

Preface

Ecosystems and Human Well-being: A Framework for Assessment is the first product of the Millennium Ecosystem Assessment (MA), a four-year international work program designed to meet the needs of decision-makers for scientific information on the links between ecosystem change and human well-being. It was launched by United Nations Secretary-General Kofi Annan in June 2001, and the principal assessment reports will be released in 2005. The MA focuses on how changes in ecosystem services have affected human well-being, how ecosystem changes may affect people in future decades, and what types of responses can be adopted at local, national, or global scales to improve ecosystem management and thereby contribute to human well-being and poverty alleviation.

Parties to the Convention on Biological Diversity, the Convention to Combat Desertification, the Ramsar Convention on Wetlands, and the Convention on Migratory Species have asked the MA to provide scientific information to assist in the implementation of these treaties. The MA will also address the needs of other stakeholders, including the private sector, civil society, and indigenous peoples organizations. The MA is closely coordinated with other international assessments that focus in greater depth on particular sectors or drivers of change, such as the Intergovernmental Panel on Climate Change and the Global International Waters Assessment. Scientific evaluations such as these help underpin various regular annual and biennial international reporting mechanisms, such as the *Global Environmental Outlook*, the *World Resources Report*, the *Human Development Report*, and the *World Development Report*.

Leading scientists from more than 100 nations are conducting the MA under the direction of a Board that includes representatives of five international conventions, five United Nations agencies, international scientific organizations, and leaders from the private sector, nongovernmental organizations, and indigenous groups. If the MA proves to be useful to its stakeholders, it is anticipated that an integrated ecosystem assessment process modeled on this process will be repeated at a global scale every 5–10 years and that ecosystem assessments will be regularly conducted at national or sub-national scales.

An ecosystem assessment can aid any country, region, or company by:

- deepening understanding of the relationship and linkages between ecosystems and human well-being;
- demonstrating the potential of ecosystems to contribute to poverty reduction and enhanced well-being;
- evaluating the compatibility of policies established by institutions at different scales;

- integrating economic, environmental, social, and cultural aspirations;
- integrating information from both natural and social science;
- identifying and evaluating policy and management options for sustaining ecosystem services and harmonizing them with human needs; and
- facilitating integrated ecosystem management.

The MA will help both in choosing among existing options and in identifying new approaches to carrying out the Plan of Implementation adopted at the World Summit on Sustainable Development (WSSD) and achieving the United Nations Millennium Development Goals. The WSSD Plan reiterates those goals and states that in order to “reverse the current trend in natural resource degradation as soon as possible, it is necessary to implement strategies which should include targets adopted at the national and, where appropriate, regional levels to protect ecosystems and to achieve integrated management of land, water and living resources, while strengthening regional, national and local capacities.”

The MA will contribute directly to this goal and can respond to the WSSD call to:

improve policy and decision-making at all levels through, *inter alia*, improved collaboration between natural and social scientists, and between scientists and policy makers, including through urgent actions at all levels to: (a) Increase the use of scientific knowledge and technology, and increase the beneficial use of local and indigenous knowledge in a manner respectful of the holders of that knowledge and consistent with national law; (b) Make greater use of integrated scientific assessments, risk assessments and interdisciplinary and intersectoral approaches; . . .

The MA also seeks to help build individual and institutional capacity to undertake integrated ecosystem assessments and to act on their findings. In the final analysis, societies need to be enabled to manage their biological resources and their ecosystems better with the resources at hand. The human capacity to do so is vital. Wherever the MA activities unfold, they will leave a corps of more aware and motivated collaborators to continue the effort to achieve more enlightened and effective management.

This first report of the Millennium Ecosystem Assessment describes the conceptual framework that is being used in the MA. It is not a formal assessment of the literature, but rather a scientifically informed presentation of the choices made by the assessment team in structuring the analysis and framing the issues. The conceptual framework elaborated in this report describes the approach and assumptions that will underlie the analysis conducted in the Millennium Ecosystem Assessment. The framework was developed through interactions among the experts involved in the MA as well as stakeholders who will use its findings. It represents one means of examining the linkages between ecosystems and human well-being that is both scientifically credible and relevant to decision-makers. This framework for analysis

and decision-making should be of use to a wide array of individuals and institutions in government, the private sector, and civil society that seek to incorporate considerations of ecosystem services in their assessments, plans, and actions.

Five overarching questions, along with the detailed lists of user needs provided by convention secretariats and the private sector, guide the issues being assessed:

- What are the current conditions and trends of ecosystems and their associated human well-being?
- What are the plausible future changes in ecosystems and in the supply of and demand for ecosystem services and the consequent changes in health, livelihood, security, and other constituents of well-being?
- What can we do to enhance well-being and conserve ecosystems? What are the strengths and weaknesses of response options, actions, and processes that can be considered to realize or avoid specific futures?
- What are the most robust findings and key uncertainties that affect the provision of ecosystem services (including the consequent changes in health, livelihood, and security) and other management decisions and policy formulations?
- What tools and methodologies developed and used in the MA can strengthen capacity to assess ecosystems, the services they provide, their impacts on human well-being, and the implications of response options?

The MA was launched in June 2001, and the final global assessment reports will be released in 2005. In addition, a series of short synthesis reports will be prepared, targeted at the needs of specific audiences, including the international conventions and the private sector. Up to 15 sub-global assessments may be carried out at local, national, and regional scales using this same conceptual framework and designed to contribute to decision-making at those scales. These sub-global assessments have already begun to release initial findings and will continue through 2006. During the course of the assessments, an ongoing dialogue is under way with the users at global and sub-global scales in order to ensure that the assessments are responsive to the needs of the users and that the users are informed regarding the potential utility of the findings.

This report has undergone two rounds of peer-review, first by experts involved in other parts of the MA process and then by both experts and governments (through the national focal points of the Convention on Biological Diversity, Convention to Combat Desertification, and the Ramsar Convention on Wetlands and through participating National Academies of Science).