



**A  
Country  
Environmental  
Analysis  
Publication**

**No. 8**

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# Country-Level Environmental Analysis

A Review of International Experience

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July 2003

The International Bank for Reconstruction  
and Development/THE WORLD BANK  
1818 H Street, N.W.  
Washington, D.C. 20433, U.S.A.

Manufactured in the United States of America  
First printing July 2003

In 2001, the World Bank completed the comprehensive two-year process of preparing its Environment Strategy, *Making Sustainable Commitments: An Environment Strategy for the World Bank*. It was endorsed by the Bank's Board of Directors and published in October 2001. The *Environment Strategy Paper* series includes reports prepared to facilitate implementation of the Strategy.

The Environment Strategy emphasizes the need to strengthen the analytical foundation of environmental work at the country level. Country Environmental Analysis (CEA) has been identified as one of the key environmental diagnostic tools for systematically evaluating the environmental priorities of development and poverty reduction strategies in client countries, the environmental implications of key policies, and countries' institutional capacity and performance to address their priorities.

This report, together with other papers on various aspects of CEA, was prepared as part of the stocktaking exercise for developing guidance on CEA. The recommendations made in this paper represent the views of the authors and not those of the World Bank.



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## Abstract

**F**or more than a decade, various international development organizations including the World Bank, nongovernmental organizations, and client countries have developed country-level environmental analytic tools to provide inputs to development policies regarding sustainable development issues. This paper reviews international experience with such tools, in particular those

prepared and used by multilateral and bilateral donor organizations. The main purpose of this paper is to review and catalogue the key features of selected tools and help guide the reader to databases and organizations that provide further information. The paper illustrates the richness and variety in tools available for undertaking country-level environmental analytic work.





## Acknowledgments

**T**his review was prepared as part of the work program of the Strategy Team of the World Bank's Environment Department under the guidance of Magda Lovei, lead environmental economist and team leader. It is part of a broader effort to learn from experience and help develop guidance for applying country environmental analysis more systematically in the World Bank's client countries. The work on this review was coordinated by Poonam Pillai, who also provided inputs and comments.

The report was prepared by Lisa Segnestam, Åsa Persson, Måns Nilsson, and Anders Arvidsson of the Stockholm Environment Institute, and Ede Ijjasz of the World Bank. The authors are grateful to Robert Crooks, Senior Environment

Specialist at the World Bank, for peer reviewing this paper, as well as to Hans-Olav Ibrekk at ECON Centre for Economic Analysis, Anders Ekbohm of the Environmental Economic Unit at Gothenburg University, Sweden, and Priya Shyamsundar of the Environment Department, World Bank for useful comments and suggestions. An earlier version of this paper was presented at the Workshop on Country Environmental Analysis, organized by the World Bank in May, 2002.

The authors would also like to thank Nancy Levine and Michiko Shima for editorial assistance, and Jim Cantrell for design and production. Thanks due to the governments of Denmark and Norway for their generous financial support to the preparation of this paper.





## Acronyms and Abbreviations

|                   |  |
|-------------------|--|
| ADB               | Asian Development Bank                                   |
| AfDB              | African Development Bank                                 |
| ANSEA             | Analytical Strategic Environmental Assessment Project    |
| CIDA              | Canadian International Development Agency                |
| CEA               | country environmental analysis                           |
| CEP               | country environmental profile                            |
| CEPIS             | country-level environmental policy integrative studies   |
| CPE               | country profiles on environment                          |
| CSD               | Commission on Sustainable Development (United Nations)   |
| Danida            | Danish Agency for Development Assistance                 |
| DEIA              | Division of Environment Information and Assessment, UNEP |
| DfID              | Department for International Development (U.K.)          |
| EC                | European Commission                                      |
| EC DG Development | EC Directorate-General for Development                   |
| EC DG Trade       | EC Directorate-General for Trade                         |
| EEA               | European Environment Agency                              |
| EIA               | environmental impact assessment                          |
| ETOA              | environmental threats and opportunities                  |
| EU                | European Union   |
| IADB              | Inter-American Development Bank                          |
| IAIA              | International Association for Impact Assessment          |
| IFI               | international financial institution                      |
| IIED              | International Institute for Environment and Development  |
| IUCN              | World Conservation Union                                 |
| JICA              | Japan International Cooperation Agency                   |
| MAA               | multiple attribute analysis                              |
| MCA               | multicriteria analysis                                   |

|                   |  |
|-------------------|--|
| MDGs              | Millennium Development Goals   |
| NCS               | national conservation strategy   |
| NEAP              | national environmental action plan                                       |
| NEDA              | Netherlands Development Aid  |
| NGO               | nongovernmental organization   |
| NSDS              | national sustainable development strategy                                |
| OECD              | Organisation for Economic Co-operation and Development                   |
| OECD/DAC          | OECD Development Assistance Committee                                    |
| RRC.AP            | Regional Resource Center for Asia and the Pacific, UNEP                  |
| REDSO             | Regional Economic Development -Services Office, USAID                    |
| SDC               | Swiss Agency for Development and Cooperation                             |
| SEA               | strategic environmental assessment                                       |
| SEAN              | strategic environmental analysis   |
| SEI/fms           | Stockholm Environment Institute/ Environmental Strategies Research Group |
| Sida              | Swedish International Development Cooperation Agency                     |
| SNV               | SNV Netherlands Development Organisation                                 |
| SoE               | State of the environment   |
| UN                | United Nations   |
| UNCED             | United Nations Conference on Environment and Development                 |
| UNDP              | United Nations Development Programme                                     |
| UNEP              | United Nations Environment Programme                                     |
| UNEP/GRID Arendal | UNEP/Global Resource Information Database                                |
| USAID             | U.S. Agency for International Development                                |
| WRI               | World Resources Institute  |
| WSSD              | World Summit on Sustainable Development                                  |
| WWF               | World Wide Fund for Nature   |



## Chapter 1

# Introduction

In July 2001 the World Bank adopted a new Environment Strategy, *Making Sustainable Commitments* (World Bank 2001). The goal of the Environment Strategy is to promote environmental improvement as a fundamental element of development and poverty reduction strategies and actions. The Environment Strategy emphasizes the importance of integrating (“mainstreaming”) environment into development programs, sector strategies, and policy dialogue. Among the tools available to the World Bank in working toward its environmental objectives are its analytical and advisory activities. Analytical work is the foundation for defining strategic priorities and integrating environmental concerns into projects and programs. A systematic approach that takes a multisectoral, long-term view of development is essential to ensure that environmental considerations enter the development planning process at an early stage.

The commitment by the Bank and the development community to the Millennium Development Goals (MDGs), the increased focus on development outcomes, and the growing sensitivity to ownership and participation all point to the crucial role of good policy based on sound analysis. The Environment Strategy

accordingly calls for a more systematic approach to country-level diagnostic work on environmental issues in the Bank’s client countries. The proposed tool for this purpose, country environmental analysis (CEA), would build on experience with national environmental action plans (NEAPs) and other country-led environmental work, as well as on analyses undertaken by the World Bank and development partners.

The CEA is envisioned as a flexible tool composed of three broad analytical building blocks (see Figure 1.1): assessment of environmental trends and priorities, policy analysis, and assessment of institutional capacity for managing environmental resources and risks. These analyses would inform the World Bank dialogue with countries, as well as poverty reduction strategies and country assistance strategies. CEAs would also be essential in connection with the enhanced role of programmatic lending in some client countries.

The CEA has three main objectives:

- To facilitate mainstreaming by providing systematic guidance for integrating information on and analysis of key environment,

- development, and poverty links into the country policy dialogue
- To guide environmental assistance and capacity-building supported by the Bank or other development partners through assessment of capacity issues, especially in relation to specific environmental priorities
  - To facilitate a strategic approach to the management of environmental issues by providing information and analysis about environment-development links at the earliest stages of decisionmaking, thus shaping key lending and programmatic decisions at the country and sectoral levels.

The CEA is expected to become an important source of information for other organizations within the donor and development community. At a CEA workshop in May 2002, representatives of multilateral and bilateral development agencies, client country govern-

ments, nongovernmental organizations (NGOs), and other institutions shared their experiences with and views on country-level environmental analytical work. It was clear that the objectives, the tools applied, and the processes supported by development partners are often similar, but they are frequently less well coordinated than they could be, placing pressure on developing countries' scarce institutional capacity. The initiative to apply country-level diagnostic analysis more systematically was therefore generally supported and welcomed.

The work program on the CEA at the World Bank is designed to provide guidance and a consistent approach for the implementation of CEAs by (a) building on World Bank and international experience and on lessons learned in preparing environmental diagnostic tools; (b) coordinating work undertaken by World Bank regional offices and development

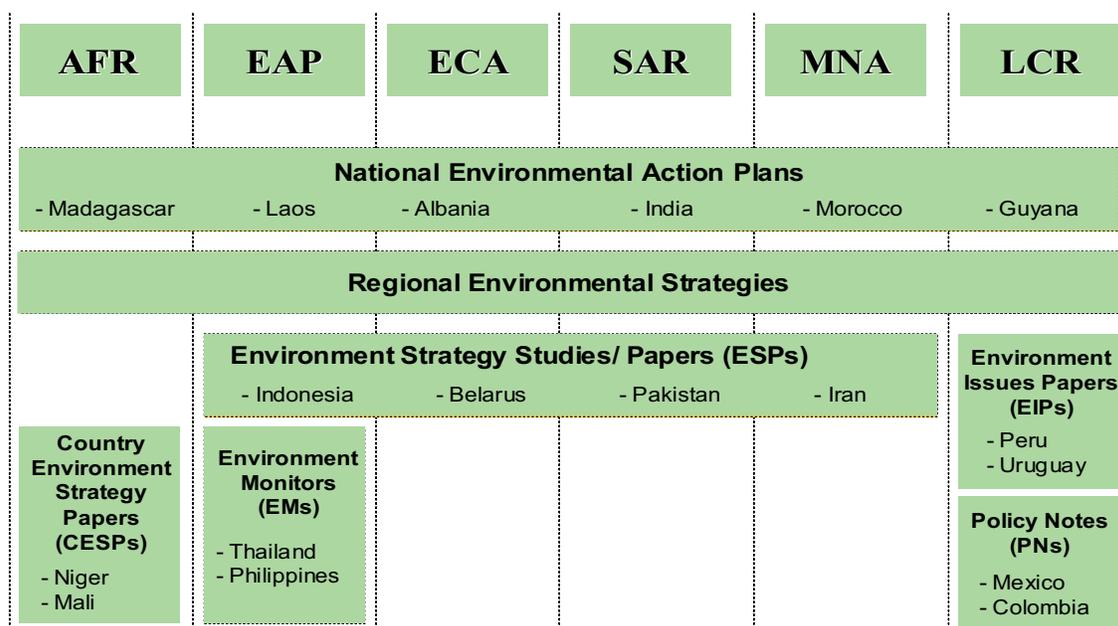
**Figure I.1**  
**CEA building blocks**

| <i>Country Environmental Analysis</i>  |   |   |
|--|---|---|
| <i>Environmental Priorities for Development</i>  | <i>Policy Analysis</i>  | <i>Capacity/Performance Assessment</i>  |
| Key environmental and sustainability indicators with focus on priority issues identified by NEAPs national strategies, or other previous documents<br><br>Environmental trends in priority areas and sectors<br><br>Links of environmental issues with economic growth and poverty reduction (key environmental and poverty indicators)<br><br>Data gaps | Identification of key macroeconomic or sector policies and reforms that may have significant environmental implications (e.g., energy and water pricing issues, privatization, trade liberalization)<br><br>Lessons from strategic environmental assessments<br><br>Suggested measures or areas for strategic environmental assessments | Institutional and organizational capacity assessment<br><br>Methodology and processes for priority setting and cross-sectoral coordination<br><br>EA capacity assessment<br><br>Environmental public expenditure review<br><br>Indicators for measuring public sector capacity<br><br>Data gaps<br><br>Areas for intervention |

Source: World Bank 2002.

**BOX 1.1****World Bank experience with country-level environmental analysis**

The Environment Department of the World Bank undertook a desk review of Bank experience with country-level environmental analysis in order to identify the strengths of the existing tools and their applicability to the CEA. The review showed that although the World Bank has conducted valuable country-level environmental analytical work for over a decade, there has been no systematic, institutionwide approach. The World Bank's regional environmental departments have developed a variety of environmental diagnostic tools, as shown in the figure below. In addition, since the late 1980s the Bank and other donors have supported client countries in the preparation of their own national environmental action plans (NEAPs).

**Country-level environmental analytical tools in use by World Bank Regions**

Note: The country lists for each tool are examples and are not exhaustive. Regional abbreviations used here are AFR, Sub-Saharan Africa; EAP, East Asia and Pacific; ECA, Europe and Central Asia; SAR, South Asia; MNA, Middle East and North Africa; LCR, Latin America and the Caribbean.

The study highlights several issues:

- Many of the tools reviewed have similar *objectives*; what has varied is the way in which those objectives have been met in the analytical work.
- The *content* shows general similarities. Policy analysis is usually embedded in the review of the state of the environment and in the discussion of sectoral issues, but coverage of important links and policy issues varies. For example, many studies suggest important actions that need to be taken to redress environmental problems but without clearly outlining the specific role of the Bank in terms of its lending and nonlending operations.
- There has been no systematic *process* for preparing country-level environmental analytical work. For example, a participatory approach may or may not be used in the preparation of different tools, and client country representatives may be involved to different degrees and at different stages.

Source: Pillai 2002.

partners in phasing in CEAs; and (c) developing and refining the CEA methodology. An important part of the CEA work program is to review experience with the environmental diagnostic and strategic tools now used by client countries, the World Bank, and other development partners. A review of World Bank experience with country-level environmental analytical tools has been completed and is summarized in Box 1.1.

The purpose of the present report is to review international experience with country-level environmental analytical tools. The main objective is not to conduct a complete and critical analysis of the various tools but, rather, to review and catalogue the main features of selected tools, identify good practices, and guide the reader to databases and organizations that provide further information.

The review reported on here was carried out as a desk study of relevant documents from various organizations. It relies mainly on publicly available information about the various tools but also draws on consultations with the organizations. The documents studied can be categorized as:

- Guidelines, procedures, and manuals

- Applied examples of the reviewed tools
- Background papers and literature on a specific tool or approach
- General literature on a type of tool or approach.

Although it is recognized that tools intended for use at the project level (for example, environmental impact assessments) might provide important lessons for the CEA methodology and process, such tools were not included in the review to keep the scope of the review manageable. Nevertheless, given the close relationship of CEAs to strategic environmental assessment (SEA) of policies, programs, or regions, a review of recent guidance documents for SEA is included in the scope of this analysis.

Following this introduction, Chapter 2 focuses on country-level assessment tools, grouped in nine categories, including state of the environment reports, national sustainable development strategies, and selected tools used by development agencies. Chapter 3 reviews recent guidance documents for strategic environmental assessment. Chapter 4 presents some concluding remarks.



## Chapter 2

# Country Environmental Profiles and Analyses

**T**his chapter presents a review of environmental profiles and analyses at the country level currently being undertaken by international financial institutions (IFIs) and donor-country agencies. The approaches reviewed vary from the traditional state of the environment reports that have been prepared for more than two decades to more recent methodologies that propose to analyze environment as part of the development agenda.

Each of the following sections covers a different approach or tool. Rather than describe each tool in detail, the discussion focuses on structure, approaches, and methodologies and highlights interesting or innovative features of the tools. Each section includes references to the most useful guidance documents consulted during the review.

The tools and methodologies reviewed in the following sections are:

- State of the environment reports
- National sustainable development strategies
- National conservation strategies, originally proposed by the World Conservation Union (IUCN), the World Wide Fund for Nature

(WWF), and the United Nations Environment Programme (UNEP)

- Country-level environmental analyses by the Asian Development Bank (ADB)
- Country environmental profiles by the European Commission's Directorate-General for Development (EC DG Development)
- Environmental threats and opportunities assessments by the U.S. Agency for International Development (USAID)
- Strategic environmental analyses by the Swedish International Development Cooperation Agency (Sida)
- Strategic environmental analyses by the SNV Netherlands Development Organisation (SNV)
- Country-level profiles and reports by other organizations such as the United Nations Development Programme (UNDP), the Inter-American Development Bank, the African Development Bank, the Danish Agency for Development Assistance (Danida), the U.K. Department for International Development (DfID), the Japan International Cooperation Agency (JICA), and the Swiss Agency for Development and Cooperation (SDC).

The review of these tools indicates three main changes in the focus and approach to country-

level reviews of environmental issues. First, there has been a shift from cataloging environmental and natural resources stocks and problems to undertaking a more substantive analysis of the causes of environmental problems, in particular in the overall context of economic development and poverty reduction. Second, there is greater interest in and understanding of the importance of policy and institutional analysis in environment — although experience with such analyses and methodologies for conducting them are still very limited. Third, a greater level of participation by national stakeholders is noticeable in some of the reports.

## 2.1 STATE OF THE ENVIRONMENT REPORTS

State of the environment (SoE) reports have been prepared for more than two decades. They were among the first tools designed to provide environmental information accessible to decisionmakers. In the 1970s and 1980s SoEs generally presented a purely descriptive approach to the state of environmental media and the depletion of natural resources. Currently, SoEs tend to have a broader sustainable development perspective and to examine the relations between the environment and economic policies.

UNEP/GRID-Arendal<sup>{W2-1}</sup>, the UNEP Regional Resource Centre for Asia and the Pacific (RRC.AP)<sup>{W2-2}</sup>, the European Environment Agency (EEA)<sup>{W2-3}</sup>, and the World Resources Institute (WRI) Sustainable Development Information Service<sup>{W2-4}</sup> maintain databases of SoEs around the world.<sup>1</sup> More than 70 country and regional SoEs have been completed, and most of them can be found in the databases maintained by these organizations.

Among the key guidance documents for SoEs are the checklists recently prepared by the EEA with the objective of harmonizing national approaches to SoE in the European Union (EEA 1998, 2000). These documents include comprehensive checklists on 14 key environmental issues, from climate change to biodiversity, organized around the four questions - What is happening? Why is it happening? Are the changes significant? How effective are the responses? UNEP/GRID-Arendal has prepared a brief guidance book on how to structure a SoE, how to present the data, and how to place the report on the Internet. UNEP's RRC.AP has developed an Environmental Information Database to support SoEs in the Asia and Pacific region by making available a standard format for data collection on biophysical and socioeconomic conditions and trends. UNEP's Division of Environment Information and Assessment (DEIA) has commissioned a sourcebook on methods and approaches for SoEs (Rump 1996).

As part of this report, seven examples of SoE reports were reviewed: national reports for Australia, China, Jamaica, Uganda, and Ukraine; a regional report for Africa; and the UNEP's Global Environmental Outlook (GEO) 2000.

The general objectives of SoE reports are to present information on environmental conditions and trends; to identify and analyze causes, linkages, and constraints; and to indicate emerging issues and problems and their relevance to policies (WRI, IIED, and IUCN 1996). A major impetus for preparing SoE reports as a basis for decisionmaking was the chapter on environmental information in Agenda 21, the primary document adopted at

the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992 (UNEP/GRID-Arendal 1998). Another objective of SoEs is to fulfill national legal requirements for environmental reporting and public information (Parker and Hope 1992). All the reports reviewed here were prepared by official government bodies, but NGOs have also prepared SoEs.

Box 2.1 presents typical issues reviewed in SoEs. The SoEs examined for this report are comprehensive in scope and include most of the components presented in the box. (The exception is the report for China, which focuses on the environmental status of media and ecosystems.) The Uganda report has a broader notion of environment and also discusses some social and demographic issues (see Box 2.2).

The EEA and UNEP/GRID-Arendal guidance documents for SoE discuss the issue of the target audience. Whereas early reports were targeted at environmentalists and technical experts, more recent versions of SoEs present the information in a way that is understood and used by policymakers, the media, the general public, and environmental stakehold-

ers. The change in audience is reflected in the scope and nature of SoE reports, as well as in the preparation process. Box 2.3 summarizes the EEA guidance on SoE preparation.

Despite the common difficulties with environmental data quality and reliability, SoE reports tend to be good sources of information, and all the reports reviewed are rich in data. Data collection for these reports ranges from simple use of existing sources to initiation of larger schemes for collecting primary data. The SoE reports have also pushed forward the use of indicators and have promoted the harmonized use of these indicators to make information from different countries comparable. Several SoE reports use the “driving force–pressure–state–impact–response” (DPSIR) framework, or variants on it, for the presentation of indicators.<sup>2</sup> The use of graphics, maps, and indicators as a means of structuring and presenting information is a key feature of SoE reports. The SoE for Ukraine provides a good example of a comprehensive set of indicators based on the country’s existing statistical system and the internationally used indicators of the Organisation for Economic Co-operation and Development (OECD).

Overall, SoE reports are a key source of information for country-level policy analyses, as they are comprehensive in scope and generally present environmental information in a processed and organized structure that facilitates policy analysis.

## 2.2 NATIONAL SUSTAINABLE DEVELOPMENT STRATEGIES

Agenda 21, adopted at the 1992 UNCED (the “Earth Summit”), called on all countries to develop national sustainable development

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### BOX 2.1

#### Common issues covered by SoE reports

- Media and resources—for example, air quality, climate change, forest resources
- Cross-cutting concerns—acidification, health
- Spatial systems—coastal areas, urban settlements
- Economic sectors
- Other drivers—economy, population
- Instruments—technology, policies, information

Source: UNEP/GRID Arendal 1998.

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## **BOX 2.2**

### **State of the environment reports: An example from Uganda**

One of the core functions of Uganda's National Environmental Management Authority (NEMA) is to prepare and disseminate a national SoE report every two years. In 1996 the second State of the Environment Report for Uganda was published in line with this requirement.

The 1996 report uses an "issue-pressure-state-response" framework (rather than the sector approach employed in Uganda's first SoE report). In this framework, human beings exert pressure on the environment; these pressures induce changes in the state or condition of the environment; and society responds with policies and programs to prevent, mitigate, or repair environmental damage. The report has the following structure of contents:

1. *Introduction:* Uganda's natural resources—location and size, physiography, geology and soils, climate, vegetation
2. *Environment and development:* sustainable development vision for Uganda, basic prerequisites for sustainable development, history of Uganda's economy, Uganda's economy, gross domestic product (GDP), green GDP, inflation, public finance, monetary indicators, the Human Development Index, etc.
3. *Land resources and terrestrial ecosystems:* land use, agricultural resources (crops), rangelands and livestock resources, forest resources, wildlife resources
4. *Water resources and aquatic ecosystems:* water resources, water hyacinth, fisheries resources, wetland resources
5. *Biodiversity:* what is biodiversity, biodiversity in Uganda, principal causes of loss of biodiversity, controlling the loss of biodiversity
6. *Population, environment, and development:* the population of Uganda, consequences and implications of the population situation, population policy, human settlements, provision of water and sanitation, education and literacy, environmental health, transport and communication systems
7. *Trade, tourism, mining, and industry:* sector characteristics and trends, environmental issues
8. *Energy and climate change:* includes energy trends and technologies
9. *Legal, policy, and institutional framework and environmental information:* legal and policy framework, institutional framework, environmental information (organization, roles, initiatives, gaps, needs for reform).

The report is comprehensive and detailed and makes extensive use of data and maps. Rather than focus only on the environment, it discusses the overall economy and sectors such as tourism and industry, as well as the human dimension, environmental health, and the institutions and policies in place to protect the environment.

Source: Uganda 1996.

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strategies (NSDSs) with the aim of building on and harmonizing the sectoral economic, social, and environmental policies and plans operating in each country. In 1993 governments began preparing national reports for submission to the UN Commission on Sustainable Development (CSD). Five years after the Earth Summit, the United Nations held a

special session to review the progress, and this session set a target date of 2002 for the formulation and elaboration of NSDSs. The World Summit for Sustainable Development (WSSD) in 2002 urged the countries that adopted Agenda 21 to make progress in the formulation and elaboration of NSDSs and to begin their implementation by 2005.

**BOX 2.3****Key steps in preparing SoE reports**

1. Examine and learn from previous SoE reports.
2. Determine the target groups and objectives.
3. Organize the compilation: establish an organizational structure, assign responsibilities, and develop a detailed project plan.
4. Define the structure: select an analytical framework and consistent approach (for example, the pressure-state-response model, the ecosystem approach, information hierarchy, policy cycle, or a combination) and identify the priority environmental issues. For each issue, answer the following questions:
  - What is happening?
  - Why is it happening?
  - Are the changes significant?
  - What is, or could be, the response?
5. Choose the content: establish the contents of each chapter and identify chapter dependencies.
  - Design the organization for data delivery and verification
  - Choose the datasets and indicators (diagrams, tables, and maps) for each chapter
  - Frame outlooks (creation of socioeconomic scenarios).
6. Design the publication: prepare template; check diagrams.
7. Plan presentation of the report: identify the main messages to media and target groups; prepare educational material and Websites.
8. Evaluate the SoE report and the reporting process.

Source: EEA 1998.

The CSD maintains a database of NSDSs {{WP5}} prepared by member countries, as well as annual reports outlining progress in implementing Agenda 21. On the basis of these reports, the CSD has prepared summarized versions of national reports as part of its Country Profiles series. A first version was published for the Special Session of the General Assembly to Review and Appraise the Implementation of Agenda 21 and a second version for the WSSD. Each profile covers all 40 chapters of Agenda 21, as well as additional topics such as trade, energy, transport, sustainable tourism, and industry. The CSD database contains more than 90 country profiles and NSDS reports.<sup>3</sup>

Detailed guidance documents for the preparation of sustainable development strategies at national level include (a) the OECD policy

guidance document *Strategies for Sustainable Development: Practical Guidance for Development Cooperation* (OECD/DAC 2001) {{W2-5}}; (b) the background document prepared by a UN International Forum on NSDS held in Accra in preparation for the WSSD, *Guidance in Preparing a National Sustainable Development Strategy: Managing Sustainable Development in the New Millennium* {{W2-6}}; and (c) the comprehensive *Resource Book* prepared by the International Institute for Environment and Development (IIED) and published by the OECD and the UNDP {{W2-7}} (see Box 2.4).<sup>4</sup> The *Resource Book* is accompanied by a volume summarizing lessons from eight country experiences in developing and implementing NSDSs.

As part of this report, three examples of NSDS reports were reviewed: those for Mongolia, the Slovak Republic, and Syria.

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### BOX 2.4

#### Issues covered in the *Resource Book for NSDSs*

- What sustainable development is
- What NSDSs achieve
- How to start an NSDS or improve one
- How to generate the knowledge needed for an NSDS
- How to get the right people involved
- How to ensure good communication
- How to get a secure financial basis
- How to keep knowledge up to date through monitoring and evaluation
- How to make decisions about strategy, objectives, plans, and instruments.

*Source:* OECD and UNDP 2002.

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The recent guidance on NSDS calls for the reports to move beyond the traditional approach of a single master plan document for sustainable development. The goal is for these reports to become a coordinated set of participatory processes of analysis, debate, capacity-strengthening, planning, and investment that integrates the economic, social and environmental objectives of society, seeking trade-offs where the integration of objectives is not possible (OECD/DAC 2001). NSDSs are defined as nationally owned strategies, and they focus more on the process than on a single report (see Box 2.5). The scope of a NSDS is much broader than a traditional country-level environmental analysis or strategy, and, because of their long-term perspective, they can be visionary in defining objectives.

The *Resource Book* (OECD and UNDP 2002) presents a detailed review of analytical tools and processes recommended for the preparation and assessment of a NSDS, including:

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### BOX 2.5

#### Components of an NSDS

Depending on the circumstances, a sustainable development strategy may be viewed as a system that comprises the following components:

- Regular multistakeholder fora and means for negotiation at national and decentralized levels, with links between them
- A shared vision and set of broad strategic objectives
- A set of mechanisms to pursue those objectives in ways that can adapt to change—notably, an information system, communication capabilities, analytical processes, international engagement, and coordinated means for policy integration, budgeting, monitoring and accountability
- Principles and standards to be adopted by sectors and stakeholders through legislation, voluntary action, market-based instruments, etc.
- Pilot activities to generate learning and ownership
- A secretariat or other facility with authority to coordinate these mechanisms
- A mandate for all the above from a high-level central authority such as the prime minister's office and, to the extent possible, from citizens' and business organizations.

*Source:* OECD/DAC 2001.

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- *Stakeholder analysis:* identification of stakeholders and their interests, power, and relations
- *Sustainability analysis:* review of human and environmental conditions, and key relationships between human and ecosystem elements
- *Strategy process/mechanism analysis:* analysis of possible component systems and processes that could be used in an NSDS, including a review of the systems' effectiveness, reliability, equitability, and performance to date

- *Scenario development*, as a means of exploring strategic options
- *Analysis and ratings of options*, by comparing the costs, benefits, and risks of optional instruments or programs for implementing the NSDS (see Box 2.6)
- *Review of achievements under the strategy*, linked to the monitoring and evaluation efforts of the NSDS.

Participatory analysis tools are also identified and described in the *Resource Book*. They include community-based analysis, participatory appraisal, market research, focus groups, and key informant interviews.

The NSDSs reviewed for this report are relatively comprehensive in their listing of environmental priorities. For example, the NSDS for Mongolia seems to have identified a nearly exhaustive set of environmental issues (see Box 2.7). The NSDS for Syria sets nine overall goals for sustainable development

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### **BOX 2.6** **Signals that an issue may be a priority in a NSDS**

The issue is a priority if it:

- Is an opportunity for or threat to poor people's livelihoods
- Is an opportunity for or threat to key economic sectors
- Is an opportunity for or threat to key ecosystem assets and processes, especially where these are critical to livelihoods and sectors
- Can be acted on without extra financing
- Presents a major learning opportunity
- Is visible to the public
- Has an extension or multiplier effect
- Is an international obligation
- Is timely in relation to a pending decision
- Is linked to current political concerns, other initiatives, and skills.

Source: OECD and UNDP 2002.

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### **BOX 2.7** **Mongolia's National Sustainable Development Strategy**

The Mongolian Action Programme for the 21st Century (MAP 21), adopted in 1998, has four parts:

- Sustainable social development
- Sustainable economic development
- Proper use of natural resources and protection of the environment
- Means of implementation.

MAP 21 was prepared between 1996 and 1998 under the leadership of Mongolia's National Council for Sustainable Development (NCSD). As part of the process of preparing MAP 21 and related *aimag* (province) action programmes, the NCSD appointed sustainable development advisers to the local governors. These advisers, together with local branches of the NCSD (the economic, social, and environmental committees), coordinated and prepared the *aimag* action programmes. The main points of the *aimag* action programmes were used in the preparation of the national MAP 21.

In the environmental section of the MAP 21 document, 12 priorities are identified:

1. Protection of the atmosphere
2. Use and protection of land resources
3. Use and conservation of forest resources
4. Mitigation of desertification and drought
5. Management of mountain ecosystems
6. Protection of biodiversity
7. Biotechnological development
8. Use and conservation of water resources
9. Natural disaster management
10. Ecologically sound management of toxic chemicals
11. Waste disposal management
12. Radioactive waste management.

Most of these general points are subdivided into more specific priorities: for example, protection of the atmosphere is to involve development of science and technology, reduction of atmospheric pollution, protection of the atmospheric ozone layer, and reduction of transboundary air pollution. All these are dealt with by explaining the basis for action, setting objectives, and outlining activities.

Source: Mongolia 1999.

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(poverty eradication, population growth, trade, and so on) over a 12-year horizon and then breaks them down into more specific goals at the national, regional, and subregional levels. The NSDS for Syria lists five priority problems in environment, examines their effects and causes and the institutional issues involved, and identifies strategic priorities for short- and medium-term actions.

All of the NSDSs reviewed are relatively clear and explicit in their identification of objectives and priorities. There is some variation in the type of objective identified in the NSDSs, from the improvement of an environmental condition to the establishment of institutions or strategies.

Despite the inherent difficulties in preparing a broad sustainable development strategy and the slow progress in their completion, the NSDSs are important frameworks for coordinating sectoral and thematic national strategies and for addressing critical choices and tradeoffs. Two important features of NSDS emphasized by the *Resource Book* are public participation in the development of the strategy and priority-setting for more rational and transparent policymaking. The *Resource Book* goes into great detail on alternative approaches and good practices in strategic decisionmaking, from the emerging universal normative framework (human rights, MDGs, the 1992 Rio Principles, and so on) to risk-based priority setting, to multistakeholder mechanisms for building consensus.

The analysis and priority actions in NSDS would be of particular importance in the preparation of country-level environmental analyses. The broader perspective of a NSDS can provide the basis for more detailed

analyses of environmental issues and for cross-linkages with various sectors.

## 2.3 NATIONAL CONSERVATION STRATEGIES

The national conservation strategy (NCS), a tool that preceded the NSDS, was originally proposed and devised by the IUCN, the WWF, and the UNEP in 1980 to provide a comprehensive, cross-sectoral analysis of conservation and natural resource management. It was conceived as a nationally owned process aimed at ensuring the integration of environmental protection into the national development agenda, bringing attention to the relevant priority requirements for conservation, stimulating appropriate action, raising public consciousness, and overcoming apathy or possible resistance to taking the actions needed (IUCN and others 1980).

More than 100 countries prepared NCSs in the 1980s and early 1990s. The IUCN keeps copies of many of these reports{{W2-8}}, as well as related review documents, such as three studies commissioned by the IUCN in 1997 to review experience with the NCS in Asia, Africa, and Latin America, and a guidance note (IUCN 1984).<sup>5</sup> The NCSs for Ethiopia and Pakistan were reviewed for this report.

NCSs entail a process of initial coordination between NGOs, national governments, and donors in identifying priority issues and strategies for implementation. They are adopted by the national government. The NCS progression envisions a process-oriented approach to intersectoral implementation of programs. The description of steps for the NCS in IUCN and others (1980) makes it clear that

the process focuses to a large extent on the reduction of disturbances in the ecological setting. The initial approach is similar to that of an environmental impact assessment, but at a more strategic level, with a greater emphasis on conservation objectives.

In the NCS for Pakistan, 14 priority program areas are identified and are further subdivided into 60 detailed programs with specific outputs and implementation strategies (Pakistan 1994). In the Pakistan NCS and in other cases, the strategies can have complex strategic goals and implementation structures. For example, Ethiopia's NCS envisions coordinated action plans and investment programs at the regional, national, sectoral, and cross-sectoral levels (Ethiopia 1990). The Ethiopia NCS led to the adoption of a national environmental policy and follow-up environmental measures. Overall, it has become a policy framework for guiding later interventions.

An SoE analysis is usually included in the NCS and is often the basis on which objectives are defined. NCSs assess development objectives in relation to conservation priorities identified in the SoE. They then develop strategies for conservation, focusing on priority programs, institutions, and implementation plans. Finally, they review options for securing the required financial resources. A review of Pakistan's NCS notes that although the report aims at strategies for sustainable development, there is a tendency to focus only on environmental objectives without adequately addressing other important sustainability parameters such as poverty alleviation.

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### BOX 2.8

#### Assessing Pakistan's National Conservation Strategy

Pakistan's NCS, one of the earliest and most comprehensive of its kind, was adopted in 1992 and was followed up by the 1993–98 Plan of Action, which outlined the implementation strategy for the NCS. In 2000 an extensive midterm review was undertaken by independent reviewers to assess the success of the NCS and provide input for future NCSs.

The report notes some key findings:

- The primary achievements under the NCS have been awareness-raising and institution-building rather than actual improvements in the quality and productivity of the environment and natural resources.
- The NCS was not designed to be and is not adequately focused as a national sustainable development strategy.
- The NCS process has strengthened civil society institutions and their influence, and it has enhanced the capacity of public institutions.
- NCS implementation capacity requires much improvement.
- The NCS continues to have a major catalytic role in furthering Pakistan's sustainable development agenda, but it needs refocusing and closer links with achievable development outcomes.

Source: Pakistan 1994.

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## 2.4 COUNTRY-LEVEL ENVIRONMENTAL ANALYSES — ADB

The Asian Development Bank (ADB) country-level environmental analyses include three main products: country environmental profiles in the *Environments in Transition* series, country-level environmental policy integrative studies (CEPIS), and country environmental analyses. These country-level reviews are designed to serve as the basis for planning the

ADB's environmental projects and technical assistance, and they provide a comprehensive overview of environmental issues at the country level.

For this paper, three examples of environmental profiles in the *Environments in Transition* series and three examples of CEPIS (including a comprehensive report for the region) were reviewed. The reports are available at the ADB Website{{W2-9}}.<sup>6</sup> At the time of preparation of this paper, no final versions of the country environmental analyses were available. No specific guidance or terms of reference are available in the ADB public database for the three types of country-level analysis.

The ADB has prepared environmental profiles of Afghanistan, Mongolia, Tajikistan, and the Mekong River countries of Cambodia, the Lao People's Democratic Republic, Thailand, and Vietnam (ADB 2000). The profiles were prepared for internal use in drawing up operational programs and policies and as a reference to sharpen the ADB's environmental strategy, and they are also useful for development practitioners.

The environmental profiles were based on consultations with and assistance from national governments and NGOs. They are comprehensive in scope, going beyond the description of environmental issues and trends to analyze underlying causes, the institutional framework, policy and legislation, environmental governance (including public participation and NGOs), and donor activities. They conclude with concrete ADB strategies for improving the environment in the specific countries. The Mekong regional report is particularly interesting in its approach to the

selection of areas for ADB support: it defines building blocks of strategic support, identifies specific areas of support within that framework, and summarizes the plan of action in a strategic implementation plan.

Box 2.9 presents the typical structure and contents of the *Environments in Transition* reports.

As a basis for the ADB's 2001 *Asian Environment Outlook* (AEO), a series of CEPIS was prepared for China, India, Indonesia, Pakistan, the Philippines, Sri Lanka, Thailand, and Vietnam. It is expected that the AEO will become a biennial publication. Its target groups are government decisionmakers and planners, and environmental executives and

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**BOX 2.9**  
**Structure and contents of the ADB's**  
***Environments in Transition***

1. *Introduction*: basic economic, cultural, human resource, and physical geography characteristics
  2. *Environmental setting and priority areas for environmental action*: transboundary issues and regional assistance, forests, biodiversity, water resources, management of coastal and marine resources, urban and industrial pollution, energy
  3. *Environmental policies and institutional framework*: political and socioeconomic context, institutional structures, environment and development plans, environmental policy legislation, legal issues, human resource development, environmental impact assessment, implementation, limitations, environmental governance, government structures, public participation, NGOs, data
  4. *Development framework for environmental action*: short strategies for the sectors in each country, summarized in a strategic implementation plan.
-

specialists from international assistance agencies.

The CEPIS were prepared by the ADB with inputs from national governments, other assistance agencies, NGOs, research institutions, and the private sector. The preparation process for some of the studies was conducted by consultants from various institutions, including NGOs, private companies, and a university.

The CEPIS have two main features that distinguish them from traditional country-level environmental analyses. First, they are short (usually about 20 pages long). Second, they do not contain expanded descriptions of the state of the environment and trends; rather, they focus on development policies and cross-sectoral linkages with environment. Their main emphasis is on presenting policy recommendations at the sectoral and cross-sectoral levels to deal with key environmental issues. Their short length precludes a detailed analysis, prioritization, or elaboration of the country policies or of the recommendations, particularly for large countries such as China, India, and Pakistan with multiple and complex environmental issues. Nevertheless, the document presents very clearly key policy issues and their linkage to environment.

Most CEPIS attempt to discuss all the key development policies of the country, but some—for example, the one for India—focus on key sectors such as energy and transport. All CEPIS present policy recommendations at the general level, but in some cases, such as the Pakistan study, the report links these recommendations to proposed ADB actions. Some of the CEPIS use cause-and-effect trees

to describe policy linkages. Box 2.10 presents the CEPIS structure and approach.

## 2.5 COUNTRY ENVIRONMENTAL PROFILES — EC DG DEVELOPMENT

The European Commission's comprehensive strategy, *Integrating Environment and Sustainable Development into Economic and Development Co-operation Policy*, issued in 1999, calls for increased integration of environmental issues into all EC aid and into the organization's programming and project cycles. In an effort to improve the coherence

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### BOX 2.10

#### General structure and contents of the ADB's CEPIS

1. *Development policies*: a description of general development policies and strategies currently under implementation by the country; brief analysis of linkages to environment
  2. *Environmental priorities* (as defined by the authors): soil degradation, water pollution, degradation of coastal zones, solid waste pollution, and so on, with brief descriptions of their relevance and severity
  3. *Environmental capabilities*: existing environmental management framework—policies, legislation, institutions
  4. *Policy analysis*: review of sectoral policies for the key sectors (e.g., agriculture, water resources, energy) and cross-sectoral issues such as environmental impact assessment procedures and environmental monitoring
  5. *Policy and program recommendations*: concrete recommendations for sectoral policies and cross-sectoral policy issues, but defined at a general level of specificity. In some CEPIS there is an incipient analysis of the implications of the recommended policies and programs (e.g., feasibility of implementation, linkage with other policies, impacts on the poor, and role of donors and international financial institutions).
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of EC development cooperation policies, the programming exercise is being harmonized to use the same environmental integration procedures for all regions.

The recently revised guidelines call for a three-step approach to environmental integration. First, a country environmental profile and relevant indicators serve as inputs to the country strategy document. Second, an environmental profile of the risks and opportunities of the proposed program is conducted. Finally, the overall quality of the integration of environmental aspects of the program is improved through quality support groups.

The EC has developed a comprehensive Environmental Integration Manual<sup>W2-10</sup> with a structure based on tools such as country environmental profiles (CEPs), strategic environmental assessments (SEAs) at the policy and sector program levels, and environmental impact assessments (EIAs). The manual includes procedures for policy, programming, and projects and sector notes linked to potential environmental impacts and mitigation measures. It also contains standard terms of references and review checklists for SEAs and CEPs. The guidance notes for CEPs are very brief. EC DG Development maintains a database of CEP reports and related information for most developing countries<sup>W2-11</sup>.<sup>7</sup>

For this report, five examples of CEPs were reviewed for the Arab Republic of Egypt, Jordan, Lebanon, the Syrian Arab Republic, and West Bank–Gaza. These CEPs were prepared before the final version of the EC manual was completed.

CEPs are to outline the major environmental characteristics and the important issues in a

country; summarize the major environmental trends and pressures; analyze their linkages to poverty; and describe the government and civil response to these issues, including the status of the regulatory reforms and institutions involved. Box 2.11 summarizes the structure of the expected content of a CEP.

The CEP reports are useful because they contain information on the environmental conditions of a country, national environmental policy, and the institutional framework and thus provide decisionmakers in the EC and partner countries with sufficient information to identify opportunities for cooperation. The examples reviewed for this paper were commissioned reports prepared by external consultants. The five CEPs reviewed largely follow the outline presented in Box 2.11 except that none of them include recommendations for action; rather, they focus on the discussion of environmental issues. Only one of the CEPs reviewed actually assessed environmental institutions, as opposed to giving a general description. Finally, no information was found in these reports on the methodology for analyzing or structuring the data and information.

## 2.6 ENVIRONMENTAL THREATS AND OPPORTUNITIES ASSESSMENT (ETOA) — USAID

The U.S. Foreign Assistance Act of 1961 contains conservation provisions relating to tropical forests and biodiversity. Under the act, all USAID strategic plans must include an analysis of the actions needed in the host country to achieve conservation and sustainable management of tropical forests and biodiversity and the extent to which the actions proposed for support by USAID meet

**BOX 2.11****Standard structure of EC country environmental profiles**

1. Summary
2. *Background*: physical conditions, economic trends and social conditions, environmental awareness and politics, overall administrative and legal context for environmental protection
3. *State of the environment*: physical environment; biological conditions, biodiversity, ecology and nature conservation; socioeconomic conditions, sociocultural conditions, human health; reference to internationally recognized indicators
4. *Environmental policy, legislative, and institutional framework*
  - *Environmental policy and legislation*: policy and action plans, including effectiveness of enforcement; legislation, including EIA/SEA and public participation; approach to international environmental conventions; efforts to harmonize national and European legislation
  - *Environmental institutional framework*: institutional structure; formal structures and procedures for public participation; capacity and financial resources of authorities
  - *Sectoral integration*: agriculture, fisheries, and forestry; mineral resources; utilities; industry; transport; other relevant sectors
  - *EC and other international development assistance*: EC experience with environmental interventions and integration; other agencies' involvement and experience; lists of recent and planned projects
5. Recommended priority actions
6. *Technical appendices*: (a) map, (b) reference list of environmental policy documents.
7. Administrative appendices.

Source: EC DG Development 2000.

the needs identified. In response to this requirement, each USAID country mission conducts an environment sector analysis prior to strategy-related decisionmaking. At a minimum, such analysis covers the country's

biodiversity and tropical forest resources. The USAID procedures also recommend a more comprehensive environmental analysis.

A guidance document, *Guidelines for Strategic Plans* (USAID 1995), has been developed to assist USAID missions in formulating strategies. As part of this report, six examples of environmental threats and opportunities reports were reviewed. Five were country-level reports for Bulgaria, Kenya, Mongolia, Nigeria, and Uganda. The sixth example was a regional strategic analysis by USAID's Regional Economic Development Services Office (REDSO) for Eastern and Southern Africa. All these reports and guidance documents can be obtained at the USAID Website<sup>8</sup>. The longer reports include their respective terms of reference as an appendix.

According to the guidelines, country strategic plans submitted in and after fiscal 1995 are to be based on a comprehensive assessment of environmental threats and opportunities. There is great variation in the level of detail and analysis of the assessment reports, from a short appendix in the country strategic plan to 150-page reports containing a detailed review of the state of the environment with respect to a variety of environmental issues. The most noticeable feature of the assessment reports is the strong emphasis on cross-sectoral linkages with non-environmental USAID programs and strategic objectives in the country. The linkages are based not only on cautions and impacts but also, and more significantly, on ways of improving synergies across activities. The regional strategic analysis for REDSO is a particularly interesting example of this cross-sectoral view (see Box 2.12). A draft proposal for a guidance document to incorporate strategic environmental planning into the

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**BOX 2.12****USAID's regional environmental threats and opportunities assessment for Africa**

As part of the process for preparing a strategic plan, in May 2000 USAID's Regional Economic Development Services Office (REDSO) for Eastern and Southern Africa conducted a comprehensive environmental threats and opportunities assessment (ETOA). The assessment included three interrelated activities:

- Review of information on environmental threats and opportunities relevant to countries in the region of study
- Environmental review of proposed strategy components to identify critical factors and linkages with other sectors, transboundary issues, and areas of opportunity in environmental and other programmatic areas
- Identification of environmental strategic objectives and opportunities for addressing environmental issues under strategic objectives and activities in other sectors.

Source: Freeman and Vondal 2000.

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development of country strategic plans (Freeman and Vondal 2000) presents a methodology to support this cross-sectoral linkage analysis (see Box 2.13).

Most assessments are focused on biodiversity issues to comply with agency requirements. The analysis follows the threats and opportunities methodology, with varying details on the state of the environment. The analysis and linkage of issues to the USAID program is usually strong, as is the integrated review of national, donor, and NGO efforts, in which activities are classified in categories as a way of facilitating presentation and review (as in the assessments for Bulgaria and Uganda). The institutional and policy analysis tends to be descriptive, and on some occasions a linkage between environment and poverty is made. No new data collection is undertaken for the

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**BOX 2.13****Opportunities to strengthen environmental conservation in the strategic objectives of other USAID program activities**

- Adding environmental education to basic education programs
- Conducting environmental awareness programs that cut across sectors, strategic objectives, and customer groups
- Including environmental resource valuation in development planning for economic growth
- Combining environmental conservation work with civil society development through community-based natural resource programs
- Developing conflict prevention or mitigation activities for resource access issues between communities or tribes
- Adding environmental health issues to preventive health programs
- Identifying environmentally friendly technologies for energy sector programs
- Adding natural resource management and conservation practices to commercial export agriculture programs
- Addressing environmental resource issues in food security programs

Source: Freeman and Vondal 2000.

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reports. (The guidance document suggests expert judgment as an alternative.) The longer reports are prepared by outside consultants and take about two months, including desk reviews and in-country interviews.

In general, there is a strong emphasis on indicators for all strategic objectives. The guidance document includes a list of indicators that can be used to determine whether environmental degradation is severe (see Box 2.14). As part of the prioritization process, the guidance document calls for consideration of the full range of environmental and natural resource threats identified and its linkage to the three USAID environmental objectives:

**BOX 2.14****Key indicators of environmental degradation**

1. Quantifiable losses in gross domestic product (GDP) of 5 percent or more due to natural resource depletion (deforestation, depletion of fisheries, soil erosion, overgrazing of rangeland), pollution (work time lost from disease and death, environmental restrictions on industrial activity and transport, costs of mitigation and remediation), or both
2. Rapid rate of degradation (for example, 1 percent a year) of key ecosystems through, for example, deforestation, conversion of wetlands, loss of coral reefs, or conversion of savannah
3. Unacceptable environmental health risks, for example:
  - Annual mean concentration of fecal coliforms in highly used water bodies exceeding 1,000 per milliliter sample
  - Annual mean concentrations of suspended particulate matter and sulfur dioxide in major urban areas exceeding 300 and 100 micrograms per cubic meter, respectively.

safeguarding the environmental underpinnings of broad-based economic growth, protecting the integrity of critical ecosystems, and ameliorating and preventing environmental threats to public health.

## 2.7 STRATEGIC ENVIRONMENTAL ANALYSIS (SEAN) — SIDA

Sida had prior to 2000, prepared environmental profiles for some of its cooperation countries. After evaluating the integration of environment in its country strategies, the agency decided to issue new guidance on strategic environmental analysis, or SEAN (Sida 2000, 2002). The main objective of SEAN is to analyze the environmental issues

that are central to a country's development from a poverty and sustainability perspective.

Guidance documents in English are not yet available on Sida's Website<sup>2</sup>, but an external consultant runs a help-desk function to support and advise the people conducting SEANs. To date, only a few SEANs have been carried out.<sup>2</sup> For this report, SEANs for China, Tanzania, and the Balkan region were reviewed. All of these reports were prepared by Sida staff supported by external consultants.

The SEAN objectives are defined in the guidance document as follows: (a) to understand how environment and sustainability are related to other aspects of development; (b) to map the environmental and sustainability aspects that should be considered when the general scope of development cooperation is decided; and (c) to develop a basis for decisions on environmental interventions.

The guidance document does not outline a specific process or procedural requirements;

**BOX 2.15****Key development themes in Sida's SEAN methodology**

- Poverty and environment
- Economic policy and environment
- Health and environment
- Population and environment
- Capacity development
- Institutions
- Legislation and environment
- Human rights
- Equity and environment
- Conflict risk
- Vulnerability and environment
- State of environment and sustainable development
- Country's work for sustainable development.

instead, it focuses on analytical methods and, in particular, on the linkages between environmental and other development issues rather than on environment per se. The guidance contains sets of 5 to 10 strategic questions on the key themes listed in Box 2.15. Box 2.16 presents an example for the theme, economic policy and environment. In addition, 5 to 10 indicators for each theme—mainly, existing indicators monitored by international organizations—are suggested in the guidance document. Box 2.17 gives an example for the poverty and environment theme.

SEANs can vary extensively in scope and level of detail, provided that their findings are

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**BOX 2.16**  
**Strategic questions on economic policy and the environment: An example**

*Strategic question:* What are the connections between the country’s economic policies and the environment?

*Underlying questions to support the analysis:*

- Is the country’s economy based on unsustainable resource consumption?
  - Are there “critical” sectors or actors that contribute particularly to environmental degradation?
  - Are there subsidies that cause significant emissions or overexploitation of resources?
  - Are policy instruments (regulations, taxes) used to contribute to sustainable resource use?
  - Do quotas, concessions, and permits contribute to unsustainable resource use?
  - Is the country financing its debt service through unsustainable exploitation and export of natural resources?
  - How have structural adjustment and economic reforms affected the environment?
  - Are there existing initiatives in the country to analyze and understand these issues?
- 

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**BOX 2.17**  
**Indicators and sources for the poverty and environment theme**

- Poverty: percentage poor of the total population and of the urban and rural populations (World Bank)
- Poverty: income of less than US\$1 per day (World Bank)
- Poverty: Human Development Index (United Nations Development Programme)
- Child mortality: children age 0–1 and 1–5 (World Bank)
- Access to safe water: percentage of total population (World Bank)
- Deforestation: square kilometers per year.

*Source:*

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integrated with the country analysis and that the main conclusions are part of the country strategy document. The contents of a typical SEAN (based on the review of three examples) include environmental state and driving forces, national initiatives, framework and capacity, existing and planned Swedish cooperation, and strategic recommendations for the future.

## 2.8 STRATEGIC ENVIRONMENTAL ANALYSIS (SEAN) — SNV

Strategic environmental analysis (SEAN) is a methodological framework developed in 1996 by the Netherlands Development Organisation (SNV) and AIDEnvironment.<sup>10</sup> SEAN is used to develop concrete inputs for a policy or a strategic plan for a specific region, sector, or target group. Although the original intention was to apply SEAN primarily for SNV country policy plans, the methodology has mainly been used at sub-national levels by local governments and NGOs.

Netherlands Development Aid (NEDA) maintains an active Web-based platform<sup>11</sup>

14}} that contains guidance materials (SNV 1999), a toolbox, newsletters, and brief descriptions of case studies in which the SEAN methodology has been applied.<sup>11</sup> SEAN is a generic process tool, and therefore the guidance materials are generic in character. So far, the methodology has been applied in 14 countries of Africa, Central Europe, East Asia, and Latin America. The applications have ranged from integration of environmental protection into development policies at the district level in Zimbabwe, to development of a strategy for Benin's National Committee on Sustainable Development. The guidance materials and several summarized case studies were reviewed for this report.

SEAN has four main objectives: (a) to analyze the environmental context of human development, its potentials, and constraints; (b) to integrate key environmental issues with other issues of sustainable development; (c) to provide inputs for sustainable development policies and strategic plans at early stages of decision-making; and (d) to raise awareness and generate commitment through the active involvement of a variety of participants. The SEAN methodology strongly emphasizes the fourth objective. A significant secondary output of SEAN is the initiation and support of a participatory process aimed at increasing understanding and awareness of the relations between socioeconomic development and sustainable environmental management.

The SEAN process consists of 10 steps grouped in four clusters (see Box 2.18). Depending on the information provided by cluster I, the next step may include one of the two clusters, II or III. Cluster II represents the steps to be taken when negative situation arises from the cluster I analysis while cluster

III are the steps when a positive opportunity arises. For each step, the guidance materials suggest specific analytical tools and outputs.

In addition to the 10 methodological steps, the guidance documents identify five process phases:

1. *Initiation and preparation*: awareness raising, exploration of the conditions for SEAN, identification of the owner of the process, agreement on terms of reference and objectives, training, data collection
2. *Introduction and scoping workshop*: SEAN methodology, networking, agreement on key issues and gaps in knowledge, terms of reference for subsequent phases
3. *Fieldwork on identified key issues*: meetings, studies, and so on
4. *Planning phase*: feedback of results, networking, workshop, vision and priorities, strategic plans
5. *Follow-up and monitoring*: legal support, design of monitoring system, definition of responsibilities, institutionalization of SEAN process.

The SEAN process can take from 4 to 18 months and can cost between US\$20,000 and US\$100,000, depending on the availability of data, training needs, and the level of ownership, among other factors.

It is important to distinguish SEAN from strategic environmental assessment (SEA), as there are similarities in the approaches. The guidance documents indicate that whereas the SEA evaluates the environmental impacts of a proposed policy, plan, or program, SEAN aims to contribute to its formulation or reformulation. Generally, the SEA has a well-defined

**BOX 2.18****Methodological steps in Strategic Environmental Analysis (SEAN)**

| <i>Cluster I: Analysis of ecological and human context</i>  |   |
|---|---|
| <p><b>1. Identification of main stakeholders and environmental functions, priority-setting</b><br/> <i>Tools:</i> environmental profiles, resource use surveys, rapid rural assessments (RRAs).<br/> <i>Output:</i> lists of environmental functions and stakeholders, insights into resource use systems of stakeholders</p>                                   |   |
| <p><b>2. Analysis of trends of environmental functions and cause-effect chains</b><br/> <i>Tools:</i> RRA, historical mapping, geographic information system (GIS), environmental impact chain<br/> <i>Output:</i> baseline environmental data, trends in relevant environmental functions, relevant indicators</p>   |   |
| <p><b>3. Assessment of impacts of current environmental trends on society</b><br/> <i>Tools:</i> trend-impact matrix, with final goals and criteria of sustainable development<br/> <i>Output:</i> impacts of trends on final goals of present and absent stakeholders, priorities among trends</p>   |   |
| <p><b>4. Definition of norms, standards and thresholds involved</b><br/> <i>Tools:</i> inventories, interviews, carrying capacity, safety perceptions, development goals<br/> <i>Output:</i> list of accepted and debatable norms and thresholds for relevant environmental functions</p>   |   |
| <i>Cluster II: Problem analysis</i>   | <i>Cluster III: Opportunity analysis</i>  |
| <p><b>5. Problem definition, based on insights from steps 1-4</b><br/> <i>Tools:</i> risk analysis, economic valuation tools, precautionary principle<br/> <i>Output:</i> ranking and description of environmental problems, assessment of risks and costs</p>  | <p><b>7. Inventory of opportunities, long list and short list</b><br/> <i>Tools:</i> land evaluation, market analysis, inventory of indigenous knowledge systems, historical trends<br/> <i>Output:</i> environmental, institutional, and economic opportunities, win-win opportunities</p> |
| <p><b>6. Problem analysis, finding root causes and actors involved</b><br/> <i>Tools:</i> poverty analysis, gender analysis, institutional analysis, sectoral analysis, problem-in-context analysis<br/> <i>Output:</i> actors' options and motivations, root causes</p>  | <p><b>8. Opportunity analysis, defining potentials for realisation</b><br/> <i>Tools:</i> impact assessment of main opportunities<br/> <i>Output:</i> negative and positive impacts, favourable and unfavourable factors</p>  |
| <i>Cluster IV: Strategic planning and follow-up activities</i>  |   |
| <p><b>9. Synthesis, defining inputs for a policy and strategic plan for sustainable development</b><br/> <i>Tools:</i> priority setting, sectoral analyses, policy and institutional checklists, institutional/internal capacity analysis (SWOT—strengths, weaknesses, opportunities, threats)<br/> <i>Output:</i> strategic inputs to environmental policy</p> |   |
| <p><b>10. Set-up of environmental monitoring system and other follow-up activities</b><br/> <i>Tools:</i> project and program cycle procedures, evaluation, monitoring<br/> <i>Output:</i> implementation of strategy, environmental monitoring, information sharing, communication strategy</p>  |   |

Source: SNV 1999.

end product, while SEAN is viewed as a more open-ended process that is part of the planning cycle. The SEA requires detailed information; SEAN, given its process and participatory

approach, can work with qualitative information. Finally, SEAN can provide useful general insights for the scoping phase of a SEA that can later provide more detailed insights.

## 2.9 OTHER COUNTRY-LEVEL PROFILES AND REPORTS BY INTERNATIONAL FINANCIAL INSTITUTIONS AND DONOR AGENCIES

Many other international financial institutions (IFIs) and donor agencies prepare country-level profiles and reports of varying complexity. The World Resources Institute maintains a database of abstracts of country-level environmental strategies, action plans, and assessments dating from the 1980s to the mid-1990s<sup>12</sup>. The most important features of some of these reports are highlighted in this section.

UNDP's Environmental Overviews are brief documents (fewer than seven pages) used as inputs and attachments to the advisory note. The advisory note presents views on what should be included in country programs. The guidance document (UNDP Environment and Natural Resources Group 1992) calls for the overviews to include a short synopsis of environmental issues, a review of economic development and the environment, a description of the country's capacity to manage the environment, and the likely impacts associated with the UNDP country program.

The Inter-American Development Bank (IADB) prepares country environmental strategies to analyze key environmental issues as an input to potential operations to be included in the country program. The guidance document calls for review of the situation of social groups or communities that are particularly vulnerable to alterations in their environment. The IADB Environment Strategy calls for assistance to countries in drawing up their own environmental and natural resource management strategies and in fostering the

participation of various sectors of government and civil society.

Between 1994 and 1997, the African Development Bank (AfDB) prepared 12 country environmental profiles (CEPs) of African countries as part of its Working Paper Series on Environment and Development. The objective was to promote systematic exchange of information that is critical to policy dialogue and to support the identification of opportunities to fund projects with environmental components. The examples reviewed were mainly devoted to a description of environmental issues and institutions; the final chapter of each profile discusses priorities for action as defined by the national government.

As a follow-up to the Earth Summit resolutions and the establishment in 1993 of the Danish Environment and Disaster Relief Fund, a strategy for Danish environmental assistance was prepared in 1996. The strategy argued for a regional perspective in order to focus on holistic and cohesive initiatives in high-priority regions. Accordingly, two regional strategies for Danish environmental assistance were prepared: for southern Africa (1996) and for Southeast Asia (1997). In the strategy for Southeast Asia, the analysis of environmental problems is structured according to problem complexes. A problem complex is defined as "a broader development issue which manifests itself significantly as one or more environmental problems." For example, the unsustainable use of coastal and marine resources (an example of a broader development issue) is analyzed using a framework of environmental problems such as pollution from cities, industry, and tourism; threats to the marine environment from oil- and gas-related activities; destruction of mangrove forests; and overexploitation of marine fish resources, including by-catch of other vertebrates.

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**BOX 2.19****The sustainable livelihoods approach**

The Sustainable Livelihoods approach is used by the U.K. Department for International Development (DfID) to increase the effectiveness of development assistance at the project and policy levels by putting people at the center of development. Although the approach treats environment as only one among several elements of analysis, it has an interesting focus on livelihoods. Key features of the approach are that:

- It is *people-centered*. The process begins by analyzing the vulnerability, assets, and livelihood strategies of poor people and identifying factors that can be changed to improve their livelihoods.
- It is *holistic*. The approach takes a nonsectoral view of the constraints on improving the livelihoods of the poor, building on the perceptions of the people themselves.
- It is *integrating*. It links the micro and macro levels by understanding the relationships between individual and local livelihood conditions and macro-level policies and institutions.

In the Sustainable Livelihoods framework, the livelihood strategies of poor people and the subsequent livelihood outcomes depend on several factors. The *vulnerability context* is the external environment in which people exist—trends, shocks, and seasonality related to economic, environmental, health, and other issues. As a result of changes in the vulnerability context, people's *livelihood assets*—their human, social, physical, financial, and natural capital—are created or destroyed. A third component is the *transformation of structures and processes* that constrain or facilitate people's livelihood choices. *Structures* refers to public and private organizations, and *processes* refers to the way in which structures operate and interact (for example, through policies, legislation, institutions, culture, and power). There are many links and feedback loops between these components of the analytical framework.

The following is a generic outline of questions to be asked in the application of the Sustainable Livelihoods approach:

1. Who and where are the poor?
2. What are their livelihood priorities (assets and strategies)?
3. What policies and institutions are relevant to these priorities?
4. In what way are existing institutions and policies enabling or disabling to poor people?
5. What policies and environment would be most conducive to assisting people to achieve sustainable livelihoods?
6. What key constraints need to be removed or mitigated?
7. What procedures and mechanisms are appropriate for securing the best chance for reform?

Source: DfID 2001.

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Another approach to the analysis and presentation of information is the Sustainable Livelihoods approach used by the U.K. Department for International Development (DfID), as outlined in Box 2.19.

In 1999 the Japanese International Cooperation Agency (JICA) prepared 20 country profiles on environment (CPE). The overarching objective of the profiles was to

provide a guidebook and repository of general information concerning the planning of international cooperation on environmental issues. It is expected that the reports will be used to examine the potential environmental impact of development projects, provide input for JICA's country development strategy, and determine which institute or agency is responsible for a certain issue and who should be contacted. Since the CPEs are factual docu-

ments, they do not analyze underlying causes and potential cross-linkages in depth.

The Swiss Agency for Development and Cooperation (SDC) treats integration of the environment as a cross-sectoral theme in international development activities. To facilitate this integration at all levels of decisionmaking, the SDC has prepared a

guideline document, *Integrating Environmental Issues in Planning, Evaluation and Monitoring* (SDC 2000), that is organized around a set of eight key questions (see Box 2.20).

These questions can be used when planning a process for formulating programs, preparing terms of reference for preliminary studies, identifying people and institutions for participation, and planning workshops.

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### **BOX 2.20**

#### **Guiding questions on environmental issues for SDC country programs**

1. Which environmental problems impede sustainable development in the country concerned, from both a national and global perspective (e.g., degradation of natural resources such as soil, vegetation and water; pollution; loss of biodiversity; climate change)?
  2. How do environmental problems affect the population (mortality, life expectancy, environmentally induced diseases, poverty, quality of life)?
  3. What is the status of environmental policy (e.g., legislation, enforcement, institutional capacities, training, significance of the topic for development partners)?
  4. What socio-economic processes constitute the driving forces behind the environmental problems that have been observed (e.g., urbanization, marginalization of resource users, migration)?
  5. What eco-regional (sub-national) aspects are important and need to be included when setting priorities for planning (e.g., special conditions in arid and mountain regions that have an influence on aims at the regional level)?
  6. What experience with environmental questions can be garnered from the partners' own projects and programs?
  7. Is the country program adapted, on the whole, to the environmental conditions in the country concerned? Does the significance accorded to environmental issues in the country program correlate with the results obtained from previous analyses (strategic aim, cross-sectoral theme, focus on a special sector or special strategy)? What new aims need to be added?
  8. Is there a plan for dealing with the environmental issues identified in the country program?
-





## Chapter 3

# Strategic Environmental Assessment Tools

Strategic environmental assessment (SEA) is commonly defined as a systematic process for evaluating the environmental consequences of proposed policies, plans, or program initiatives to ensure that these consequences are fully included and properly addressed at the earliest appropriate stage of decisionmaking, on par with economic and social considerations (Sadler and Verheem 1996). Applications include sustainability assessments, strategic environmental planning frameworks, sector assessments, regional assessments, and policy assessments. SEAs are expected to be useful in the development of sector programs, privatization schemes, structural adjustment programs, and national budgets. The information, analysis, and insights of SEAs in a given country are of great importance for country-level environmental analysis.

Over the past decade, SEAs have gained considerable ground in the policy arena, as well as in the international donor community (Lenschow 2002). The current trend in development cooperation of concentrating on strategic-level activities such as sector programs and budget support, as opposed to a project-driven approach, has led to a wide recognition of the need for SEAs in the devel-

opment cooperation context. When OECD/DAC examined the status of SEAs in development agencies in 1997, it found that most of the agencies surveyed had undertaken some form of SEA, but in most cases this had been done in an ad hoc manner. Few agencies based their SEAs on procedural guidelines. Since then, progress in this area has been rapid, and some donors and national agencies have developed their own guidelines and procedures for SEAs. A selection of SEA guidance methodologies prepared by various development agencies was reviewed for this paper (see Box 3.1).<sup>13</sup>

In practice, there are two approaches to the preparation process of a SEA: the impact-centered approach, and the decision-centered approach. The impact-centered approach has its roots in environmental impact assessment (EIA) methodology. The objectives in this case are to predict the environmental impacts of a program or policy that has already been defined, to inform decisionmakers about these impacts, and to suggest appropriate mitigation measures. In the more recent guidance documents this approach has been challenged because of its limited success in influencing decisions at an upstream level (Rees 1999).

**BOX 3.1****SEA approaches and methodologies reviewed**

- Environmental assessment for sustainable development (Danida)
- Guidelines for dialogue on SEA in sector programs (Sida){W3-1}
- Environmental assessment guidance (DfID){W3-2}
- Environmental assessment (CIDA){W3-3}
- Strategic environmental assessment (South Africa){W3-4}
- *Environmental Assessment Sourcebook* (World Bank){W3-5}
- Strategic environmental framework (ADB){W3-6}
- Sustainability impact assessment (EC DG Trade){W3-7}
- SEA directive (European Parliament){W3-8}
- *Environmental Integration Manual* (EC DG Development){W3-9}
- Systems approach to SEA (SEI/fms)
- Decision-centered framework for SEA (ANSEA){W3-10} (ANSEA Project 2002)
- Environmental impact assessment for macroeconomic reform (WWF){W3-11}
- Strategic environmental planning: proposal (USAID) (Freeman and Vondal 2000){W3-12}
- International Association for Impact Assessment (IAIA){W3-13} (IAIA 2002).

Note: Names of organizations are listed in the Abbreviations and Acronyms section.

In response to the limitations of the impact-centered approach, a more upstream, decision-centered approach has evolved. It expands the scope of the SEA beyond impact prediction to include integration of environment into the early stages of the decisionmaking process, such as the formulation of problems, objectives, and alternatives. The decision-centered approach often emphasizes the institutional context. Its methodological basis is derived from policy analysis rather than from EIA traditions (Nilsson and Dalkmann 2001). Closely related to, or subsets of, the decision-centered approach are objective-led and sustainability-led SEA approaches that emphasize environmental objectives as central to the entire decisionmaking process (Germany 2001).

Although recent SEA guidelines promote a decision-centered approach, evaluations show that current SEA practice continues to be dominated by the impact-centered approach. Neither practitioners nor decisionmakers are

used to the upstream shift in focus (ICON 2001). The institutional barriers against this change in perspective are difficult to overcome.

Very rarely is the SEA a legal or a strict procedural requirement, although there have been some recent developments in this direction. For example, the EC directive on environmental assessment of certain plans and programs will be implemented in all European Union countries.

The SEA process, as outlined in all the reviewed applications, resembles a conventional EIA process using both the impact-centered and the decision-centered approaches (see Box 3.2). In principle, and in particular for the decision-centered approach, the ideal situation would be for the SEA process to run in parallel with the decisionmaking process and be integrated with it at strategic points in time (see Figure 3.1).



tal management, to be included in the program or strategy.

SEAs employ a wide range of methods and tools. Some of these methods, which can be of great interest for country-level environmental analysis, include scenario and systems analysis, environmental impact prediction, and valuation and weighted data. A brief summary of their main features is presented below.

*Scenario and systems analysis.* Most of the guidelines reviewed say very little about how to analyze the system under review, often jumping straight to impact prediction. However, before the possible impacts or risks can be described, there needs to be an understanding of how the system affects the program or strategy. In recent years this methodological gap has been addressed in some of the guidance documents, including those of the Stockholm Economic Institute/Environmental Strategies Research Group (SEI/fms), USAID, and the EC's Directorate-General for Trade (EC DG Trade). The main approaches presented in these guidance documents are described below:

- *Policy scenarios.* The scenario approach has been applied in other SEA contexts (see, for example, Therivel and Partidario 1996), but it is relatively unexplored territory in SEAs for development assistance activities. EC DG Trade uses scenarios based on quantitative macroeconomic and trade models for its sustainability assessments. These are expert-generated and are based on mainstream economic assumptions and conditions. The SEI/fms approach suggests a more open and deliberative process whereby one or several future scenarios, which are not restricted to

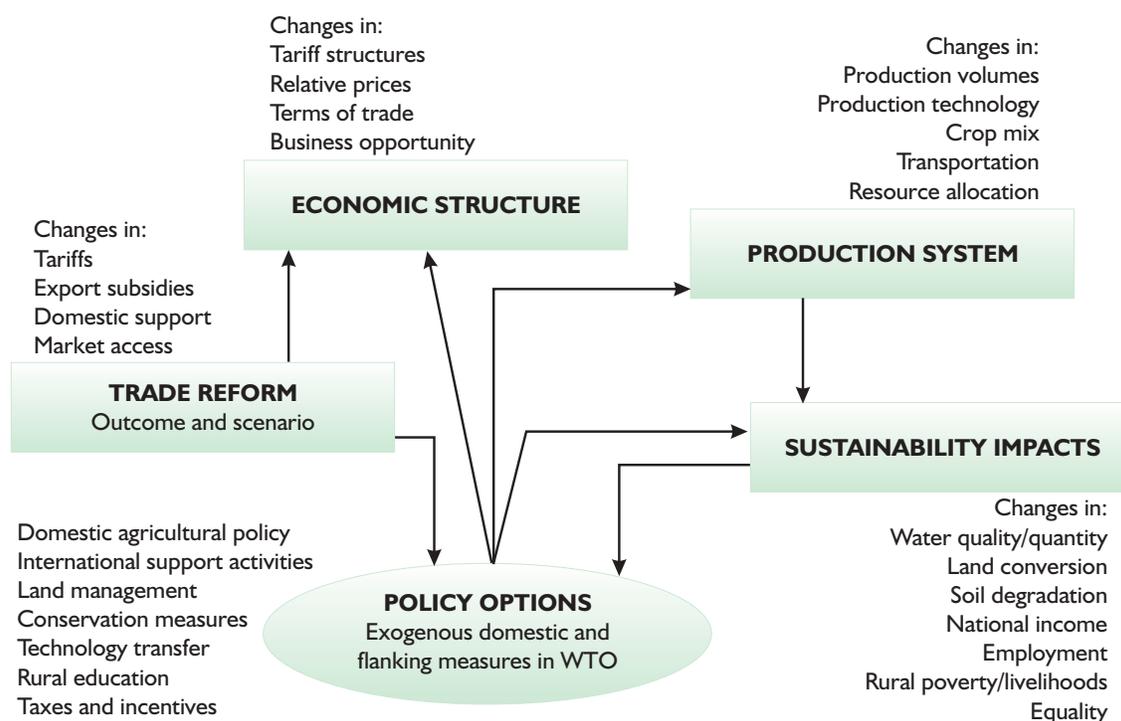
economic sectors, are determined through scenario workshops with experts and stakeholders that may involve small project teams or larger groups. These two approaches are not necessarily mutually exclusive. For instance, macroeconomic models and commodity forecasts can be used as inputs into the SEI/fms deliberative approach.

- *Quantitative systems models and causal chains.* These frameworks are set up to trace the suggested intervention or reform through the social, economic, and political systems and to track the resulting changes in the production and consumption systems. Quantitative systems modeling includes macroeconomic models like those being used by EC DG Trade, which bases its impact predictions on changes in economic conditions and production systems. Causal chain frameworks, used, for example, by the WWF and by EC DG Trade, emphasize the causal relationships between variables rather than the statistical relationship (see Box 3.3). This shift in focus is useful when data are limited, as it allows the assessor to incorporate qualitative information into the analysis, including variables that are important but hard to measure or to express quantitatively.

*Prediction of environmental impacts.* SEAs are intended to predict how alternative strategies may affect the environment. The extent to which the prediction of environmental impacts is the focal point of a SEA depends on whether an upstream or a downstream approach is taken. For the downstream approach, the prediction of environmental impacts has its roots in the traditional EIA, but at the methodological level it can be quite different. Certain types of environmental

**BOX 3.3****A causal chain framework**

A program or strategy affects sustainability through a variety of complex interactions and linkages. Often it is not possible to identify quantitative or generalized relationships because of data gaps or inadequate analytical methods. A causal chain framework organizes the information and enhances understanding of the generic cause-effect relationships as the analysis proceeds from the proposed strategy to its sustainability impacts. The framework deploys a transparent narrative of a key set of issues and linkages and how they fit together in each case. The analysis is normally based on expert interpretation of existing country and sector studies from various sources, supported by empirical data and modeling results to the extent that they are available.



The framework shown in the figure is generally applicable to the analysis of trade reform in the agricultural sector of a country. The baseline conditions and scenarios are accounted for throughout all modules of the conceptual framework: current economic structures, production systems, trade conditions, policy environment, and sustainability performance. The framework defines the analytical focus and information needs of the assessment and hence informs the choice of methods, measures, and indicators.

Note: WTO, World Trade Organization.

Source: Maltais and others 2002.

impacts become more relevant at the strategic level than at the project level (for example, indirect and systems effects, or cumulative or combined effects in an entire sector and

across national borders), and in these cases the prediction is generally more difficult. The guidance documents reviewed mention checklists, expert opinion, and risk assessment

as possible techniques for environmental impact prediction in SEAs, but there is generally little methodological support.

Some of the upstream, decision-centered approaches recognize that the traditional emphasis on activities and outputs is not possible or meaningful in SEAs and that the prediction of environmental impacts becomes less relevant at strategic decision levels than at the project level. The emphasis in upstream assessments is usually not on impacts but on objectives and alternatives and on a general assessment of whether the program or strategy can be supported from an environmental perspective, taking into account institutional conditions and other factors. Information on impacts is, however, still important for assessing the acceptability of a program or strategy from an environmental point of view.

*Valuation and weighted data.* Several approaches (for example, those of SEI/fms, USAID, and the World Bank) use valuation and weighting of data as a decision support system. When decisions are being made, the achievement of multiple objectives and the tradeoffs between different objectives need to be analyzed, processed, and interpreted. An explicit valuation can help structure the decision process, identify tradeoffs among criteria, help in applying value judgments concerning tradeoffs, assist in making more rational and consistent evaluations of risk and uncertainty, facilitate negotiation, and document how decisions are being made (Hobbs and Meier 2000).

A clear and explicit treatment of values in the decisionmaking process strengthens its transparency and robustness. The usefulness of valuation is, however, highly culture- and

context-specific, and it should be applied with care in many cases. Furthermore, doing it right is resource-demanding, and the value added of a formal valuation approach in a complex, multiobjective decisionmaking process should be carefully considered.

Few of the guideline documents reviewed provide explicit guidance on valuation and weighting, and use of these methods in the SEA is discussed only summarily. Nevertheless, they are often applied implicitly. Two types of method generally described in the guidance documents are multicriteria analysis (MCA)—also known as multiple attribute analysis (MAA), or multiobjective analysis—and economic valuation.

- *Multicriteria analysis (MCA)* aims to improve decisionmaking by making the choices about conflicting or multiple objectives explicit, rational, and efficient. The analysis involves assigning a position or a value to a certain parameter relative to another through the use of different criteria. Decision research has led to the accumulation of a wide array of methods and concepts for dealing with MCA. Some are intended for a single analyst or decisionmaker; others entail group decisionmaking (Patton and Sawicki 1993). Matrix display systems, which are important for MCA problem statement and representation, are rather common.
- *Economic valuation* can be classified as a type of multicriteria analysis, but it has its own theoretical basis in welfare economics, and, given its prominence in decisionmaking, it is usually discussed separately. This approach is described in World Bank and Sida guidance documents. Economic valuation is commonly used to

allow the integration of cost-benefit analysis into various economic information systems such as the national accounts. It is, however, important to consider whether the

assumptions regarding markets and information that underlie the valuation really hold in developing country contexts.





## Chapter 4

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# Concluding Remarks

Perhaps the most striking aspect of this review is the multiplicity and rich variety of tools, practices, and methods now in use for country level environmental analytic work and the wealth of experience that has been amassed. The descriptions of the salient features of the tools show how the many instruments have grown out of the unique needs of particular institutions and countries. The review also implicitly suggests the synergies and efficiencies that can be gained through continued and intensified coordination of donor work on environmental analysis. In a world of finite resources, competing claims, and increasing complex linkages, donor coordination is essential.

Many of these existing tools provide lessons, guidance, and insights for the development of the country environmental analysis (CEA) proposed in the World Bank's Environment Strategy. The intent of the CEA is not to add yet

another tool to those already available, nor to displace any tools. Rather, the CEA is envisioned as a synthesis of the contributions of the various approaches that focuses on the country as a whole and provides information and analysis at the earliest stages of decisionmaking.

The CEA offers a framework for systematically linking country-level environmental analytical work with strategic planning processes. It has the potential for bridging environmental, economic, and sectoral work and so facilitating both dialogue within a country and coordination among development partners. It is hoped that the CEA will be a valuable focal point for harmonization of efforts and exchange of information on environment and development and that it will provide the systematic analytical underpinning that is an important part of the basis for sustainable development assistance.





## Notes

1. UNEP/GRID Arendal is the UNEP/Global Resource Information Database, with centers in Geneva and in Arendal, Norway. Websites for the sources listed here are as follows: UNEP/GRID-Arendal, < [www.grida.no/soe](http://www.grida.no/soe) >; RRC.AP, < [www.roap.unep.org](http://www.roap.unep.org) >; EEA, < [www.eea.eu.int](http://www.eea.eu.int) >; WRI, < [www.wri.org/wdces](http://www.wri.org/wdces) >.
2. A typical example would be: driving force—industrial production; pressure—wastewater loading; state—water quality in water bodies; impact—percentage of water unsuitable for drinking; response—protected watersheds (UNEP/GRID-Arendal 1998).
3. The CSD Country Profiles are available at < <http://www.un.org/esa/sustdev/natlinfo/cp2002.htm> >.
4. Websites for the resources listed in this paragraph are as follows: for OECD/DAC (2001), < [www.nssd.net/pdf/gsuse.pdf](http://www.nssd.net/pdf/gsuse.pdf) >; for the WSSD document, < [www.johannesburgsummit.org/html/documents/backgrounddocs/nssdsreport.pdf](http://www.johannesburgsummit.org/html/documents/backgrounddocs/nssdsreport.pdf) >; for the *Resource Book* (OECD and UNDP 2002), < [www.nssd.net/res\\_book.html](http://www.nssd.net/res_book.html) >.
5. For IUCN documents, see < [www.iucn.org](http://www.iucn.org) >.
6. The ADB Website is < [www.adb.org](http://www.adb.org) >.
7. The Environmental Integration Manual is available at < [europa.eu.int/comm/development/sector/environment/env\\_integ/env\\_integration\\_manual/index1.html](http://europa.eu.int/comm/development/sector/environment/env_integ/env_integration_manual/index1.html) >. The EC DG Development database is available at < [europa.eu.int/comm/development/sector/environment/geographical\\_info/index.htm](http://europa.eu.int/comm/development/sector/environment/geographical_info/index.htm) >.
8. The USAID Website is < [www.usaid.gov](http://www.usaid.gov) >.
9. The Sida Website is < [www.sida.se](http://www.sida.se) >.
10. AIDEnvironment, based in Amsterdam, is an independent, nonprofit research and management consultancy for nature and natural resources.
11. The SEAN Website is at < [www.seanplatform.org](http://www.seanplatform.org) >.
12. Available at < [www.wri.org/wdces](http://www.wri.org/wdces) >.
13. Many of the listed resources are available on the sponsors' Websites, as follows: Sida, < [www.sei.se/policy/SEA-Sida.html](http://www.sei.se/policy/SEA-Sida.html) >; DfID, < [www.dfid.gov.uk](http://www.dfid.gov.uk) >; CIDA, < [www.acdi-cida.gc.ca/ea](http://www.acdi-cida.gc.ca/ea) >; South Africa, < [www.environment.gov.za](http://www.environment.gov.za) >; World Bank, < [www.worldbank.org/environment](http://www.worldbank.org/environment) >; ADB,

< [www.adb.org/Documents/Books/Environment\\_Impact](http://www.adb.org/Documents/Books/Environment_Impact) >; EC DG Trade, < [europa.eu.int/comm/trade/issues/global/sia/docs/siawto.pdf](http://europa.eu.int/comm/trade/issues/global/sia/docs/siawto.pdf) >; European Parliament, < [europa.eu.int/comm/environment/eia/sea-legalcontext.htm](http://europa.eu.int/comm/environment/eia/sea-legalcontext.htm) >; EC DG Development, < [europa.eu.int/](http://europa.eu.int/)

[comm/development/development\\_old/sector/environment/env\\_integ/env\\_integration\\_manual](http://europa.eu.int/comm/development/development_old/sector/environment/env_integ/env_integration_manual) >; ANSEA, < [www.taugroup.com/ansea](http://www.taugroup.com/ansea) >; WWF, < [www.panda.org/downloads/policy/eia.pdf](http://www.panda.org/downloads/policy/eia.pdf) >; USAID, < [www.usaid.gov](http://www.usaid.gov) >; IAIA, < [www.iaia.org](http://www.iaia.org) > .



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## INTERNET WEB PAGE LINKS

### *Chapter 2*

- W2-1 <http://www.grida.no/soe>  
W2-2 <http://www.roap.unep.org/>  
W2-3 <http://www.eea.eu.int/>  
W2-4 <http://www.wri.org/wdces/>  
W2-5 <http://www.nssd.net/pdf/gsuse.pdf>  
W2-6 <http://www.johannesburgsummit.org/html/documents/backgrounddocs/nssdsreport.pdf>  
W2-7 [http://www.nssd.net/res\\_book.html](http://www.nssd.net/res_book.html)  
W2-8 <http://www.iucn.org/>  
W2-9 <http://www.adb.org/>  
W2-10 [http://europa.eu.int/comm/development/sector/environment/env\\_integ/  
env\\_integration\\_manual/index1.html](http://europa.eu.int/comm/development/sector/environment/env_integ/env_integration_manual/index1.html)  
W2-11 [http://europa.eu.int/comm/development/sector/environment/geographical\\_info/index.htm](http://europa.eu.int/comm/development/sector/environment/geographical_info/index.htm)  
W2-12 <http://www.usaid.gov/>  
W2-13 <http://www.sida.se/>  
W2-14 <http://www.seanplatform.org/>  
WP5 <http://www.un.org/esa/sustdev/natlinfo/cp2002.htm>

### *Chapter 3*

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