



Millennium Ecosystem Assessment: What's next?

Report* from: "The Millennium Ecosystem Assessment Follow-up Workshop",
October 22–23, 2007, Ministry of the Environment, Stockholm, Sweden



Summary: Outcome and conclusions of the workshop

- A decision to establish an "Advisory board" or "Consortium" to guide the implementation of the MA findings. It was recommended that this board will subsequently establish a committee to explore the possible process leading to a second global ecosystem services assessment (MA2) when appropriate.
- A suggestion to initiate a small secretariat hosted by UNEP and UNDP to support the MA consortium board for the implementation of MA1 and initiate a possible process leading up to MA2 or a permanent regularly occurring Global Ecosystem Services Assessment.
- A suggestion to establish a distributed secretariat for working groups covering the knowledge base, sub-global assessments, policy implementation and outreach and dissemination.
- A small core group will draft a fund-raising strategy for the MA follow-up process (consisting of Charles McNeill, Jock Martin, Janet Ranganathan and Maria Schultz).
- A working group (consisting of Anantha Duraipah, Maria Berlekorn, Maria Schultz and Marcus Lee) will prepare a revised version (ready by November 10) of the UNEP Proposal for MA follow-up Strategy.
- A statement with key points from this MA follow-up workshop will be compiled and presented to the Final International Steering Committee of the IMoSEB in Montpellier, France, November 15-17, 2007. (Hal Mooney was suggested to be the presenter). The statement will be sent to the co-chairs of IMoSEB and the representative of the French government prior to the meeting.
- The Workshop participants fully agreed that there is a strong need and relevance for some kind of a regular global assessment relating to ecosystem services and emphasizing the links with human development.
- It was concluded that the MA follow-up and possible MA2 could benefit from being explicitly set up to deliver to a variety of processes (including CBD, and other conventions). On this point, there were, however, some differences in opinions.
- The Stockholm Workshop also strongly underlined that it is critically important not to complicate the assessment landscape further. Hence, there is probably no "room" for both an IMoSEB and an MA2.
- There was, however, a general agreement among the workshop participants not to take any final decision when it comes to the relationship between MA and other mechanisms before the

IMoSEB meeting in Montpellier (avoid focussing on whether it will be called IMoSEB, MA2 or anything else and focus more on overall direction and content at this stage).

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Background:

The Millennium Ecosystem Assessment (MA) Follow-up Workshop in Stockholm was organized to respond to the challenge of substantially increasing the impact of MA. The key elements for increasing impact are already in place – the MA findings are available, there is a demand by many countries for the MA approach, and the original MA partners together with new partners are keen to continue and expand collaboration. The Workshop was set up in order to explore how a coordinated framework of action can be designed such that the impact of activities will be maximized and the implementation of the MA findings and conceptual framework optimized.

The Millennium Ecosystem Assessment (MA) represented a major international effort to assess ecosystem changes and the consequences for human well-being, at scales from the global to the local. Funded by GEF and other donors, and implemented with a range of partners, the MA launched in June 2001, released its findings in 2005. The MA recommended immediate action to halt and reverse the decline in 15 of the 24 ecosystem services it assessed. The MA findings conclusively prove that society is exhausting the planet's ecosystem services, and the current decline of these services presents a serious obstacle in meeting the Millennium Development Goals (MDGs) for many developing countries.

With the increasing stress induced by climate change, securing ecosystems and ecosystem services, as a key part of adaptation strategies as well as to mitigate against greenhouse gas emissions to the atmosphere, has become even more urgent.

To fully benefit from the important work done by MA, it is vital that MA findings and approaches be translated into operational methodologies and tools that will support decision-makers in a policy context. The MA emphasis on ecosystem services and trade-offs and their links to human well-being have been welcomed by the conservation and development community as a bridge to development efforts focused on poverty reduction. It is important to ensure that the targeted audiences (governments, NGOs, planners etc.) have access to, and act on the MA findings, as it is only through the implementation of actual changes in decision-making that key benefits will be realized in reversing ecosystem decline.

Please go to the official web site of the MA for more information → www.maweb.org

Co-chairs of meeting:

Ibrahim Thiaw, UNEP, and Mats Seignestam, SIDA

Overall objective of the Workshop:

Agreement on joint global framework for action to act on the findings from the MA for advancing ecosystem service based approaches in public and private sector decision making.

Specific objectives:

1. **Day one:** To agree on expected outcome, division of roles and responsibilities, tentative time frame including UNEP's role as an "anchor" (or catalyst) and the role of other key partners.
2. **Day two:** To discuss needs, options and possible process leading up to a second Global Ecosystem Services Assessment 2 (GESA) or permanent regularly Ecosystem Services Assessment.

Summary of presentations, contributions and discussions:

Day one

9.05–9.45 : Opening addresses

Swedish Minister of Environment, Andreas Carlgren:

In his opening address, the Swedish Minister of Environment, expressed his gratitude to the organisers of the workshop and said that it was an honour and opportunity to meet so many important actors working with ecosystem services: "As you know the conservation and sustainable use of biodiversity is very important for us here in Sweden... a country with so few people and much nature. Then of course you get a close relationship to nature", Carlgren concluded. "This has given us the opportunity to work with a long-term perspective, regardless of government" He noted that the last few years have seen an "increasing awareness of the role of ecosystems for sustainable development" and that he thinks "it is important that politicians start to understand and use this knowledge".

He continued by stating the importance of the knowledge gathered within the MA and maintaining ecosystem services for human well-being... "I as a politician owe you a lot".

Minister Carlgren also reminded that Sweden has already started to use an integrated concept based on the framework of environmental quality objectives, which were adopted in the Swedish parliament in 1999. "The perspective of ecosystems can be further developed and implemented into that. For us at a national level this is one of the major inputs from what you [the MA] have been doing".

The Minister said he was pleased to see the Swedish participation in the MA-study through the research efforts by Stockholm Resilience Centre and SIDA's commitment through SwedBio, at the Swedish Biodiversity Centre. Climate change has been a top-issue in media and in politics it is now a great challenge to widen the perspective from climate change to include also ecosystems, as "ecosystems play an important role in combating climate change".

Minister Carlgren also emphasised the importance of avoiding tipping points and abrupt changes: "The MA concluded that roughly 2/3 of the world's ecosystems services are being threatened and we know that ecosystems have tipping points, meaning that every small disturbance due to accumulated and sustained pressure can lead to dramatic functional changes". The consequences of such shifts are likely to be, for example, an accelerated level of greenhouse gases in the atmosphere which in turn might lead to rainforests turning into dry

savannahs. Hence, we need to stimulate the scientific study on ecosystems' resilience and the interaction between economy and ecology. "Sweden shares UNEP's wish to integrate the concept of ecosystem services into other environmental issues, and especially into policy decisions regarding sector planning frameworks as well as resource allocation and budgets", Minister Carlgren continued.

Considering environmental problems like ocean acidification, biodiversity loss and eutrophication The Minister pointed to the growing need to stimulate the resilience of ecosystems [their capacity to deal with disturbance and continue to develop]. "One of the most important aspects in this respect is to get science into politics, and that requires effective resource allocations, budgets, and effective organisational structures". The Minister was also happy to see the latest developments with many initiatives to bridge this gap.

Minister Carlgren concluded by saying that the MA follow-up workshop had a "challenging agenda and that he looked forward to the discussions".

Mats Segnestam, Head of Sida's Environment Policy Division

Mats started off by saying that it was a great pleasure to host this kind of a meeting. "I go to many meetings, but if I had to choose only one of all these meetings this would have been the one". He said he was very happy and proud that SIDA has provided so much support to the MA-process through the support to WRI, but then continued on a more negative note stating that he was "extremely worried when it comes to the remarkable lack of political response to the MA". "Understanding and action is lacking, and we are here to do something about that".

Mats told the workshop participants that his dissatisfaction with the response to MA, so far, made him write a letter to the UNEP General Secretary, Achim Steiner, last summer. In the letter he asked UNEP if they were willing to lead the MA follow-up process, and "they accepted the challenge". A coherent, structured and co-ordinated follow-up is very much needed. "The United Nations Environment Programme, UNEP, is to me the obvious choice when it comes to co-ordinating and coaching the efforts needed". "I would not use the word mastermind here – because of all the masterminds present in this room and elsewhere, and UNEP can never achieve what is needed on its own. But someone needs to be the co-ordinator."

He continued by listing three important features of the follow-up: 1) It should catalyse more action, "turn negative trend to positive ones"; 2) It should prepare for the next MA, "there need to be some continued effort to avoid catastrophe"; 3) A professional communication effort must be integrated in the coming MA-process.

Mats also emphasised that he has indeed been encouraged by the close dialogue between SIDA, the Ministry of Environment and the Ministry for Foreign Affairs about the follow-up of the MA. "I truly hope that Sweden will continue to be able to give coherent and strong support to this extremely important process". "SIDA is proud to have provided support to the MA follow-up, through SwedBio, and we hope that other aid-organisations will accompany us".

Mats concluded that: “Let’s not underestimate the importance of this meeting. We can accomplish something remarkable, in history if you like. Let’s make it a turning point for the world’s ecosystem services.”

Ibrahim Thiaw, Director, Division of Environmental Policy Implementation, UNEP

Ibrahim Thiaw echoed Mats and called the MA-study a major milestone, but also emphasised that much remains to be done. “We have many challenges ahead of us”. “Many people in the world don’t understand what ecosystem services really are and we even have some resistance from some countries”. “We have to make sure that the issue of climate change does not overshadow ecosystem services, these two things must be seen as complementary”.

09.45–10.00: Implication of the MA for public and private sector decision-making – Jonathan Lash, WRI

The President of the World Resources Institute (WRI) said he was glad that the workshop had come about and that it was actually the first reunion of the people behind the MA. He saw two major achievements of the MA: 1) A coherent and compelling picture of the state of the world’s ecosystems 2) Creation of the conceptual framework that has changed the way we discuss nature and analyse change; looking at ecosystems in relation to human well-being.

Overall this has had a major impact on conservation and almost every environmental NGO has started to emphasise ecosystem services in their work. “Even the US Forest Service has made the concept of ecosystem services part of their programmes – quite a striking change”.

Considering Mats Segnestam’s initial statement that too little has happened after the MA Jonathan noted that “we should not be surprised that it takes some time, in a sense we are trying to change a process of two centuries of thinking and experience created by the industrial revolution”.

Jonathan also agreed with the Minister that the improved awareness of global warming has contributed to a better public understanding of the role of ecosystems for society. “In the US I wouldn’t underestimate the impact of Hurricane Katrina, which sent out such powerful images of the impact of nature on human well-being and a sense of that the impact of the hurricane was exacerbated by human engineering and the destruction of wetlands.” “I think we will finally see some action in the US to reduce greenhouse gases in the next to three years”.

Jonathan continued by telling the workshop participants what he hoped for in the next decade when it comes to the continued impact of the MA. His vision was threefold: 1) Increased consciousness (better awareness of human dependence on nature in culture and education; that we are part of and sustained by nature, not apart from nature); 2) A major shift in governmental policy to better reflect the MA’s information on ecosystem services and not only reacting to economic indicators (“imagine what would have happened if 15 out of 24 economic indicators showed a negative trend”). 3) Change in the private sector (“I have been enormously impressed in the last couple of years... the private sector has often been ahead of politicians, especially in the US with respect to global warming”). “I could imagine the same

happening with regards to ecosystem services” [WRI is now road-testing a new tool, the Ecosystem Services Review, on a half dozen of companies to analyse their dependence and impact on ecosystem services in order to analyse future risks and business opportunities].
“When the money moves, change is everywhere.”

Jonathan ended his contribution to the discussion with a more international wish-list:

- that in ten years ecosystem services will be the core structure of the UNEP-programme, that UNEP will shape how we all look at development policies
- that ecosystem services will be a fundamental part of the work to fulfil the Millennium Development Goals (MDG)
- that ecosystem services will be an important part of the Post-2012 Agreement on Climate Change (reflected in e.g. avoided deforestation policies, biofuel policies and overall adaptation policies)

Jonathan’s final conclusion was that unless ecosystem services are better reflected in global policies the catastrophe “we all in this room know we are heading for” will become even worse.

10.00–10.15: Feedback and discussion

A short round for feedback and comments followed after Jonathan’s contribution. Much of the discussion revolved around what MA can learn from IPCC for future assessments. Some of the major points made are presented below:

- IPCC linked to framework with targets. This is a key difference. Governments directly involved (Hal Mooney)
- IPCC has a repeating cycle and intergovernmental process. The fact that IPCC is linked to UNFCCC is critical. Ecosystems have multiple conventions. (Walt)
- Thomas Ross wall (ICSU): IPCC also needs attention need merging of groups (etc). “Tired of hearing that we need an IPCC process” for x, y or z, “the world has changed”.
- Neville Ash (UNEP): IPCC can communicate their result with one single graph: temperature change – ecosystem services is much more complicated. Hence the importance of the MA framework.
- Prabhu Pingali (FAO) did not agree with Mats Segnestam’s assessment that MA had no impact. “MA amazing process. Skeptical that an intergovernmental process would have made MA more effective”. Said he been through intergovernmental process for agriculture assessment – didn’t work. If you push hard for intergovernmental process – stick to a narrow set of issues “or be prepared to accept an extremely watered down result”.
- Jaime Cavelier (GEF): Lack of response might also be due to 1) lack of “fear factor” (climate change has a fear factors) – not reached boiling part for ecosystem services; 2) lack of financial mechanism – no markets for private sector to rake advantage of opportunity.

Comment [d1]: This sentence reads awkwardly. Please reword as I am not sure what is being meant.

10.15–10.35: Implication of the MA for future science and policy research – Walt Reid, David and Lucile Packard Foundation

Walt, who was the Director of the Millennium Ecosystem Assessment (January 2002 – March 2005), also thanked the organisers for arranging the workshop. He noted that time flies and it is now two and half years since the completion of the MA. He concluded that the MA might not have created “the big splash one would have hoped for, but ripples”.

Another aspect of the contribution of the MA, explained Walt, is the fact that there is a huge amount of information about human systems and on biological systems, but not on the linkages. He also provided a list of five important science impacts of the MA:

- 1) Legitimises the inter-disciplinary science on ecosystems and people
- 2) Framing of important research questions
 - cross-scale interactions
 - monitoring, indicators,
 - policy assessment
 - indirect drivers
 - economic valuation
- 3) New tools and models
- 4) The creation of an active network of scientists
- 5) Stimulated a demand on this kind of information for decision-making

Concerning the criticism of the impact of the MA Walt concluded that it could have benefited from more “real-world examples on how ecosystems can influence decision-making”. What’s next then? One thing is the challenge to initiate “a much more structured set of sub-global assessments (SGA) for a possible MA2, not ad-hoc as last time”. If there is a decision to continue and establish a repeating MA-process “we need better funding, better science and better policy impact”. Moreover, it would be appropriate to include “development” in the name of a potential MA2, for example: “Inter governmental Ecosystem and Development Assessment”

11.00-11.20: Brief summary of key ongoing initiatives on MA follow-up – W Bradnee Chambers, UNU-IAS

Bradnee’s brief summary of ongoing MA follow-up activities was divided into four fields: 1) Scientific Research; 2) Sub-global Assessments; 3) Policy Implementation and Decision-making; and 4) Outreach and Education. He concluded that there have indeed been lots of activities, but that “the picture of the total MA follow-up and the overall impact remains blurry, but the CBD COP9 [The Ninth Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity] will offer a good chance to see more clearly”. The list of activities he presented included initiatives as:

- Establishment of the ICSU-UNU- UNESCO Ad Hoc Group 2006
- The CBD’s decision to use MA as basis in future work
- The UNDP-UNEP Poverty Environment Initiative
- The UK House of Commons’ MA-Report
- Ecosystem Service Review Methodology for Business (WRI)
- MA Biodiversity Synthesis being used in graduate course at Kyoto University, Japan.

He highlighted the UK House of Commons’ MA-report as a good example (“I love this”) and showed a few quotes from it, including the following: “We are frankly disappointed that development NGOs have failed to engage more with the MA findings. Although we understand that these NGOs might focus on the immediate problems associated with poverty,

such as access to clean water, their failure in the long term also to focus on the need to maintain ecosystem services will ultimately unravel their efforts.”

Bradnee also spent some time discussing the sub-global assessments (SGA) of the MA. He presented the results of a Questionnaire sent to all SGAs. It highlighted many issues and needs, including: constraints in funding, data/information availability, capacity, institutional and governance arrangements; lack of follow-up; lack of expertise in use of and access to tools; most focus on one scale; and little contact among SGAs since end of MA.

Bradnee also informed the participants that a paper on the MA national impacts is now getting underway. Finally, he concluded that “there is an urgent need for overall coordination, caretaker funding and follow-up”.

For more detailed information see Bradnees PowerPoint file → attachment

11.25-11.40: Future Challenges - Linking the MA with Climate Change and Resilience, Johan Rockström, Stockholm Resilience Centre

Johan, who is the Director of the newly established Stockholm Resilience Centre and Stockholm Environment Institute, started by stating that the challenge is to link climate change, the MA’s ecosystem services framework and the development agenda.

Johan continued by talking about a unique recent meeting where he participated: “Global Sustainability: A Nobel Cause” in Potsdam, 8-10 October. The Potsdam Institute for Climate Impact Research (PIK) had, together with German Chancellor Angela Merkel, invited a number of Nobel Laureates and experts to discuss new solutions to meet the challenges of the 21st century. The meeting resulted in a Memorandum that all participants agreed to that stated clearly that a Great Transformation is needed to respond to the immense threat to the Earth. It can only be achieved with a new global contract between science and society. “This is, in my opinion, a very strong support for the agenda that we want to put forward for the MA follow-up process”

In his PowerPoint presentation Johan showed a number of familiar “hockey-stick like” graphs depicting the growing human influence on e.g. climate, ecosystems and water. “The problem is that we do not really have a good understanding of what will happen when these hockey-sticks start to play as a team”. The combined effect on society, on a planetary scale, of all these multiple stressors means we are living in increasingly turbulent times and that creates a number of challenges for the MA follow-up process.

A large part of Johan’s contribution dealt with the concept of resilience, the capacity of a system to deal with change and continue to develop. “Climate change does not happen in isolation, its impact is determined by the resilience of the systems which it filters through, or in MA-terms: the adequate supply of ecosystem services.”

With degradation of ecosystem services, loss of resilience and altered disturbance patterns due to climate change there is an increased risk for abrupt changes; regime shifts in ecosystems that lead to negative social transformations due to complex and cross-scale feedbacks. “We need policies that are not based on linear thinking, policies that take tipping points, abrupt change and complexity into account”, Johan continued.

Johan ended by concluding that the MA was a major achievement that should continue, but “the research agenda must be broadened to also include resilience, global environmental change and development”. “There is an urgent need to bridge the science-policy gap and link climate change, ecosystem services and development” (MA, UNFCCC, MDGs).

For more detailed information see Johan’s PowerPoint file → attachment

11.40–12.15: Country experiences on MA follow-up - Keisha Maria Garcia, Trinidad and Tobago, and Alex Mulisa, Rwanda

Keisha Maria Garcia Programme Officer at the Cropper Foundation, talked about the ‘Trinidad Experience’ from the two MA sub-global assessments undertaken in the Caribbean region, namely the *Northern Range area of the island of Trinidad* and the *Caribbean Large Marine Ecosystem*.

The first is an area providing ecosystem services such as: freshwater (80% of Trinidad’s freshwater supply), recreation, eco-tourism, food, timber and non-timber forest products, medicinal plants and opportunities for education as well as scientific research. The latter is a rich marine system supporting tourism (13% of GDP of the Region) and fisheries (504,913 jobs; >US\$1 billion in exports; 7% of total protein consumption in the Caribbean).

The Northern Range area displays huge problems when it comes to implementation of policy, enforcement of regulations, integrated planning; co-ordination and collaboration, governance, public responsibility and public education, financing of ecosystem management, research, monitoring and evaluation. The Caribbean Sea suffers from its geographic setting and a complex political structure, with more than 116 million people (within 100 km of Sea); 22 independent states; 4 colonial authorities – USA, UK, France, Netherlands, plus other outside interests: e.g. Japan and Korea. Pressures on the ecosystem services include: overfishing, pollution, unsustainable tourism and international shipping.

Keisha concluded that from the menu of activities “the two SGAs might appear to be all over the place”. “However, the policy, community and public levels dominate the MA follow-up activities, so far, with much less emphasis on research and business/industry”. She also noted that the two SGAs has generated many lessons and much information, but to date little sharing of lessons has taken place within and outside of the region. “Follow-up and outreach initiatives are already well-underway and target a wide range of stakeholders, but there has been relatively slow progress in policy influence”. She ended by concluding that conceptually there is indeed an awareness of what is needed to follow-up the MA, but the organizations that have undertaken work are not really best placed to influence the change needed.

Alex Mulisa, National Manager, Poverty Environment Initiative (PEI), Rwanda Environment Management Authority (REMA), presented experiences from an Integrated Ecosystem Assessment in Rwanda. IEA is based on the conceptual framework of the Millennium Ecosystem Assessment explicitly linking ecosystem services with human well-being and poverty reduction.

Alex spoke about the pilot IEA that was conducted in 2006 in the Bugesera region. The area has experienced a steady decline in the provision of ecosystem services from being the food

basket of the country a few decades ago to today's reality of drought, soil erosion and lack of grazing land. It is a clear example of how degradation and reduction of ecosystem services can have severe socio-economic consequences. Alex also told the participants that the results of the IEA have fed into the national poverty reduction strategy process, and the sustained advocacy efforts resulted in environment being recognized as a cross-cutting issue in the strategy.

Alex proceeded by showing a comprehensive list of lessons learned. It included aspects like:

- Field work could have been guided more by focused research questions
- Challenge for team to work together across technical backgrounds
- Could have been designed with a closer focus on the policy level
- Potential for local people to influence ecosystem knowledge processing and impact on decisions
- Many results have been utilised in Rwanda Economic Development and Poverty Reduction Strategy preparation
- Results have prompted requests from the environmental sector for more detailed information: costs and consequences to inform evidence based national planning
- Pilot study created demand for integrated planning that will increasingly involve ecosystems approach
- Debate on balance between economic, environmental and social considerations for national policy design particularly on population control and land reform issues has gained momentum with practical steps to address the challenges

He ended his contribution by thanking for the interest shown in their study and wished for more MA conceptual studies in other parts of the country. He also concluded that the results should be used for dialogue with donors as "donors have shown interest in Pilot IEA results".

For more detailed information see Keisha's and Alex' PowerPoint files → attachments

12.15-12.40: Discussion and feedback

The discussion that followed the morning presentations circled around two issues: whether MA has had any real impact or not and the need to develop real-world tools in order for the MA to have a real policy impact. Many raised the issue of economics. Alex Mulisa emphasised the importance of including costs of environmental degradation in the MA-framework to influence policy. Prabhu Pingali (Director, Agricultural and Development Economics Division of the FAO) agreed and said that ministries of finance must be convinced that ecosystem services are important. Moreover, many participants emphasised the need to mainstream environmental issues in the poverty reduction strategies (PRS). UNDP's Charles McNeill said he disagreed with Mats that there has been no real impact of MA. For instance, he appreciated the work of WRI to develop tools to be used on the ground and also said that UNDP has developed a MDG-support tool and "was ready to deliver".

Some of the most important other points raised during the discussion included the following:

- MA-findings should be integrated into SWAs (a Sector Wide Approach is a process where donors give significant funding to a government's comprehensive sector policy

and expenditure programme – for example on health or education – consistent with a sound macro-economic framework).

- Considering the current trend to turn aid into direct budget support, how do we make sure that “MA-things don’t drop to the bottom of the list?”
- The MA follow-up must continue to build on science, but we need more outreach and better communication of the concept of ecosystem services in simple ways “to convince the ministers of finance”.

14.15–14.30: UNEP’s Proposal for a MA Follow up Strategy – Anantha Duraipah, UNEP

Anantha is Chief of the Ecosystem Services Economics Unit, Division of Environmental Policy Implementation, UNEP. He presented the UNEP-proposal for a MA Follow-up strategy, which was circulated to the workshop participants before the meeting. The proposal is divided into four main areas: 1) Building the Knowledge base; 2) Implementation; 3) Outreach; 4) Sub-Global Assessments.

The background to this proposal, Anantha said, “is the innovative approach of the MA, linking ecosystem services with human well-being and the fact that its main findings have been acknowledged”. Another important aspect to take into account in the MA follow-up process is the fact that the independent MA-evaluations made by GEF (Global Environment Facility) and the UK Environmental Audit Committee of the House Commons both emphasised that MA’s impact on policy has been limited. Referring to the comment made earlier on the ripples made by the MA (Walter Reid), Anantha made clear that “the ripples must now be turned into waves”.

Anantha went on to list a number of barriers for the MA-implementation, including limited working models to implement MA findings, little coordination and cooperation among partners for exchange of lessons learnt, and limited knowledge on the economics of ecosystem services and undertaking trade-off analysis.

He continued by presenting a list of needs identified by UNEP.

- A coordinated strategy to maximize the impact of the MA
- A MA follow up secretariat to oversee follow up activities
- A Millennium Ecosystem Fund to help developing countries to undertake MA type assessments at the local and national level and to integrate their findings into their national development processes
- Repeated ecosystem service assessments on regular intervals of 10 years.

Finally, he presented a number of expected outcomes of the workshop:

- A MA follow up secretariat
- Working groups to spearhead work in implementing MA findings
- A funding strategy for the Millennium Ecosystem Fund
- A process initiated to explore and map out the feasibility of the second global ecosystem services assessment

For more detailed information see Anantha’s PowerPoint file and the UNEP draft-proposal document → attachments

14.30-14.35: Introduction to the Working Groups

Before introducing the topics to be discussed in the Working Groups Mats wanted to provoke the participants a little bit more: “I said this morning that there has not been enough response to the MA, some of you have objected. A lot of activities obviously take place, but from where I sit real action has been very limited. We need to know why this is so and what to do about it. This is what the working groups are supposed to do.”

Thomas Rossvall (Executive Director, International Council for Science, ICSU) argued very strongly for including the discussion of the SGAs in the other three groups. There was a general agreement among the participants and the final decision was to go for three groups (see below).

14.35-17.30: Working Group discussions.

Three Working Groups (science, policy implementation and outreach) discussed the following issues: a) Identification of gaps; b) What needs to be done to plug gaps?; c) Who needs to lead various initiatives?; d) Funding opportunities/strategy.

Notes from the working group 1 – Science/knowledge base
See appendix.

Notes from the working group 2 – Policy implementation
See appendix

Notes from the working group 3 – Outreach
See appendix

Day two

8.30-10.45: Continuation and presentations of group discussions

(See notes above and the appendix).

11.25-11.45: The MA and its relevance for future Ecosystem Services Assessment – Harold Mooney, Stanford University

Harold (Hal) Mooney is Professor at the Department of Biological Sciences, Stanford University, USA. He was Co-Chair of the Millennium Ecosystem Assessment and Chair of the ICSU-UNU-UNESCO Committee on Scientific Knowledge Gaps. The latter is an Ad Hoc Group of multi-disciplinary experts from the MA. It was brought together to identify key gaps in knowledge and data, and to design a research agenda, arising out of the MA.

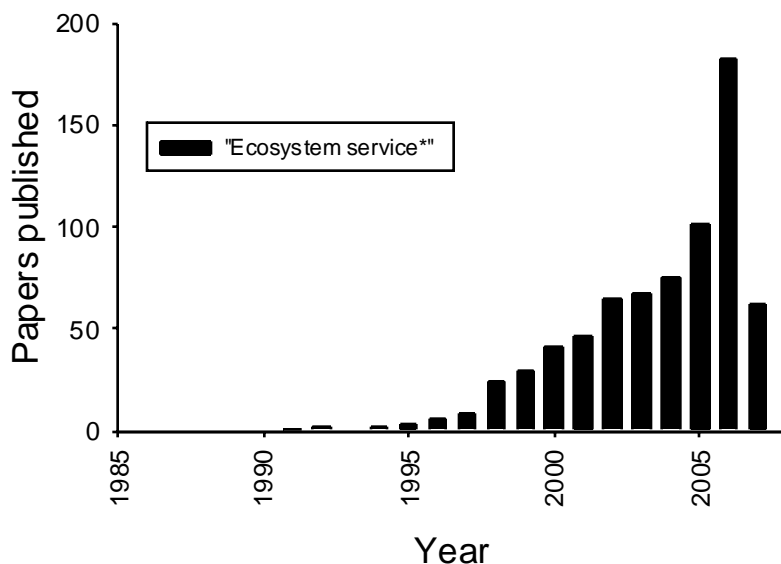
Hal started by talking about the initiative from the French government: IMoSEB – the International Mechanism of Scientific Expertise on Biodiversity (where Hal is member of the

international committee). It is an international mechanism that includes intergovernmental and non-governmental elements, and that builds on existing initiatives and institutions, with a view to:

- providing scientifically validated information on the status, trends, and services of biodiversity;
- identifying priorities and recommendations for biodiversity protection;
- informing the relevant international conventions, especially the Convention of Biological Diversity

He also presented two possible models for the future work of IMoSEB, 1) A network of networks; 2) An intergovernmental/multi-stakeholder panel providing scientific advice. Considering the relationship between MA and IMoSEB Hal had a clear message to the workshop participants: “There cannot be an MA2 and an IMoSEB, it is urgent that consultations happen very soon as there will be a critical IMoSEB-meeting in Montpellier next month”.

Hal also made clear that he saw a clear scientific impact of the MA. “There has been an avalanche of new studies on ecosystem services since the MA at all levels.” They deal with a number of different aspects, from “what the birds and the bats are doing to the spatial distribution of ecosystem services”. (See figure below from Hal’s PowerPoint presentation).



More specifically Hal mentioned the Natural Capital Project (a joint venture among Stanford University, The Nature Conservancy and the World Wildlife Fund) and the Gund Institute’s MIMES (Multi-scale Integrated Models of the Ecosystem Services) as two examples of “all the fascinating things happening in the field that we can learn from”.

Finally, Hal told the participants of the workshop that the ICSU-UNU-UNESCO Ad Hoc Group has already produced a 60 page overview document of research themes that will now be shortened to a review to be submitted to *Science*. The outline of this overview document

included the following eight themes/research needs (see Hal's PowerPoint file for a more exhaustive list):

1. A rigorous development of and understanding of the relationship between biodiversity and ecosystem services.
2. Better guidance on valuation approaches for the various types of services.
3. An evaluation of which ecosystem services can be substituted and at what cost along with trade-off analyses.
4. Deepening our understanding of the causal links between indirect drivers and direct drivers and developing practical strategies for interventions.
5. Development of institutional mechanisms for the management of ecosystem services including equitable sharing and unravelling poverty-ecosystem services linkages.
6. Understanding and quantifying the linkages between ecosystem services and human well-being; analyzing past attempts to improve environmental management (individual services vs. bundles; local vs. landscapes).
7. Address issues such as coupling qualitative and quantitative models, including coupling to social and political processes; improving uncertainty analyses, developing approaches to deal with thresholds, nonlinearities, and drivers operating at different time scales.
8. Develop a monitoring system that provides data that reveals, 1) the underpinnings for linkages between ES and HWB, 2) responses of ES in relation to ecosystem change, 3) Aid to decision making.

11.45-12.05: Brief summary of ongoing global assessment processes – Neville Ash, UNEP-WCMC

Neville, who is the Head of the Monitoring and Assessment division at UNEP World Conservation and Monitoring Centre (UNEP-WCMC), presented an exhaustive list of the many global assessments conducted so far. He concluded that there is undoubtedly a lot to build on (including process, methods, substance, research, findings). On the other hand, he also noted that most assessments are thematic and either deal with environment *or* development.

He also introduced PEARL (Prototype Environmental Assessment and Reporting Landscape). It is a new Web-based system through a UNEP DEWA initiative with the aim to provide an overview of completed and ongoing global assessments (their coverage, effectiveness, and impacts).

Finally, he discussed the uncertainty over future direction of IMoSEB, GEO (that is showing signs of going towards the MA-model), and MA and raised the question whether it would be a good idea to do a "Synthesis of the syntheses".

Moreover, he echoed Hal's earlier statement that there can not be *both* a MA2 and IMoSEB, "the two are too tightly connected".

Neville's list of global assessments:

1. MA – Millennium Ecosystem Assessment
2. GEO4 – Global Environment Outlook
3. IPCC – Intergovernmental Panel on Climate Change
4. FRA – Forest Resources Assessment)
5. GLADA – Global Land Degradation Assessment
6. LADA – Land Degradation Assessment in Drylands
7. IAASTD – International Assessment of Agricultural Science and Technology for Development
8. GEA – Global Energy Assessment (initiated July 2007)
9. The Comprehensive Assessment of Water Management in Agriculture
10. GIWA – Global International Waters Assessment
11. World Water Development Report
12. Global Marine Assessments: A survey of global and regional assessments and related activities of the marine environment.
13. Global Biodiversity Outlook
14. IMoSEB – International Mechanism of Scientific Expertise on Biodiversity
15. ESPA – Ecosystem Services for Poverty Alleviation (ESPA)

For more detailed information see Neville's PowerPoint file → attachment

Comments on Neville's presentation:

Neville's long list of global assessments evoked a discussion on the role of MA in relation to all the other assessments in general and IMoSEB in particular. Some of the most important points raised included the following:

- "This doesn't make life easier, it is surprising that ecosystem services are going down the drain in spite of all these assessments", Mats noted ironically.
- There are also many assessments of the drivers of ecosystem change and future studies, which add to the complexity, Prathu noted.
- Jock Martin told the group that he was going to have a meeting the coming day with representatives from the IMoSEB in order to try to figure out the expectations on the Montpellier-meeting. He promised to get back to the group with an e-mail with some feedback.
- Are there any role-models among these assessments?, Jamie asked.
- "There will not be enough room for any more assessments. Hope we can now go from an era of assessments to one of conclusions and implementation", Mats concluded.
- "Developing countries have to be engaged in the leadership of the MA follow-up process" (David Cooper).

13.40-15.15: Discussion on needs, options and possible process leading up to a second or permanent Global Ecosystem Services Assessment

The issues to be discussed were 1) Status of knowledge base – from local, national and regional assessments to global assessments; 2) Gaps; 3) Relevant actors/organizations and processes.

Ibrahim wanted the participants to focus the first part of this discussion on the relationship between IMoSEB and MA2. “I was shocked by Hal’s comment that it must be *either* IMoSEB or MA2”. “It is now important to approach the French government, which is very much behind the initiative”. Maybe Hal, as member of the IMoSEB’s international committee can play a role?

David Cooper presented a very interesting analysis of four dimensions that could be used to position the MA follow-up from IMoSEB:

1. Focus on ecosystem services and management rather than biodiversity science;
2. Multi-scale instead of global;
3. Emphasis on implementation, capacity building and policy impact rather than only a scientific assessment;
4. Intergovernmental rather than a narrow set of governments supporting it. (On this point, David concluded, it is not yet clear if there is any real difference between MA and IMoSEB. “There must be some intergovernmental element of MA2, but we should not be prescriptive”).

This was followed by a lengthy discussion about the relationship between IMoSEB and MA2. Many different opinions were expressed regarding the possibility to link MA2 and IMoSEB, and the final consensus among participants was that “IMoSEB is an important initiative and we need a dialogue with IMoSEB and it has to start very soon”. Parallel to that dialogue the MA follow-up must continue and focus on what it wants to achieve. There was also a general agreement among the workshop participants not to focus too much on whether it will be called IMoSEB, MA2 or anything else and focus more on overall direction and content at this stage. Moreover, there seemed to be a consensus among the participants that it is critically important not to complicate the assessment landscape further, rather an urgent need to simplify it. Hence, there is probably no “room” for both an IMoSEB and an MA2.

Some of the other important points raised included the following:

- We need first to show that we are fully committed to implement the MA1 and then discuss a time plan for the MA2. (Ibrahim)
- It would be very useful if this meeting could compile a written statement that could be brought to the Montpellier meeting (David).
- Even if we focus on implementation of MA1 we must at the same time start the machinery of a MA2 already now if we want to have something ready for 2015. (Walt).
- There are four objectives in the document from UNEP on the follow-up of MA and the last of these is to prepare for a MA2. “There can be no uncertainty regarding that issue” [that there will be a MA2]. (Thomas R)
- “The timing for a MA2 is perfect”. It should emphasise climate effects on ecosystems (and its implications for human well-being) and vice versa. It will have a major impact. “There is an enormous need for it, everybody in the world would pay attention to that”. “My concern with the IMoSEB is that there might only be a narrow set of governments supporting it. The strength of the MA1 was the broad support from all the parties of the CBD”. (Walt).

- Before we talk about a MA2 we should go back to the multiple agencies sponsoring the MA1 and make sure they want to go forward. (Prabhu)
- “We should look upon the MA as the mother of all assessments”. It includes almost all the aspects and approaches of all the other assessments, perhaps with the exception of climate change. Ideally, there should be only two major assessments: one on ecosystems and one on climate. (Johan).
- Carl Folke reminded us that the critical issue now in the face of global environmental change “is to strengthen the capacity of ecosystems to deal with the drivers, and also focus on what kind of governance system that is needed to build that capacity”.
- David noted that the implementation of MA1 must proceed while preparing for MA2. He also urged for “an ongoing process” not “just an assessment every ten years”.
- Anantha mentioned the timing of a MA2 such that it delivers its results to the General Assembly in 2015 in response to an evaluation of the MDGs.
- Neville did not like the idea of presenting the results of MA2 at the same time as the MDGs in 2015 “as they might be competing for attention”.
- Charles responded that they [MA and MDG] could actually go together and strengthen each others messages, but earlier is better: “the planet is burning, 2015 is too long time”.
- David proposed to launch the MA2 in 2012, “20 years after the Rio Conference”, but that “might be too early” for other reasons.
- Hal made it very clear that “IMoSEB is us” and reminded that there are many MA-representatives in the IMoSEB – “not only the French government that is behind the initiative”.
- Prabhu asked: “do we really need an intergovernmental process for the MA2?”
- Walt responded: “yes it is probably the only way to get proper funding”.
- David agreed and also added that an intergovernmental process was important to have a real impact “but it mustn’t be a new IPCC”.
- Johan said that MA is so much more than biodiversity implying that IMoSEB should feed into MA. He also suggested “self-containing the science and then clashing with policy” (in the same manner as the IPCC-process).
- Marcus said that UNEP strongly believe that MA2 should be intergovernmental and that they want to be a strong partner to the MA2.
- In addition to the possibility of linking MA2 to IMoSEB Ibrahim mentioned two other mechanisms already discussed during the workshop and also added a third one: 1) UNFCCC; 2) CBD; and 3) UNDP’s Human Development Report (that has already started to include ecosystem services as an important factor for development).

15.35-16.45: Concluding discussion: key messages from the workshop

The chairman Ibrahim Thiaw facilitated the concluding discussion by asking Anantha to present a short list of conclusions from the workshop, a list that was compiled by a small subset of workshop participants during the extended coffee break. This fed into a discussion that resulted in a number of significant decisions and suggestions that are presented in the “Outcome and conclusions” on the first page of this report. Please refer to that list for an overview of the major decisions taken during the workshop.

A large part of this concluding session also circled around funding and the importance of a strong leadership for the MA follow-up process. It was also concluded that there are many different options on the table for both a MA1-implementation and a possible MA2, but also

that no real decision on future direction and cooperation can be taken before the Final International Steering Committee of the IMoSEB has taken place in Montpellier, France, November 15-17, 2007.

Some other important points made during this concluding discussion – that might not be fully reflected in the “Outcome and conclusions” – included the following:

- It was again repeated that there must be a clear ownership of developing countries in the MA follow-up and a possible MA2/permanent global ecosystem services assessment.
- It could be a good idea to ask former board members to use their credibility to raise money for the MA1-implementation and the process leading up to a MA2.
- The importance of linking the MA1 follow-up process and a possible MA2 to climate change and macro-economics (potential Stern-like review of the economics of ecosystem change)
- Private sector could be willing to provide financial support if there is an emphasis on resilience and economic benefits, and it was noted that 90 % of philanthropy in the US comes from individuals. The UN-foundation could galvanise the US-support.
- Jock said that the EEA would be happy to fund a meeting of the science group next year and then perhaps during the Resilience Conference in Stockholm, April 14-17, 2008, invite the Danish administration to discuss the relationship between the COP of the CBD and ecosystems.

16.45-17.00: Closing session – Ibrahim Thiaw, UNEP and Mats Segnestam SIDA

Ibrahim started the closing session by thanking the Minister of Environment for hosting the workshop and said it was a privilege to be a new member of this group and discuss the follow-up of the MA.

Mats continued by saying that we are all in this room recognising the fundamental importance of ecosystem services for development. “But we must have the world react. World politics is sometimes like a super tanker, difficult to turn around and often heading in the wrong directions.” He also expressed joy at the fact that the workshop participants had time to discuss outreach and communication. And he once again emphasised that the MA might indeed have had some influence, “but not necessarily among the right people”.

Having said that, Mats still ended on a very positive note: “We should all feel proud of being part of this important meeting, it might be a stepping stone for a better future. SIDA will follow and support the process.”

Appendix – notes from the group discussions

Notes from the working group 1 – Science/knowledge base

Marcus Lee, UNEP, reported from this group. He presented an exhaustive list of comments and suggestions from the group that will be integrated in the process to prepare a revised version (ready by November 10) of the UNEP Proposal for MA follow-up Strategy. Some major points included the following:

- SGAs – need to move quickly to coordinate (UNU already hired someone).
- Criteria for SGAs – needs to distinguish between policy-driven SGAs and research-driven SGAs.
- Need two co-chairs to provide leadership
- MA2 – IMoSEB – concluded there was a need for 3 groups to coordinate ES work: (1) consortium of partners – to guide and cooperate on objectives 1 and 2; (2) Second group is focused on SGAs; (3) Third group focused on MA2.
- Group felt objective 1.3 conflates SGA with MA2 – decide to restrict this objective to SGA and then create separate objective for MA2.

Notes from the working group 2 – Policy implementation

Participants: Alex Mulisa, Charles McNeill, David Cooper, Gabriel Labbaté, Izabella Koziełł, Jaime Cavellier, Janet Ranganathan Maria Berlekom, Marjan Schippers, Prabhu Pinghali,

I. Group infrastructure

Selected Charles McNeill as chairperson, Maria Berlekom as rapporteur, and Gabriel Labbate to undertake edits of the text in the strategy. David Cooper and Janet Ranganathan provided specific text inputs in some areas.

II. Defining general scope of the group discussions:

The group started with defining the scope of the discussions, and what we wanted to achieve:

1. Clarified that it is a global strategy for MA follow-up - not a UNEP-strategy – comments were made in this context.
2. Accepted the basic outline – i.e. the three strategic objectives – as a useful and relevant starting point. But ..
 - ..took the liberty to be quite free and open (not strictly bound by the draft) *within* Strategic Objective 2.
 - ..stressed that “blurriness” should be embraced in practice. I.e. “developing knowledge base” and “policy implementation” go hand in hand (ref. e.g. to Rwanda example).
3. Take helicopter perspective and not discuss details of the project proposal. Decided hence to focus on questions 1, 2 (and possibly 4) in the ToRs. In the end only question 1 was addressed due to time constraints.

III. General comments re. Strategic Objective 2

1. Important to add/provide more background and justification for the proposed objectives and activities under Strategic Objective 3:
 - Identify constraints/barriers and needs (problem statement).
 - Build on the presentation by Anantha and Janet's/WRI's inputs (Restoring Nature's Capital)
 - Acknowledge problem with *lack of national ownership* when plans/strategies/studies (as too often happens) are developed by external consultants. (Note – this is not specifically related to the MA...). Linked to *lack of capacity* – i.e. very important to highlight the need for capacity building. Global tools and global findings further don't do the trick - *tools must be "re-developed in-situ"*.
 - Lack of enabling frameworks and governance failures.
 - Important to acknowledge that constraints and needs varies between countries.
 - Identify stakeholders. Very important to acknowledge and highlight other stakeholders than Governments and private sector, e.g. civil society, parliamentarians etc.
 - Identify general opportunities and entry-points (One-UN; PEI; FAO etc).
2. The wording of the Strategic Objective should be improved. Should more clearly state intent to promote the actual “implementation of ecosystem service based approaches in public and private sector decision making”, rather than more generally say “policy implementation”.
3. The two objectives – one focusing on public decision-making and one on the private sector – are fine in principle. Important though to include civil society when activities are identified.

Notes from the working group 3 – Outreach

1. Comments to the UNEP-Strategy

Objective:

Add: ... and create action based on the MA framework.

In “Expected accomplishments”:

Add: Create action based on the MA framework with in important governments, organizations and institutions. Actions need to have results oriented indicators.

Comments on second paragraph under “Expected accomplishments”:

The communication strategy needs to be coordinated. It should be focused on individual target groups. The strategy should have clear measurable indicators of success.

Suggested priority target groups:

UNEP- Governing Council/Environment ministers

World Bank

Climate Convention- delegates

Private sector

Development Cooperation Agencies (incl. OECD/DAC, Nordic+)
Finance ministries
FAO
CBD

Key Activities: need to be revised accordingly.

2. Proposed way forward.

Establish a working group/task force/consortium for outreach and communication. The group should be composed of a multidisciplinary group of partners/experts from science, private sector and communication. Suggested members: UNEP, FAO, WBCSD, WRI, SEI, COM+, Walt Reid. Co-ordinator: UNEP. Co-chairs: UNEP and WRI

First task for the working group: design an outreach strategy.

Define the outreach strategy and process for each target group: What→ How→ Whom.
Whenever appropriate, use existing channels and processes for transfers of the message like World Development Report, UNEP Governing Council – agenda for 2009 – in Nairobi, DAC/ENVIRONET meetings, integrating ecosystem services into IPCC etc.

3. General comments:

One topic we discussed was outreach language: Ecosystem services difficult since people do not understand what an ecosystem really is.

The group strongly recommends that a global macroeconomic valuation study should be performed. The global study should initiate the process of analyzing the global economic benefit of ecosystem services, the costs of the loss of biodiversity and ecosystem services and the failure to take protective measures versus the costs of effective management.
Could be done through:

- High level Macroeconomic economic commission
- Stern liked initiative i.e. the Potsdam initiative
- Achim Steiners – UNEP interested in this: adviser to ED on macro economics.

Outreach strategy depends on and should be co-ordinated with focal area 1 and 2.

The strategy needs to be clearer regarding target groups
The strategy needs to be clearer about what processes to influence.

Important to find allies. For example in G8.

Sweden is establishing a “Commission on climate proofing of development cooperation”.
Ecosystem services and resilience need to be strongly communicated.

For outreach of the concept of ecosystem services it is important to create a high-level political agenda.

- Short term: Global Follow Up strategy with UNEP as anchor institution.

- Long term: more high-level political influence important for communication: Intergovernmental mechanism for Global Ecosystem Service Assessment for Development.

Important to create a demand.

New film: The “Resilient truth” with Al Gore. Instead of jumping up and down the temperature curve, jump up and down with the “resilient ball”, when ecosystem shifts into different stability domains...