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Item 4.4 of the provisional agenda *

THE MILLENNIUM ECOSYSTEM ASSESSMENT FOLLOW-UP

A Global Strategy for Turning Knowledge into Action

Note by the Executive Secretary

1. The Executive Secretary is pleased to make available herewith for the information of participants in the ninth meeting of the Conference of the Parties to the Convention on Biological Diversity, an information document on the Millennium Ecosystem Assessment follow-up: a global strategy for turning knowledge into action.
2. The document was made available by the United Nations Environment Programme on behalf of the partner organizations involved in the Millennium Ecosystem Assessment (MA) Follow-up Advisory Group. It has been developed to respond to the recommendations from the two independent evaluations and the request from the Convention on Biological Diversity to assess and where possible further increase the impact of the MA.
3. The document is reproduced in the form and language in which it was provided to the Secretariat.

* UNEP/CBD/COP/9/1.

The Millennium Ecosystem Assessment (MA) follow-up

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**A global strategy for turning
knowledge into action**

February 2008

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Preamble

The Millennium Ecosystem Assessment (MA) demonstrated more comprehensively than ever before the important links between ecosystems, ecosystem services and human well-being. Since the release of the study's findings, a growing number of countries have sought to act on those findings and to operationalize and implement its conceptual framework.

The MA fostered partnerships both in conducting the assessment and disseminating its results. It is natural that many of those partners have initiated follow-up activities of their own. There is a need, however, for a coordinated approach in taking the MA findings forward to maximize their impact on the scientific and policy communities.

The present strategy was prepared by a consortium of partner institutions and individuals. It is intended to guide follow-up activities undertaken by the various organizations involved in a coordinated and coherent manner to maximize the impact of the MA.

1. Background

The MA represented a major international effort to assess ecosystem changes and their consequences for human well-being at scales from the global to the local. Funded by the Global Environment Facility (GEF) and other donors, and implemented with a range of partners, the MA was launched in June 2001 and released its findings in 2005. The findings prove conclusively that society is degrading the planet's ecosystem services resulting notably in biodiversity loss and climate change impacts, and that the current decline of these services represents a serious obstacle to achieving the Millennium Development Goals (MDGs) for many developing countries and sustainable development paths for all countries. The MA recommends immediate action to halt and reverse the decline noted in 15 of the 24 ecosystem services it assessed.

Lessons learnt - independent MA evaluations

The United Nations Environment Programme (UNEP), as part of GEF procedures, initiated an independent terminal evaluation of the MA, which was completed in September 2006. In addition, the United Kingdom Environmental Audit Committee of the House of Commons undertook an evaluation of the MA and published its results in 2007. Both evaluations reported that the MA's technical objective of assessing the capacity of ecosystems to support human well-being had proved both innovative and far-reaching. The MA's emphasis on ecosystem services and their significance for human well-being is widely recognized as having made a major contribution to clarifying the linkage between biodiversity conservation and poverty alleviation.

The evaluations also concluded, however, that there was little evidence that the MA had made a significant direct impact on policy formulation and decision-making, especially in developing countries. This can be attributed to a variety of reasons, the main ones being:

- **Gaps in ecosystem services knowledge base.** More needs to be known about the interdependence of ecological and social systems for human well-being, including the way ecosystems function, their response to human pressure, and their relationship to

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biodiversity. Other than those traded in markets, few ecosystem services are routinely monitored.

- **Lack of operational tools and methodologies.** Availability of working models for use by policy-makers to analyze ecosystem services and their trade-offs with development policies and resource allocations, is limited.
- **Insufficient attention to sub-global assessments.** Very few developing country sub-global assessments were adequately funded, resulting in the significant discrepancy in the quality of sub-global assessment products.
- **Limited economic analysis.** The MA fell short of defining convincing economic values of ecosystem services and, in particular, of the regulating and cultural services which could be used to evaluate the trade-offs with conventional development strategies.
- **Lack of periodic assessments.** No permanent body or process exists to conduct periodic assessments of the status of ecosystem services to monitor and track changes in those services and their impacts on human well-being.
- **Limited awareness and understanding among decision-makers on the MA findings and the concept of ecosystem services.** Ecosystem services are a new concept to most decision-makers. As a result, there is limited capacity to apply the ecosystem services framework and work proactively on incorporating ecosystem service considerations into development strategies.

In addition, the Conference of the Parties to the Convention on Biological Diversity has considered the implications of the MA for the work of the Convention (decision VIII/9) and its Subsidiary Body on Scientific, Technical and Technological Advice has called for a coherent international multi-agency strategy for follow-up to the MA in support of the application of the framework, methodologies and findings at the national and other sub-global levels (recommendation XII/3). An evaluation of the impacts of the MA prepared for the Conference of the Parties at its ninth meeting, held from 19 to 30 May 2008 in Bonn, Germany, suggests that there is increasing evidence that the MA is having a significant and lasting impact on many stakeholders as evidenced, in particular, by the way in which the concept of ecosystem services as a foundation of human well-being has entered scientific and political discourse.

The findings of the two independent evaluations and the call by the Convention on Biological Diversity confirm beyond doubt that there is a demand for a follow-up to the MA. The MA's emphasis on ecosystem services and trade-offs and their links to human well-being have been welcomed by the conservation and development communities as a unique framework to support development efforts focused on poverty reduction. It is critical, however, that any follow-up to the MA should respond to the needs of the various stakeholders. It is important to ensure that the audiences identified by the MA and targeted in this strategy have access to, and act on, the MA findings and framework, as it is only through the implementation of actual changes in decision-making that key benefits will be realized in reversing ecosystem service decline and making development more sustainable.

2. A strategic approach to MA follow-up

The present strategy has been developed to respond to the recommendations of the two independent evaluations and the request made by the Convention on Biological Diversity to substantially increase the impact of the MA. Key elements to increase the MA's impact are already in place – its findings are available, there is a demand by many countries for its ecosystem services–human well-being approach, and the original MA partners together with new partners are keen to continue and expand their collaboration.

The MA was undertaken by a broad group of partners, including the Convention on Biological Diversity, the United Nations Convention to Combat Desertification, the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar Convention), the Food and Agriculture Organization of the United Nations (FAO), GEF, the International Council for Science (ICSU), the World Conservation Union (IUCN), the United Nations Development Programme (UNDP), UNEP, the United Nations University (UNU), the World Bank, the World Business Council for Sustainable Development (WBCSD), the World Health Organization (WHO) and the World Resources Institute (WRI).

A number of MA-related follow-up activities are being undertaken by partners. In order to maximize the impact of these activities and to move forward with the “operationalization¹” of the MA, **a partners' consortium² has been established to facilitate a coordinated follow-up effort**. The strategy, spearheaded by UNEP and developed by a consortium of partners, has been developed in a spirit of cooperation. It aims to provide a roadmap for operationalizing the MA and to explore the needs, options and modalities for a second global ecosystem assessment. UNEP, in collaboration with UNDP, will act as the anchor institution for MA follow-up activities by **facilitating** cooperation, **promoting** coherence and **encouraging** joint programming among partners to ensure **delivery** of MA approaches and relevant recommendations to policy- and decision-makers at all appropriate levels.

UNEP is well placed to act as the anchor institution of MA follow-up activities for the following reasons:

- First, **UNEP is the environmental pillar for the United Nations system**. This has been reinforced by the United Nations High-level Panel on System-wide Coherence in its report, *Delivering as One*. UNEP represents a potential entry point for MA follow-up activities at all levels of United Nations activities and, in particular, at the national scale, in close collaboration with UNDP, where the most urgent action is required.
- Second, **UNEP's central role in relation to the multilateral environmental agreements** provides another critical entry point for ensuring rapid uptake of the MA.
- Third, **UNEP's role in global monitoring and its attempts to strengthen the science base in collaboration with key scientific institutions** provides an enabling environment for generating knowledge and new tools for implementing the MA at all levels.

¹ Operationalization in this document refers to developing policies and action plans to address the main findings of the MA.

² Detailed description of the institutional arrangements is provided in Section 5.

- Fourth, the **recent move by UNEP to develop an organization-wide ecosystem management programme guided by the MA and its findings** demonstrates UNEP's commitment to the ecosystem service approach.

The MA follow-up activities seen by partners as critical are guided by the following vision, goal, objectives, expected accomplishments and key activities.

3. The MA follow-up strategy

Vision

Improve human well-being by halting and reversing the decline in ecosystem services.

Goal

Ecosystem service considerations become an integral part of public and private sector decision-making at all levels.

Strategic objectives, expected accomplishments and key activities¹

Based on the main findings of the independent evaluations, four main objectives with corresponding expected accomplishments and activities have been identified for the follow-up strategy. The activities listed in this strategy are activities which are already being carried out by a variety of organizations. The strategy aims to provide a common framework through which organizations working in their respective areas of competence are able to coordinate their activities, initiate new joint activities, collaborate, exchange information and share experiences. It is intended to maximize the impact of activities whilst minimizing the human and financial costs of their implementation.

¹ An overview of key activities, lead and collaborating institutions and timeframe for implementation is provided in annex V to the present report.

Objective 1 - Build the knowledge base

Continue to build and improve the knowledge base on the links between biodiversity, ecosystem functioning, ecosystem services and human well-being, and develop tools for mainstreaming ecosystem services into development and economic decision-making.

One of the pioneering contributions of the MA was to clarify the linkages between ecosystem services and human well-being. Some 1360 experts from 95 countries participated in the assessment to take a first cut at making sense of the linkages and elaborate guidance to enable policy-makers to make informed decisions on the use of ecosystems and their services.

It is, however, widely recognized by the scientific and policy communities that much more needs to be done to improve the state of knowledge on the linkages not only between ecosystem services and human well-being, but also between biodiversity, ecosystem functioning, the delivery of ecosystem services and the relationships that individuals and societies have with the natural system.

The development of a policy-driven science agenda should stimulate the scientific community to undertake new research to address key issues in linking ecosystem services and human well-being. The specific objectives and activities listed under this section have been developed with the primary aim of addressing this area of emerging research.

Objective 1.1 - Identify and address research needs to fill gaps in knowledge and data related to ecosystem change and management and the role of ecosystem services in supporting human well-being.

Expected accomplishment

Research needs and knowledge and data gaps clearly identified, and actions initiated to address the development of scientific knowledge.

Key activities

1. Establish a multidisciplinary group of experts to identify key gaps in knowledge and data, to design a research agenda, and to influence the priorities of research funding agencies.
2. Promote and support an improved mechanism for the collection, use and exchange of data relating to biodiversity, ecosystem services and geo-referenced socio-economic data that will enhance the ability of MA partners and others to track changes in the capacity of ecosystems to supply services and the attendant impacts on human well-being.

Objective 1.2 - Develop analytical tools for assessing changes in ecosystem services caused by drivers such as climate change, adapting to reduce their impacts on human well-being, and integrating ecosystem service considerations into decision-making processes at all levels.

Expected accomplishment

Tools and methodologies developed for integrated ecosystem assessment, economic analysis undertaken of trade-offs based on monetary and non-monetary valuation of ecosystem services, and mainstreaming of policy interventions based on the MA approach and findings.

Key activities

1. Develop and advance tools and methodologies for:
 - a) Valuation of ecosystem services with special emphasis on regulating and cultural services;
 - b) Spatial mapping of ecosystem services;
 - c) Undertaking trade-off analyses across ecosystem services and human well-being;
 - d) Designing institutional and distributive mechanisms for payment for ecosystem services;
 - e) Undertaking spatial and temporal analyses of changes in ecosystems;
 - f) Decision-support systems to guide decision-makers on integrating ecosystem services in their decision-making processes;
 - g) Assessing the business risks and opportunities associated with ecosystem change.
2. Develop an ecosystem assessment manual (“methods manual”) to provide practical guidance for undertaking integrated ecosystem assessments.
3. Improve the understanding of ecosystem services’ production functions, the trade-offs among services and links with human well-being.
4. Develop a web-based learning platform to improve access to assessment tools and facilitate training.

Objective 1.3 - Build the knowledge base on ecosystem services by advancing sub-global assessments

Expected accomplishment

Additional support catalyzed for existing sub-global assessments and initiating new sub-global assessments based on the MA framework, with an emphasis on ecosystems and regions not well-covered by the existing set of sub-global assessments.

Key activities

1. Act as a conduit for translating findings and tools from objectives 1.1 and 1.2 which are relevant for sub-global assessments and capture lessons learnt from past and ongoing sub-global assessments to strengthen future innovations in tools and methodologies under objective 1.2.
2. Support and initiate policy-driven sub-global assessments in close cooperation with activity 3 under objective 2.1, including undertaking economic valuations and scenarios development focused on supporting policy-making processes.
3. Support and initiate selected and tightly focused, research-driven sub-global assessments, designed with a strict standardization approach, which would address many of the priority knowledge and research gaps identified under objective 1.1.
4. A sub-global assessment secretariat to be established to facilitate information exchange and a clearing house developed for sub-global assessment outputs and documents.

Objective 1.4 - Develop and foster capacity-building programmes on ecosystem services and human well-being that contribute to the training of the next generation of inter-disciplinary researchers and decision-makers.

Expected accomplishment

Ecosystem services science - natural and social - becomes an integral part of educational curricula.

Key activities

1. Academic masters programme on ecosystem services and sustainable development in place, with a particular focus on the admission of young scholars from developing countries to the programme.
2. Scholarship programme to enable young researchers in developing countries to participate in sub-global assessments.

Objective 2 - Integrate the MA ecosystem service approach into decision-making at all levels

Promote the systematic application of ecosystem service considerations, including improved ecosystem services management for increasing resilience to climate change and strengthening the basis for adaptation in public, civil society and private sector decision-making.

Recognizing that conditions, needs and capacity vary significantly between countries and sectors, there is a need to adapt and translate the broad findings and framework developed by the MA for decision-makers. This will build on the knowledge base, tools and methodologies developed under objective 1, and be tailored for specific decision-making needs in sub-national, national, regional and sectoral contexts.

Activities under objective 2 will target a wide range of stakeholders, including policy-makers at all levels (sub-national, national, regional and international), the private sector, ranging from small- and medium-sized enterprises to multinational corporations, and civil society organizations. Activities under objective 2 will be implemented not by initiating new processes and programmes, but by forging close links with a series of existing initiatives listed below, which provide opportunities for implementing ecosystem service-based approaches:

- **National and sub-national** planning processes, policies, economic and fiscal incentives, climate adaptation and vulnerability assessments, poverty reduction strategies, budgeting and sector policies;
- **Regional initiatives**, such as the Mekong River Commission, Amazon Cooperation Treaty Organization, Regional Seas Programme, New Partnership for Africa's Development, The Nile Basin Initiative and the Lake Victoria Basin Commission, among others;
- **International programmes**, including One-UN Country Programmes; UNDP-UNEP Poverty and Environment Initiative; UNDP MDG Support Programme; UNDP-UNEP joint work on climate change adaptation and natural disaster risk reduction; United Nations International Strategy for Disaster Reduction (ISDR) work on disaster risk management using an ecosystem approach; the FAO sectoral work in agriculture, forestry and fisheries; the World Bank-led TerrAfrica Programme and Forest Carbon Partnership; the United Kingdom Department for International Development Natural Environmental Research Council's Ecosystem Services for Poverty Alleviation Programme; the UNEP Finance and Insurance Initiative and Sustainable Production and Consumption Initiative; Global Compact; and the WRI Mainstreaming Ecosystem Services Initiative;
- Existing **multilateral environmental agreement national implementation plans and processes**, such as the National Adaptation Programmes of Action under the United Nations Framework Convention on Climate Change and the National Biodiversity Strategies and Action Plans under the Convention on Biological Diversity.

Objective 2.1 - Strengthen the capacity of policy-makers to integrate ecosystem service considerations, including adaptation measures to increase resiliency to climate change, into their development planning and implementation processes at all levels and sectors of government.

Expected accomplishment

Consideration of ecosystem services integrated into development planning and budgetary processes, programmes and policies at the international, regional, national and sub-national levels, contributing to the achievement of sustainable development and MDGs where relevant.

Key activities

1. Promote the use and adaptation of decision-support tools and methodologies developed under objective 1 for the integration of ecosystem service considerations, including adaptation measures to increase resiliency to climate change, at the regional, national, sub-national and sector level. Key examples include tools and methods for economic valuation, indicators for tracking the status of ecosystem services and linked human well-being constituents, and application of ecosystem service information in strategic environmental assessment and environmental impact assessment.
2. Disseminate to appropriate decision-makers an ecosystem assessment manual and other guides and manuals developed under objective 1.
3. Build capacity and promote learning for the application of the ecosystem service framework by government and civil society. Activities could focus on the following:
 - a) Design and implementation of intervention responses based on outcomes of sub-global assessments under objective 1.3 and mainstreaming them into regional, national and sub-national development planning and implementation processes;
 - b) Building the capacity of ministries of finance to include budgetary appropriations for investment in ecological infrastructure;
 - c) Strengthening local rights and community involvement in management of and decision-making pertaining to ecosystem services;
 - d) Promoting and supporting the involvement of users in the development of tools and methodologies.
4. Promote pro-poor economic and financial incentives for sustaining ecosystem services, including the promotion of taxation mechanisms, payment for ecosystem services schemes and other market mechanisms, and elimination of distorting subsidies, including by undertaking pilot projects in close collaboration with the policy-driven sub-global assessments under objective 1.3.
5. Support governments in the establishment of an enabling environment that is conducive to the internalization of ecosystem service considerations into decision-making in the private sector.
6. Promote the integration of ecosystem service considerations through the frameworks of existing agencies and processes at the regional and international levels (see opportunities and existing initiatives identified above).

These activities should be closely linked to sub-global assessments conducted under objective 1. Priority processes should be identified according to the following criteria:

- Demand from the country or region concerned;
- Existence of an opportunity to influence a decision-making process;
- Significant ecosystem degradation or risk of future degradation that will or might jeopardize the attainment of development goals;

- Presence of a committed leader or champion in a position of influence who is willing to experiment with proactively integrating ecosystem service considerations in a decision-making process;
- Presence of an effective existing initiative related to the integration of environmental considerations into country programmes or policies that could benefit from the MA framework and ecosystem service considerations (e.g. UNDP-UNEP Poverty and Environment Initiative, UNDP MDG Support Programme, One-UN Countries, etc.).

Objective 2.2 - Promote the mainstreaming of ecosystem service considerations into private sector decision-making, encourage businesses to become a critical driving force in advancing markets and technologies for sustaining ecosystem services and calling for public policy reform to align financial and economic incentives with ecosystem stewardship.

Expected accomplishment

Ecosystem service considerations integrated into private sector decision-making, planning frameworks and operating processes at the international, regional and sub-national levels, across developed and developing countries, by establishing the business case for investment in the management of ecosystem services.

Key activities

1. Propagate the corporate ecosystem services review methodology developed by WRI, WBCSD and the Meridian Institute for assessing the business risks and opportunities associated with ecosystem change.
2. Promote and develop good practice guidance, certification, and voluntary standards for ecosystem services stewardship.
3. Support the development of markets, payment for ecosystem services schemes and other policies and incentives for the private sector to promote sustainable management of ecosystem services where there are appropriate conditions for their application.
4. Build capacity through the creation of business learning groups focused on implementing ecosystem services-based strategies.
5. Prepare and broadly disseminate best practice case studies that demonstrate the business case for sustainable management of ecosystem services.
6. Develop case studies and courses on ecosystem services for business school curricula.

When implementing the above activities under objective 2.1, priority will be given to businesses from sectors that have significant dependence or impact on ecosystem services such as mining, agriculture, tourism, and forestry, small- and medium-sized enterprises, as well as businesses in countries selected as priorities under objective 2.1.

Objective 3 - Outreach and dissemination of the MA

Disseminate the findings of the MA and its conceptual framework, tools and methodologies to relevant stakeholders through the development of action-based media strategies and educational tools.

The third focal area of this strategy is outreach and advocacy, responding to the need to create constituencies of policy-makers and civil society, private sector and other institutions to support and respond to the MA's findings. Because the findings have not been sufficiently taken on board by decision-makers, the MA has yet to achieve its full impact. A critical opportunity lies in ensuring that the MA's findings and the knowledge and approaches developed through this follow-up strategy reach decision-makers.

Objective 3 will be achieved in part through activities conducted under objectives 1 and 2. Outreach and awareness-raising on the MA's findings and the ecosystem service approach will be a cross-cutting theme within the overall follow-up strategy. This will build on the MA's outreach and engagement programme, and include target audiences that have not thus far been reached effectively, such as national ministries beyond those of environment and natural resources as well as the private sector, development and non-governmental organizations, and multilateral and regional development banks. It will also target the UNEP Governing Council, multilateral environmental agreement processes and development cooperation agencies, such as the Development Assistance Committee of the Organisation for Economic Cooperation and Development. Some opportunities and possible entry points for engaging target stakeholders include:

- UNDP Human Development Report;
- World Bank World Development Report;
- Development Assistance Committee Network on Environment and Development Cooperation (ENVIRONET) meetings;
- Media channels such as BBC, CNN;
- 2010 International Year of Biodiversity;
- Proposed decade for ecosystem restoration.

Objective 3.1 - Raise awareness of the importance of ecosystem services for human well-being.

Expected accomplishment

Awareness of the MA's findings and their implications for development aspirations increased worldwide, particularly among targeted audiences as specified above.

Key activities

1. Establish a working group to design an outreach strategy based on **WHO** the targeted audience is, **WHAT** will be conveyed and **HOW** it will be conveyed.
2. Increase awareness of the MA and its potential usefulness for the United Nations family, including through UN-Water, UN-Oceans, World Trade Organization, ISDR and the United

Nations Environmental Management Group (EMG), and the multilateral development banks and related agencies.

3. Produce and disseminate communication material for specific policy-making audiences, in particular, ministries of economics and trade, finance, development and planning, including official reports to multilateral environmental agreement processes such as meetings of policy and scientific bodies, conferences and meetings of the Parties to multilateral environmental agreements, highlighting the contribution of ecosystem services in physical and economic terms to key sectors of the economy and their relevance in investment decisions related to infrastructure, industrial development, export promotion, land management, among others.
4. Produce and disseminate communication material for industries dependent on provisioning, regulating and cultural ecosystem services, showing the importance and value of these services to the production of commercial goods and services and the costs of substituting them if they become degraded. This activity will be undertaken in coordination with activities under objective 2.2.
5. Support the training of journalists on issues related to ecosystem services, with particular emphasis on journalists from developing countries.
6. Work closely with the media, making the latest findings available as they emerge.

Objective 4 - Future global ecosystem assessments

Explore needs, options and modalities for a possible second global ecosystem assessment, complementing existing assessment processes and contributing to the development of a more coherent international environmental assessment landscape.

The fourth objective of this strategy relates to the establishment of a process to explore the possibility of initiating a second global ecosystem assessment, with full consideration given to other existing assessment initiatives, and contributing to the development of a more coherent international environmental assessment landscape. At the MA follow-up partners' workshop held in Stockholm in October 2007, participants discussed needs, options and possible mechanisms to establish such a process and there was general agreement on a strong need and relevance for a regular or periodic global assessment relating to ecosystem services to be carried out, with particular emphasis on links with human development. It was agreed at the meeting that the exploratory process of scoping for a second assessment should be guided by the following criteria:

1. The **MA conceptual framework linking biodiversity with ecosystem services and human well-being** should be used as the starting point in any subsequent assessment.
2. A **multi-scale approach** is necessary to assess effectively the links between biodiversity, ecosystem services and human well-being, and to ensure effective engagement of stakeholders at all levels.
3. **Interlinkages with other global assessment processes** should be pursued.
4. **Capacity-building activities** should be incorporated into any future assessment process or mechanism to facilitate application of findings and methodologies.
5. The assessment process should include **provision for effective intergovernmental and stakeholder input**.

Objective 4.1 - Establish a process for exploring needs, options and modalities for a second global ecosystem assessment.

Expected accomplishment

A draft strategy of options for undertaking a second global assessment developed and submitted to the MA follow-up advisory group.

Key activities

1. Establish a working group to explore needs, options and modalities and collaborative mechanisms with existing assessment processes, including the International Mechanism of Scientific Expertise on Biodiversity (IMoSEB), through consultations with governments and other relevant stakeholders.
2. Pending the outcome of the exploratory process, establish a working group of partners to develop a proposal for the scope and process for a second global assessment which would be subject to further intergovernmental and multi-stakeholder consideration.

4. Impacts on poverty alleviation and gender equality

The proposed activities outlined within the project are closely linked to partner organization efforts towards poverty alleviation and fully complement existing as well as planned initiatives within those organizations. This strategy, focusing on the social and economic aspects of the root causes of the obstacles to achieving sustainable development in the context of implementing the MDGs and other intergovernmentally agreed goals and targets, will **directly or indirectly benefit vulnerable and marginalized groups by alleviating poverty**. This will be achieved through various means such as the **mainstreaming of ecosystem service considerations into national development frameworks**, including poverty reduction strategies. In this regard, the design of sub-global assessments will from the very start identify groups vulnerable to ecosystem services decline (women and children in particular) and, when designing response options, try to make these groups into active players in the management of the ecosystem regime rather than passive players waiting for aid.

The strategy will integrate activities that are designed to **enhance gender equality** and ensure that women are targeted as part of the proposed outreach activities. The notion of well-being as adopted in this proposal will make distinctions across appropriate social groups, which include women and children, in particular, who are more vulnerable to ecosystem decline. In this respect, the design of policy responses will take into consideration the role played by women in ecosystem management and stewardship. This will relate closely to efforts to empower vulnerable and marginalized groups. Indicators to describe this interrelation will be developed accordingly.

As specific activities are undertaken, full consideration will be given to **ensure that gender balance is achieved in project implementation**. Gender balance will be highlighted specifically and all partners will endeavour to ensure that at least one-third of the participants in the capacity-building training workshops and meetings are women. Where consultants are used, a similar gender balance will be considered in their selection.

5. Implementation arrangements

The strategy will be implemented through a consortium of partner institutions, each of which will have responsibilities for its realization. As the strategy recognizes, a wide range of MA follow-up activities are already being implemented by partner institutions. To ensure coordination and synergies among partners and their activities, it is proposed that the governance structure for the implementation of the MA follow-up strategy shall be organized as follows:

- The **MA follow-up implementation group**³ will comprise representatives of partner institutions committed to help implement the strategy. There will be an open membership. The group will be co-chaired by UNEP and UNDP, and it will coordinate the implementation of the strategy and promote joint programming among partners. Lead agencies for various activities under the strategy will become members of the implementation group.
- The **executive committee**⁴ will consist of a subset of implementation group members. The committee will meet intersessionally to oversee the implementation of the strategy on behalf of the implementation group. The committee will be headed by the same co-chairs as the implementation group, and will review ongoing activities and promote coordination at the working level among partner agencies. One of the co-chairs of each of the distributed secretariats established for the various thematic working groups (see below) will also become members of the committee.
- The **MA follow-up advisory group**⁵ will have a wider representation, including representatives from multilateral environmental agreement secretariats, governments, non-governmental organizations, the private sector, the donor community and members-at-large. The group will provide strategic advice to the implementation group, establish links with and engage a wide range of stakeholders, support outreach and fundraising activities, and ensure scientific, technical and policy leadership and credibility of initiatives. The group will be co-chaired by two members selected by consensus by the group.
- **Thematic working groups** organized by thematic activity area (e.g., research gaps, sub-global assessments, mainstreaming and integration, outreach) will be formed with distributed secretariats as and when needed to facilitate the exchange of information and lessons learnt and to ensure coordination at the working level.
- UNEP, in collaboration with UNDP, will host the **global secretariat** to support the MA follow-up implementation group, the executive committee and the MA follow-up advisory group, to promote and foster coordination and information flow among partners, and facilitate coordination and information exchange across the various thematic working groups.

Another important aspect related to the implementation arrangements is **resource mobilization**. A wide variety of MA follow-up activities are currently being undertaken by partner institutions, often funded by donors through direct bilateral arrangements. There is a strong need, however, for a resource mobilization strategy to be developed to support underfunded activities such as sub-global

³ A list of members of the MA follow-up implementation group is presented in annex I to the present document.

⁴ A list of members of the executive committee is presented in annex II to the present document.

⁵ A preliminary list of members of the MA follow-up advisory group, including members-at-large who participated in the MA follow-up partners' workshop, held in Stockholm in October 2007, and contributed to the development of this strategy is presented in annex IV to the present document. An invitation to additional members of the advisory group will be delivered in due course.

assessments and new initiatives like economic valuation and pro-poor payment for ecosystem services schemes. Under the framework of the MA follow-up advisory group, a resource mobilization strategy for MA follow-up activities will be developed in close consultation with bilateral and multilateral donor agencies, foundations and the private sector.

Annex I: List of MA follow-up implementation group members

	Co-chairs	
	United Nations Environment Programme (UNEP)	Mr. Achim Steiner (Ms. Angela Cropper as alternate)
	United Nations Development Programme (UNDP)	Mr. Kemal Dervis (alternate to be confirmed)
	Member institutions	Representatives
1.	European Environment Agency (EEA)	Mr. Jock Martin/Mr. Ybele Hoogeveen
2.	Food and Agriculture Organization (FAO)	Mr. Jeff Tschirley
3.	Global Environment Facility (GEF)	Mr. Jaime Cavelier
4.	International Council for Science (ICSU)	Mr. Thomas Rosswall
5.	Secretariat of Convention on Biological Diversity (CBD)	Mr. David Cooper/Mr. Robert Hoft
6.	Swedish International Development Cooperation Agency (Sida)	Mr. Mats Segnestam
7.	Stockholm Resilience Centre	Mr. Johan Rockstrom/Mr. Carl Folke
8.	Swedish International Biodiversity Programme/Swedish Biodiversity Centre (SwedBio)	Ms. Maria Schultz/Ms. Maria Berlekom
9.	The Cropper Foundation	Ms. Keisha Maria Garcia
10.	The Dutch Ministry of Foreign Affairs (DGIS)	Ms. Marjan Schippers
11.	The World Conservation Union (IUCN)	Mr. Neville Ash
12.	UNDP	Ms. Veerle Vandeweerd/Mr. Charles McNeill
13.	United Nations Educational, Scientific and Cultural Organization (UNESCO)	Mr. Salvatore Arico
14.	UNEP	Mr. Ibrahim Thiaw/Mr. Anantha Duraiappah
15.	UNEP-UNDP Poverty Environment Initiative	Mr. John Horberry/Mr. Philip Dobie
16.	UNEP World Conservation and Monitoring Centre (UNEP-WCMC)	Mr. Jon Hutton/Mr. Matt Walpole
17.	United Nations International Strategy for Disaster Reduction (ISDR)	Mr. Reid Basher
18.	United Nations University/Institute of Advanced Studies (UNU/IAS)	Mr. Hamid Zakri/Mr. Bradnee Chambers
19.	World Resources Institute (WRI)	Ms. Janet Ranganathan

Annex II: List of executive committee members

Co-chairs		
	UNEP	Mr. Achim Steiner (Ms. Angela Cropper as alternate)
	UNDP	Mr. Kemal Dervis (alternate to be confirmed)
Member institutions		Representatives
1.	ICSU	Mr. Thomas Rosswall
2.	IUCN	Mr. Neville Ash
3.	Stockholm Resilience Centre	Mr. Johan Rockstrom
4.	SwedBio	Ms. Maria Schultz
5.	UNDP	Mr. Charles McNeill
6.	UNEP	Mr. Anantha Duraiappah
7.	UNEP-WCMC	Mr. Matt Walpole
8.	UNESCO	Mr. Salvatore Arico
9.	UNU/IAS	Mr. Bradnee Chambers
10.	WRI	Ms. Janet Ranganathan

Annex III: MA follow-up secretariat

	Institutions	Representatives
1.	UNEP	Mr. Anantha Duraiappah
2.	UNDP	Mr. Charles McNeill

Annex IV: MA follow-up advisory group⁶

Co-chairs (to be confirmed)		
	Mr. Bob Watson	Chief Scientific Adviser, UK Department for Environment, Food and Rural Affairs (Defra)
	Ms. Julia Carabias	Director Interdisciplinary Centre for Biodiversity and Environment (CEIBA), Mexico
Member institutions		Representatives
1.	UK Department for Environment, Food and Rural Affairs (Defra)	Mr. Andrew Stott
2.	Environment Directorate-General, European Commission (EC)	Ms. Anne Teller
Members at large (to be confirmed)		
3.	Mr. Alex Mulisa	National Manager Poverty Environment Initiative Rwanda Environment Management Authority (REMA)
4.	Mr. Charles Perrings	Professor of Environmental Economics, ecoSERVICES Group, School of Life Science, Arizona State University
5.	Mr. Hal Mooney	Professor of Environmental Biology Stanford University & Co-Chair of the Millennium Ecosystem Assessment
6.	Mr. Partha Dasgupta	Professor of Economics, University of Cambridge
7.	Mr. Walt Reid	Director of MA1 Director of the conservation and science program David and Lucile Packard Foundation
8.	Ms. Gretchen Daily	Professor, Department of Biological Sciences, Stanford University

⁶ This is a preliminary list with more members to be added in the near future.

Annex V: Key activities - lead and partner organizations - timeframe⁷

Objective	Activities	Lead	Collaborators	Timeframe ⁸
Build the knowledge base				
1.1	1. Establish a multidisciplinary group of experts to identify key gaps in knowledge and data, to design a research agenda, and to influence the priorities of research funding agencies.	ICSU, UNESCO, UNU-IAS	All partners to facilitate the communication of findings into the policy arena	ST
1.1	2. Promote and support an improved mechanism for the collection, use and exchange of data relating to biodiversity, ecosystem services and geo-referenced socio-economic data that will enhance the ability of MA partners and others to track changes in the capacity of ecosystems to supply services and the attendant impacts on human well-being.	GEO/GEOSS	UNEP, Intergovernmental Oceanographic Commission of UNESCO (UNESCO-IOC) through the Global Ocean Observing System (GOOS), World Meteorological Organization (WMO) through the Global Climate Observing System (GCOS) and the Global Atmosphere Watch (GAW), FAO through the Global Terrestrial Observing System (GTOS), ICSU, IUCN, and other interested partners, especially for geo-referenced socio-economic data	MT
1.2	1. Develop and advance tools and methodologies for: <ul style="list-style-type: none"> a) Valuation of ecosystem services with special emphasis on regulating and cultural services; b) Spatial mapping of ecosystem services; c) Undertaking trade-off analyses across ecosystem services and human well-being; d) Designing institutional and distributive mechanisms for payment for ecosystem services; e) Undertaking spatial and temporal analyses of changes in ecosystems; f) Decision-support systems to guide decision-makers on integrating ecosystem services in their decision-making processes; g) Assessing the business risks and opportunities associated with ecosystem change. 	UNEP, UNEP-WCMC, UNU-IAS	UNESCO, Stockholm Resilience Centre, DIVERSITAS, IUCN, World Bank Institute (WBI), WRI	ST
1.2	2. Develop an ecosystem assessment manual (“methods manual”) to provide practical guidance for undertaking integrated ecosystem assessments.	UNEP-WCMC, UNU-IAS	UNESCO, Stockholm Resilience Centre, DIVERSITAS, IUCN, WBI, WRI	ST
1.2	3. Improve the understanding of ecosystem services’ production functions, the trade-offs among services and links with human well-being.	UNEP, UNEP-WCMC, UNU-IAS	UNESCO, Stockholm Resilience Centre, DIVERSITAS, IUCN, WBI, WRI	ST-MT
1.2	4. Develop a web-based learning platform to improve access to assessment tools and facilitate training.	UNEP, UNEP-WCMC, UNU-IAS	UNESCO, Stockholm Resilience Centre, DIVERSITAS, WBI, WRI	ST
1.3	1. Act as a conduit for translating findings and tools from objectives 1.1 and 1.2 which	UNU-IAS, Cropper	national research institutions, IUCN Regional	ST-MT

⁷ The current list of lead and collaborating partners is based on expressions of interest made at the MA follow-up partners’ workshop held in Stockholm in October 2007. This list is not exhaustive and other organizations are encouraged to consider their participation as partners.

⁸ ST: Short-term (2008–2009), MT: mid-term (2010–2011), LT: long-term (2012–2015)

	are relevant for sub-global assessments and capture lessons learnt from past and ongoing sub-global assessments to strengthen future innovations in tools and methodologies under objective 1.2.	Foundation, UNEP	Offices, WWF, other interested partners	
1.3	2. Support and initiate “policy” driven sub-global assessments in close cooperation with activity 3 under objective 2.1 including undertaking economic valuations and scenarios development focused on supporting policy-making processes.	UNU-IAS, Cropper Foundation, UNEP	UNDP, national research institutions, IUCN Regional Offices, other interested partners	ST-MT
1.3	3. Support and initiate selected and tightly focused, research driven sub-global assessments, designed with a strict standardization approach, which would address many of the priority knowledge and research gaps identified under objective 1.1.	UNU-IAS, UNEP, UNESCO Man and the Biosphere Programme (UNESCO-MAB)	UNDP, Cropper Foundation, national research institutions, IUCN Regional Offices, other interested partners	ST-MT
1.3	4. A sub-global assessment secretariat to be established to facilitate exchange and a clearing house developed for sub-global assessment outputs and documents.	UNU-IAS, UNEP, Cropper Foundation	All partners undertaking SGAs	ST
1.4	1. Academic masters programme on ecosystem services and sustainable development in place, with a particular focus on the admission of young scholars from developing countries to the programme.	Stockholm Resilience Centre	UNEP, UNU-IAS, Stanford University, UNESCO-MAB, other interested partners	ST-MT
1.4	2. Scholarship programme for young researchers in developing countries to participate in sub-global assessments.	Stockholm Resilience Centre	UNEP, UNU-IAS, Stanford University, UNESCO-MAB, other interested partners	ST-MT
Integrate the MA ecosystem service approach into decision-making at all levels				
2.1	1. Promote the use and adaptation of decision-support tools and methodologies developed under objective 1 for the integration of ecosystem service considerations, including adaptation measures to increase resiliency to climate change, at the regional, national, sub-national and sector level. Key examples include tools and methods for economic valuation, indicators for tracking the status of ecosystem services and linked human well-being constituents, and application of ecosystem service information in strategic environmental assessment and environmental impact assessment.	WRI, UNEP-UNDP Poverty Environment Facility (PEF)	CBD, IUCN, and all interested partners	ST-MT
2.1	2. Disseminate to appropriate decision-makers an ecosystem assessment manual and other guides and manuals developed under objective 1.	WRI, UNEP-UNDP PEF	CBD, IUCN, and all interested partners	ST
2.1	3. Build capacity and promote learning for the application of the ecosystem service framework by government and civil society. Activities could focus on the following: a) Design and implementation of intervention responses based on outcomes of sub-global assessments under objective 1.3 and mainstreaming them into regional, national and sub-national development planning and implementation processes; b) Building the capacity of ministries of finance to include budgetary appropriations for investment in ecological infrastructure; c) Strengthening local rights and community involvement in management of and decision-making pertaining to ecosystem services; d) Promoting and supporting the involvement of users in the development of tools and methodologies.	UNEP-UNDP PEF, World Bank	WRI, WWF, UNESCO-MAB, IUCN, other interested partners	ST-MT

2.1	4. Promote pro-poor economic and financial incentives for sustaining ecosystem services, including the promotion of taxation mechanisms, payment for ecosystem services schemes and other market mechanisms, and elimination of distorting subsidies, including by undertaking pilot projects in close collaboration with the policy-driven sub-global assessments under objective 1.3.	Katoomba Group, World Bank	UNEP-UNDP PEF, WRI, GEF, FAO, WWF, other interested partners	ST-MT
2.1	5. Support governments in the establishment of an enabling environment that is conducive to the internalization of ecosystem service considerations into decision-making in the private sector.	UNEP-UNDP PEF, World Bank	WRI, GEF, FAO, WWF, other interested partners	ST-MT
2.1	6. Promote the integration of ecosystem service considerations through the frameworks of existing agencies and processes at regional and international levels (see opportunities and existing initiatives identified above).	UNEP, CBD, IUCN, other interested multilateral environmental agreements	UNDP, World Bank, GEF, FAO, WRI, other interested partners	ST-MT
2.2	1. Propagate the corporate ecosystem service review methodology developed by WRI, WBCSD and the Meridian Institute for assessing the business risks and opportunities associated with ecosystem change.	WRI	WBCSD, UNEP, IUCN, WWF, Meridian Institute, other interested partners	ST
2.2	2. Promote and develop good practice guidance, certification, and voluntary standards for ecosystem services stewardship.	WRI	WBCSD, UNEP, IUCN, WWF, Meridian Institute, other interested partners	ST-MT
2.2	3. Support the development of markets, payment for ecosystem services schemes and other policies and incentives for the private sector to promote sustainable management of ecosystem services where there are appropriate conditions for their application.	WRI	WBCSD, UNEP, IUCN, WWF, Meridian Institute, other interested partners	ST-MT
2.2	4. Build capacity through the creation of business learning groups focused on implementing ecosystem services-based strategies.	WRI	WBCSD, UNEP, IUCN, WWF, Meridian Institute, other interested partners	ST-MT
2.2	5. Prepare and broadly disseminate best practice case studies that demonstrate the business case for sustainable management of ecosystem services.	WRI	WBCSD, UNEP, IUCN, WWF, Meridian Institute, other interested partners	
2.2	6. Develop case studies and courses on ecosystem services for business school curricula.	WRI	WBCSD, UNEP, IUCN, WWF, Meridian Institute, other interested partners	ST-MT
Outreach and dissemination of the MA				
3.1	1. Establish a working group to design an outreach strategy based on WHO the target audience is, WHAT will be conveyed and HOW it will be conveyed.	Meridian Institute	World Bank, UNDP, Commission on Sustainable Development (CSD), FAO, Stockholm Environment Institute (SEI), the Alliance of Communicators for Sustainable Development (COM+), WBCSD, WRI, ISDR, UNEP, multilateral environmental agreement secretariats, regional development banks, other interested partners	
3.1	2. Increase awareness of the MA and its potential usefulness for the United Nations family, including through UN-Water, UN-Oceans, World Trade Organization, ISDR	UNEP	World Bank, UNDP, CSD, FAO, SEI, COM+, WBCSD, WRI, ISDR, Meridian Institute,	ST

	and the United Nations EMG, and the multilateral development banks and related agencies.		multilateral environmental agreement secretariats, regional development banks, other interested partners	
3.1	3. Produce and disseminate communication material for specific policy-making audiences, in particular in ministries of economics and trade, finance, development and planning, including official reports to multilateral environmental agreement processes such as meetings of policy and scientific bodies, conferences and meetings of the Parties to multilateral environmental agreements, highlighting the contribution of ecosystem services in physical and economic terms to key sectors of the economy, and their relevance in investment decisions related to infrastructure, industrial development, export promotion, land management, among others.	UNEP	World Bank, UNDP, CSD, FAO, SEI, COM+, WBCSD, WRI, ISDR, Meridian Institute, multilateral environmental agreement secretariats, regional development banks, other interested partners	ST
3.1	4. Produce and disseminate communication material for industries dependent on provisioning, regulating and cultural ecosystem services, showing the importance and value of these services to the production of commercial goods and services, and the costs of substituting them if they become degraded. This activity will be undertaken in coordination with activities under objective 2.2.	WRI	World Bank, UNDP, CSD, FAO, SEI, COM+, WBCSD, UNEP, ISDR, Meridian Institute, multilateral environmental agreement secretariats, regional development banks, other interested partners	ST
3.1	5. Support the training of journalists on issues related to ecosystem services, with particular emphasis on journalists from developing countries.	UNEP, Meridian Institute	World Bank, UNDP, CSD, FAO, SEI, COM+, WBCSD, WRI, ISDR, multilateral environmental agreement secretariats, regional development banks, other interested partners	
3.1	6. Work closely with the media, making latest findings available as they emerge.	UNEP	World Bank, UNDP, CSD, FAO, SEI, COM+, WBCSD, WRI, ISDR, Meridian Institute, multilateral environmental agreement secretariats, regional development banks, other interested partners	
Future global ecosystem assessments				
4.1	1. Establish a working group to explore needs, options and modalities and collaborative mechanisms with existing assessment processes, including IMoSEB, through consultations with governments and other relevant stakeholders.	UNEP	All interested partners	ST-MT
4.1	2. Pending the outcome of the exploratory process, establish a working group of partners to develop a proposal for the scope and process for a second global assessment which would be subject to further intergovernmental and multi-stakeholder consideration.	UNEP	All interested partners	ST-ML