

GEO

Resource Book

*A training manual on
integrated environmental
assessment and reporting*

Module Overviews



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This booklet summarizes the contents of *GEO Resource Book: A training manual on integrated environmental assessment and reporting*, developed through a collaborative initiative among the United Nations Environment Programme (UNEP), the International Institute for Sustainable Development (IISD) and more than 40 experts from around the world.

The manual is divided into eight modules as follows:

Module 1:	The GEO Approach to Integrated Environmental Assessment
Module 2:	IEA Process Design and Organization
Module 3:	Developing an Impact Strategy for your IEA
Module 4:	Monitoring, Data and Indicators
Module 5:	Integrated Analysis of Environmental Trends and Policies
Module 6:	Scenario Development and Analysis
Module 7:	Creating Communication Outputs from the Assessment
Module 8:	Improving the IEA Process and Increasing Impact through Monitoring, Evaluation and Learning

GEO Resource Book: A training manual on integrated environmental assessment and reporting can be downloaded from <http://www.unep.org/geo> or <http://www.iisd.org/measure>

Acknowledgements

The GEO Resource Book was edited by László Pintér (IISD), Darren Swanson (IISD) and Jacquie Chenje (UNEP).

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GEO Resource Book: A Training Manual on Integrated Environmental Assessment and Reporting

The Need for a GEO Resource Book

The year 2007 marks the twentieth anniversary of the release of *Our Common Future*, commonly known as the Brundtland Report. The need for building environmental considerations into decision making, a central theme in the Brundtland Report, is no longer a bold proposition, but a basic necessity. Without the ability to monitor and assess changing environmental trends and their interactions with human development, navigating the sea of global change would be reduced to reactive crisis management—hardly an effective way to tackle policy issues with such profound relevance for the planet.

Brundtland called not only for attention to the interactions between environment and development, but also for the need to consider the interests of future generations. This requires an ongoing effort to substantially strengthen our capacity to assess the range of possible futures and to create policies that take this knowledge into account. Addressing these needs is at the heart of this *Resource Book*.

The purpose of the *GEO Resource Book* is to help build capacity for forward-looking integrated environmental assessment (IEA) and reporting at the sub-global level. Users of the *GEO Resource Book* will:

1. understand the rationale for undertaking forward-looking, integrated environmental assessment using UNEP's Global Environment Outlook (GEO) approach;
2. understand the importance of mandate for an IEA, options for its governance structure and participatory process, and be able to construct an impact strategy;
3. be familiar with the conceptual and methodological aspects of carrying out the assessment, including the analysis of environmental trends and policies, and the study of policy options in the context of future scenarios;
4. be capable of organizing the process for producing physical and electronic outputs from the IEA; and
5. have the knowledge and skills to set up a monitoring and evaluation process focused on the IEA itself as part of a continuous learning process to improve the assessment.

For the purposes of this publication we defined IEA as *the process of producing and communicating future-oriented, policy-relevant information on key interactions between the natural environment and human society*. The methodology underlying IEA has been pioneered and championed by the Global Environment Outlook, UNEP's flagship assessment and reporting process on the status and direction of the global environment. GEO is a consultative, participatory, capacity building process and a series of reports, analysing environmental change, causes and impacts, and policy responses, providing information for decision making at global and sub-global levels. The GEO series aims to keep under review the state of the world's environment, identify emerging issues that require international attention and provide options for policy making and action planning.

Since the publication of the first global report in 1996, the GEO approach has been adopted by an increasing number of organizations at the regional, national and sub-national level. The *GEO Resource Book* draws on the growing body of experience gained through these initiatives.

Capacity building has been a key element of the GEO process, and training activities carried out by UNEP and its partners since the late nineties contributed to the wider adoption of IEA methods. In 2000, UNEP and the International Institute for Sustainable Development (IISD), a UNEP Collaborating Centre, jointly published a training manual that served as the basis for many training activities and as a basis for developing other regionalized training curricula.¹

The need for updating the earlier IEA training manual became obvious for a number of reasons, including the evolution of the GEO methods, the need for more detailed and more easily customizable information on the environment and its interaction with human well-being, and the need to increase the effectiveness of capacity building. A 2004 meeting of the GEO Capacity Building Working Group discussed the criteria for more effective capacity building efforts shown in Box 1, and these criteria, along with additional guidance from UNEP and the GEO Capacity Building Working Group, inspired the development of the *GEO Resource Book*.

Box 1: Criteria for improving the effectiveness of IEA capacity building, as identified at the March 2004 meeting of the GEO Capacity Building Working Group in Geneva, Switzerland.

- 1. Improve coordination** – Identify, monitor and, where possible, improve coordination and cooperation with similar capacity building initiatives, including other initiatives of UNEP.
- 2. Utilize existing capacity** – Identify and improve the utilization of capacity that exists in current partner organizations and the GEO network.
- 3. Promote innovation and diversity** – Embrace the diversity of capacity building and training approaches to assessment and reporting while maintaining the coherence and integrity of the GEO approach.
- 4. Introduce innovative tools and methods** – Increase the effectiveness of capacity building by introducing novel tools and innovative, experiential and participatory training methods successfully used by partner organizations.
- 5. Multi-level engagement** – Increase sustainability of impact by engaging capacity building audiences both on an individual as well as organizational level.
- 6. Link capacity building to actual assessment and reporting** – Search for and create opportunities to connect capacity building and the actual production of GEO-compatible assessments and reports.
- 7. Provide incentives** – Provide incentives to eligible organizations and experts where possible and warranted to maintain their interest in GEO assessment and reporting beyond training.
- 8. Strengthen capacity to effectively communicate assessments** – Ensure capacity building strengthens the ability to design and implement communications strategies.
- 9. Improve monitoring, evaluation and learning** – Ensure methods and mechanisms are in place to monitor, measure and, as required, report on the short- and long-term impacts of capacity building efforts.

¹ Pintér, L., K. Zahedi and D. Cressman (2000). *Capacity Building for Integrated Environmental Assessment and Reporting. Training Manual*. Winnipeg: IISD for UNEP. http://www.iisd.org/pdf/geo_manual_2.pdf

It is recognized that capacity is multi-dimensional, particularly in an area as complex as an IEA which requires a multi-pronged approach. This may include a training component (face-to-face, distance learning, training-by-doing), but also additional measures such as staff exchanges, technical support or providing easy access to data. Therefore, the *GEO Resource Book* has to be seen in a broader context, as a key—but not the only—element in UNEP’s IEA capacity building efforts.

The Audience

The target audience for the *GEO Resource Book* includes facilitators who construct IEA training curricula, and ultimately the participants in capacity building programs. The latter include primarily mid-level leaders and practitioners in public agencies, with overall responsibility for initiating and managing assessment and reporting processes. They may work on different scales, from national governments to states and provinces, municipalities or eco-regions. Many of them would have prior assessment or state of the environment reporting experience. Based on experience with previous training endeavours, IEA practitioners may also include representatives of non-governmental organizations, academics, students, media and experts from the private sector.

While a variety of technical specialists have a key role to play in IEAs, the *GEO Resource Book*, even with its extended content, provides only introductory coverage of some methods that would require extensive academic training. The emphasis is on the IEA system as a whole, and helping participants realize when and where to bring in specialist knowledge for maximum effect.

Contents

The *GEO Resource Book* builds on elements of the earlier IEA training manual, other teaching resources and experience with previous IEA initiatives, but there are also several significant differences.

Content is organized in eight modules as shown in Box 2. A modular design was chosen because capacity building needs vary, and often it is necessary and more effective to concentrate efforts on one or a few topics rather than on the entire IEA package. The intention is to provide maximum flexibility to audiences and facilitators in deciding what content is most relevant. The *GEO Resource Book* is the IEA “source code” that can be freely used as a library of ideas and materials that, over time, can evolve and integrate new concepts and ideas that arise either from GEO or from the many other assessments that will be undertaken in future at the global or sub-global level.

The modules take participants through the IEA process, essentially treating IEA as an *institution* that organizations in charge of assessment and reporting processes need to

Box 2: *GEO Resource Book* modules

Module 1: The GEO Approach to Integrated Environmental Assessment

Module 2: IEA Process Design and Organization

Module 3: Developing an Impact Strategy for your IEA

Module 4: Monitoring, Data and Indicators

Module 5: Integrated Analysis of Environmental Trends and Policies

Module 6: Scenario Development and Analysis

Module 7: Creating Communication Outputs from the Assessment

Module 8: Improving the IEA Process and Increasing Impact through Monitoring, Evaluation and Learning

build. This will take the reader through questions related to setting up a process and securing the mandate to build an impact strategy, carry out the actual assessment, prepare information products and close the loop by reflecting on lessons learned throughout the process.

Each module is accompanied by a set of PowerPoint slides on a CD, and sample agendas that are intended to help course designers construct and run sessions of either an overview or comprehensive nature, or somewhere in between. Course designers are encouraged to modify and enrich the slide decks with regional case studies and other more locally relevant information.

Course Design and Delivery

Generally, a course based on the *entire GEO Resource Book* will *not* be offered in full (i.e., all modules in full detail), as it would require much more time in one block than a typical participant could devote to the program. The modules are cross-referenced and are designed to be delivered as individual modules or as a package. As a result, there is some repetition of key graphics and concepts across modules.

Figure 1: Illustrating the relationship between the Resource Book and Participant Workbook.

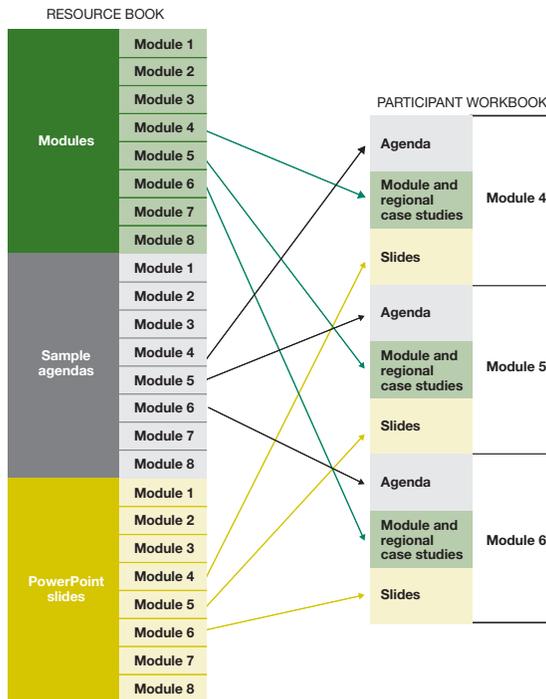


Figure 1 illustrates the relationship between the *GEO Resource Book* and the *Participant Workbook*. A *Participant Workbook* is a customized set of training materials based on the *GEO Resource Book* and selected by the facilitator, and possibly enriched with regional case studies. A participant workbook includes detailed agendas, core content and PowerPoint slides for the modules to be delivered. Other modules not covered need not be included. Course participants thus do not receive the entire *GEO Resource Book*, only the sections selected by the facilitator.

Effective IEA capacity building, as emphasized by some of the criteria shown in Box 1, should be an interactive process. The modules therefore are set up to include a series of didactic elements:

- concept presentations;
- discussion questions in breakout groups and/or plenary;
- case studies;
- role plays;
- problem solving group exercises; and
- plenary sessions at the end of the days to review key lessons learned, review any outstanding questions and explore concrete opportunities for practical application of the topics covered.

In some cases the facilitator may ask participants to read selected papers prior to or during the workshop.

Included with the sample agendas and PowerPoint slides is a guide for interactive course design and delivery.

The margins of each module contain symbols for the facilitator and participants to more readily identify discussion questions, participatory exercises, and information for which a specific PowerPoint slide has been created.



– discussion question



– PowerPoint slide and number



– participatory exercise

Course facilitators should formally and informally gather participant feedback throughout a course. In order to help the process, a sample evaluation form is included on the CD for daily and for overall course evaluations.

Module 1 Overview: The GEO Approach to Integrated Environmental Assessment

Module 1 Content

- UNEP assessment mandate
- GEO rationale and IEA framework
- The GEO process
- The GEO-4 process
- GEO products
- Assessment and reporting related to IEA

Module 1 introduces the integrated environmental assessment (IEA) and reporting process based on the Global Environment Outlook (GEO) of the United Nations Environment Programme (UNEP). It demonstrates the IEA approach is an effective way of developing policy-relevant recommendations about the state of the environment and its interaction with human development.

The module describes UNEP, its mandate to keep the global environment under review, and how the GEO process fulfils this mandate. The goal of the GEO process is to ensure that environmental problems and significant emerging issues receive appropriate, adequate and timely consideration by governments and other stakeholders. As part of the GEO initiative, UNEP helps practitioners learn how to carry out integrated environmental assessments at regional and national levels.

IEA undertakes a critical, objective evaluation and analysis of data and information designed to support decision making. It applies expert judgment to existing knowledge to provide scientifically credible answers to policy-relevant questions, indicating where possible the level of confidence. IEA provides a participatory, structured approach to linking knowledge and action. Over time, GEO has developed an increasingly integrated approach to environmental assessment and reporting. It asks the questions seen in Figure 2.

For *GEO-1*, *GEO-2000* and *GEO-3*, UNEP's integrated environmental assessment was carried out using the Drivers-Pressure-State-Impact-Response (DPSIR) framework. In *GEO-4*, scheduled to be released in the fall of 2007, the conceptual framework has been modified. Module 1 describes the differences between this new framework and the original DPSIR framework.

GEO products include:

- global assessments (*GEO-1*, *GEO-2000* and *GEO-3*);
- regional and sub-regional reports;

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