitoring the status of forests over time.

Besides being able to view or download over 100 global and local data sets, users can create custom maps or tools, analyze forest trends, and subscribe to forest loss alerts. Expert blogs providing advice and guidance are also available.

STRATEGIC**PROCEDURAL****FUNCTION**

- Strategic communication and awareness raising
- Situational analysis
- Indicator development and measurement
- Data management, reporting, and verification

DEVELOPER

WRI

USE REQUIREMENTS

Open source; computer and internet access required (not all browsers are supported)

L48

Governance of Forest Initiative (GFI) Indicator Framework



DESCRIPTION

Assessing Forest Governance, the GFI Indicator Framework, Version 2 (2013) is a comprehensive menu of GFI indicators (or questions) for systematically and comprehensively diagnosing strengths and weaknesses in forest governance at the country level. Each indicator is designed for the evaluation of an institution, law or regulation, process, or activity. The indicators are organized into six thematic areas, including forest tenure, land use, forest management, and forest revenues, and further divided into subthemes.

The *GFI Guidance Manual A Guide to Using the GFI Indicator Framework* (2013) guides the design and implementation of a forest governance assessment using the GFI indicators. It contains detailed explanations of each GFI indicator and worksheets to support data collection.

STRATEGIC



PROCEDURAL



FUNCTION

- Stakeholder engagement
- Situational analysis
- Barrier analysis

DEVELOPER

WRI

USE REQUIREMENTS

Open source

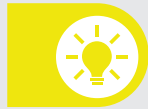
EXPERIENCES OF PRACTICAL APPLICATION

In Asia and the Pacific, pilot-testing of version 1 of the GFI Indicator Framework was carried out in [Indonesia](#).

L49

Sustainable Forest Finance Toolkit**DESCRIPTION**

This [toolkit](#) is designed to help financial institutions support the sustainable management of forest resources through support for sustainable and legal timber production and processing, as well as markets for carbon and other ecosystem services. Guidance on new client acceptance procedures is provided. Among these procedures are the management of client-level risks and opportunities; portfolio management, including the management of corporate-level risk and opportunities; the design of a clear and pragmatic forestry policy; and the creation of internal procurement policies for forestry products.

STRATEGIC**FUNCTION**

- Impact and risk assessment
- Investment and financing

DEVELOPER

PricewaterhouseCoopers and the WBCSD

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The toolkit includes case studies showing support for sustainable management of forest resources.

L50

Wetland Resources Action Planning (WRAP) Toolkit



DESCRIPTION

This is a [knowledge platform](#) on the conservation and sustainable use of aquatic resources and biodiversity. It details research methods and management practices used in the HighARCS (Highland Aquatic Resources Conservation and Sustainable Development) project, which can be used in formulating integrated action plans for the sustainable use of wetland resources that cut across sectors and disciplines. It includes details of the methodology used in undertaking wetland resource assessment planning activities, along with links to the tools used and a description of how these were adapted to the project context. The methodology is designed to facilitate participatory and integrated policy development that considers all stakeholders including women, youth, and ethnic communities.

STRATEGIC



FUNCTION

- Stakeholder engagement
- Strategic planning and priority setting
- Impact and risk assessment
- Indicator development and measurement

PROCEDURAL



DEVELOPER

HighARCS Project, a European Union-funded project with field experiences in India, the People's Republic of China, and Viet Nam

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The HighARCS Project is a case study of how the tools in the knowledge platform can be used in wetland resource assessment and planning.

L51

Water and Nature Initiative (WANI) Toolkit



DESCRIPTION

This [toolkit](#) provides guidance in mainstreaming an ecosystems approach in water resource management at the river basin level. The available guidance deals with groundwater management, the management of flows, governance, payment for watershed services, ecosystem service valuation, and adaptation to climate change.

STRATEGIC



PROCEDURAL



FUNCTION

- Institutional coordination or partnerships
- Consensus building
- Situational analysis
- Strategic planning and priority setting
- Impact and risk assessment
- Barrier analysis
- Investment and financing

DEVELOPER

IUCN Water and Nature Initiative (WANI)

USE REQUIREMENTS

Open source

EXPERIENCES OF PRACTICAL APPLICATION

The toolkit includes [case studies](#) showing support for sustainable management of forest resources.

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Strengthening the Environmental Dimensions of the Sustainable Development Goals in Asia and the Pacific

Tool Compendium

The Asian Development Bank (ADB), in collaboration with the United Nations Environment Programme (UN Environment), prepared this tool compendium to help address the issues, challenges, and barriers faced by developing countries from Asia and the Pacific in the successful implementation of the environmental dimensions of the Sustainable Development Goals (SDGs). The tools presented here can help policy makers gain a better understanding of SDG interlinkages, establish horizontal and vertical policy coherence, and select appropriate guidelines, indicators, and institutional arrangements for effective integration into national policies, plans, and programs. This publication reflects the high-level commitment of ADB and UN Environment to support efforts to accelerate progress in implementing the environmental dimensions of the SDGs.

About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 67 members—48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

About Poverty–Environment Action for the Sustainable Development Goals

The joint United Nations Development Programme (UNDP)–UN Environment Poverty–Environment Action for the Sustainable Development Goals (2018–2022) project promotes an integrated approach that brings poverty, environment and climate objectives into the heart of national and subnational plans, policies, budgets and public and private finance to strengthen the sustainable management of natural resources and to alleviate poverty. UNDP–UN Environment Poverty–Environment Action is made possible through the support of the European Union and the Governments of Austria, Norway and Sweden.



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ASIAN DEVELOPMENT BANK
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org