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FOLLOW-UP TO THE MILLENNIUM ECOSYSTEM ASSESSMENT

Note by the Executive Secretary

I. INTRODUCTION

1. At its eighth meeting, the Conference of the Parties (COP) considered the implications of the Millennium Ecosystem Assessment (MA) and adopted decision VIII/9. Among other things, that decision encouraged Parties to make use of the conceptual framework, methodologies and findings of the MA and requested the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) and the Executive Secretary to undertake various follow-up tasks. The Conference of the Parties also decided to consider, at its ninth meeting, the evaluation of the Millennium Ecosystem Assessment to be undertaken during 2007, and the need for another integrated assessment of biodiversity and ecosystems, as well as options for improving the availability to SBSTTA of scientific information and advice on biodiversity.

2. The Executive Secretary, in response to decision VIII/9, prepared a preliminary review of the impact of the MA (UNEP/CBD/SBSTTA/12/4). SBSTTA, at its twelfth meeting, considered the note prepared by the Executive Secretary and made recommendations to the Conference of the Parties (SBSTTA recommendation XII/3, paragraph 1). Further, in the same recommendation, SBSTTA requested the Executive Secretary to (i) collect from Parties, other Governments and relevant organizations information required to undertake a detailed assessment of the use and impact of the MA from the point of view of stakeholders, including national decision makers (paragraph 2 a); (ii) contribute to the preparation of a coherent international multi-agency strategy for follow-up to the MA (including considering the need for, and timing of, another global assessment) (paragraph 2b); and (iii) carry out a number of other tasks, including preparation of an inventory of inter-operability mechanisms and options for wider collaborative implementation of information exchange mechanisms, and promotion of systems for coherent and inclusive biodiversity observation systems (paragraph 3).

3. Addressing the first request, the Executive Secretary issued notification 2007-083 dated 12 July 2007. Seven responses were received (from Australia, Canada, Germany, Japan, Sweden, Trinidad and Tobago and the United Kingdom). On the basis of these submissions, as well as analyses prepared by the United Nations Environment Programme (UNEP) and the Institute of Advanced Studies of the United

* UNEP/CBD/COP/9/1.

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Nations University (UNU-IAS) and other sources, the Executive Secretary has prepared the assessment on the use and impact of the MA contained in section II of the current note.

4. Addressing the request in paragraph 2 (b) of recommendation XII/3, the Secretariat participated in a meeting of partners involved in the MA co-sponsored by UNEP and the Swedish International Development Agency (Stockholm, 22-23 October 2007). Participants drafted a follow-up strategy to the MA, which was finalized following comments received during a teleconference held on 6 February 2008. Section III of the current note considers this strategy along with other options for improving the availability to the SBSTTA of scientific information and advice on biodiversity in line with decision VIII/9.

5. A report on progress in addressing the requests in paragraph 3 of the recommendation XII/3 is provided in section IV of this note. Section V presents a draft decision on the basis of SBSTTA recommendation XII/3 and the conclusions of sections II-V of this note.

II. USE AND IMPACT OF THE MILLENNIUM ECOSYSTEM ASSESSMENT FROM THE POINT OF VIEW OF STAKEHOLDERS

6. Preliminary analyses of the impacts of the Millennium Ecosystem Assessment (MA), reported in document UNEP/CBD/SBSTTA/12/4, had indicated a limited uptake of the concept and findings of the MA among decision makers in the limited time since the publication of the MA reports and completion of the project. At the same time, they emphasized that more time needed to elapse before it would be possible to make a conclusive judgement.

7. A year later, 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.

8. This section summarizes information available on the use and impact of the Millennium Ecosystem Assessment based on submissions from Parties, an analysis prepared by the United NationsUniversity – Institute of Advance Studies (UNU-IAS) on the use and impact of the subglobal assessments in the MA (UNEP/CBD/COP/9/INF/30) and a review of scientific literature. The Executive Secretary will continue to collect information, as requested by SBSTTA recommendation XII/3 paragraph 2 (a), and make future updates available through the Convention's website.

A. Use and impact of the MA by Governments, organizations and decision makers

9. Under agenda item 54 (f) "Sustainable development: Convention on Biological Diversity", the sixty-second session of the General Assembly of the United Nations took note of the reports of the Millennium Ecosystem Assessment (A/C.2/62/L.45). Reference to the MA in the discussion on the Convention and its target of a significant reduction of the rate of biodiversity loss by 2010 shows how influential the MA is being on the Convention process. This is further evidenced by the number of recent decisions under the Convention which use the term "ecosystem services" (two at COP-5, three at COP-6, six at COP-7 and seven at COP-8) and by new guidance based on the conceptual framework (e.g., the voluntary guidelines on biodiversity-inclusive impact assessment, decision VIII/28, and the consolidated guidance on national biodiversity strategies and action plans developed at the second meeting of the Working Group on Review of Implementation of the Convention, WGRI recommendation 2/1).

10. The fundamental effect of the conceptual framework of the MA on the Convention processes is underpinned by the fact that Sweden and the United Kingdom, in their official submissions, report that they consider that the thinking behind the MA framework facilitates putting into practice the ecosystem approach as the primary framework for implementing the Convention.

11. The work of the Scientific and Technical Review Panel of the Ramsar Convention has been greatly assisted by the work of the MA. The ninth meeting of the Contracting Parties to the Ramsar Convention in resolution IX.1, annex A ("A Conceptual Framework for the wise use of wetlands and the maintenance of their ecological character") adopted MA terminology and harmonized its use with previous guidance and documents.

12. At national level, the MA has been analysed by several Governments for its implications both domestically and in external relations, notably with regard to bilateral and multi-lateral development cooperation. Elements and conclusions of the MA have also been subject to parliamentary debate in a number of countries (including, among others, Belgium, New Zealand, Trinidad and Tobago, United Kingdom). Trinidad and Tobago published the subglobal assessment of its Northern Range as the official State of the Environment report for the country. In the United States, draft legislation to establish a Commission on Global Resources, Environment and Security was inspired by the MA.

13. Moreover, several countries report that they are considering to carry out, or have already initiated, follow-ups to subglobal assessments conducted as part of the MA (Japan, Sweden, Trinidad and Tobago) and/or are considering carrying out comprehensive national MA-type ecosystem assessments (England, Japan, Trinidad and Tobago). The European Environment Agency coordinates a European Ecosystem Assessment (EURECA) scheduled to be completed in 2012. Japan, currently holding the presidency of the G8, is proposing that other G8+8 countries also carry out national biodiversity assessments.

14. The MA also has significant impact on the way in which countries develop of revise their national biodiversity strategy and action plans (NBSAPs). Mexico's second country study, *Capital Natural y Bienestar Humano*, uses the MA framework which forms the basis for a number of State biodiversity strategies and action plans under development as well as the revision of the NBSAP. Germany's NBSAP, adopted in November 2007, builds on a detailed analysis of the implications of the MA for the country and includes targets and actions derived from this analysis. Japan reports that the third revision of the National Biodiversity Strategy, also completed in November 2007, draws significantly on the results of the MA.

15. The World Bank increasingly refers to ecosystem services and human well-being and a number of its projects make explicit linkages between sustainable use of mountain and forest ecosystems, biodiversity conservation, carbon sequestration, and watershed values associated with erosion control, clean water supplies and flood control.

16. In emphasizing the links between climate change and ecosystem services, and in confirming that climate change is emerging as one of the greatest threats to biodiversity, the MA has enhanced awareness, among policy makers, planners and practitioners, of the impacts of climate change on biodiversity ahead of the release of the fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC). As a result, the findings of the IPCC were seen by many as further examples of the conclusions drawn by the Millennium Ecosystem Assessment with significant positive implications for policy development.

17. The assessment methodology, as provided by the MA, including broad participation and extensive formal review, has been adopted for issues other than ecosystem service assessment. For example, South Africa conducted an assessment on elephant management based on this methodology in 2007.

B. Use and impact of the MA on the private sector

18. The synthesis report of the MA on "Opportunities and Challenges for Business and Industry" was prepared in collaboration with representatives of the World Business Council for Sustainable Development, a global association of some 200 companies, as well as industry representatives from the construction, energy, food and mining sectors. 1/ A document titled "Business Industry Sector

1/ http://www.millenniumassessment.org/documents/document.353.aspx.pdf

Perspectives on the Findings of the Millennium Ecosystem Assessment" shows examples of how ecosystem services issues are addressed in different sectors. 2/

19. From reports, newsletters and interviews, it appears that the results of the MA are being valued for industry planning and strategic thinking about how the value of the ecosystem services should be reflected in the management of ecosystems, who should pay for ecosystem services, and if there are business opportunities to be found in responsible stewardship of such services.

20. The World Business Council for Sustainable Development (WBCSD) for example implements the Sustaining Ecosystems Initiative, a multi-sector leadership network of member companies collaborating on cross-cutting ecosystems issues and challenges outlined in the Millennium Ecosystem Assessment. The Initiative operates across the areas of ecosystems and ecosystem service stewardship, sustainable management and use, and impact mitigation. In collaboration with IUCN, WBCSD recently published a perspectives paper on making markets for ecosystems services. WBCSD also has started a programme of MA audits, which have been carried out with a set of trial companies.

21. Industry associations, such as the International Council on Mining and Metals (ICMM), recognize the implications of the MA as ecosystem loss is a critical land access issue and as development increasingly encroaches on previously untouched areas. The Good Practice Guidance on Mining and Biodiversity, prepared by ICMM in collaboration with the World Conservation Union (IUCN), includes case studies related to the industry's role in land use planning and on biodiversity offsets.

22. The MA has also influenced the other economic sectors. For example, the Comprehensive Assessment of Water Management in Agriculture (http://www.iwmi.cgiar.org/assessment) has analysed trade-offs in other ecosystem services, including the products and livelihoods provided by fisheries which are underpinned by the non-extractive use of water.

23. The World Resources Institute (WRI), the World Business Council for Sustainable Development (WBCSD) and the Meridian Institute are developing a corporate 'ecosystem services review' (ESR) to enable companies to identify business risks and potential new business opportunities posed by the degradation of various ecosystem services and to develop appropriate strategies in response. 3/ The development of the ESR was one of the recommendations of the MA Business and Industry Synthesis Report.

C. Use and impact of the MA on the scientific community

24. As a multi-stakeholder assessment led by a significant number of scientists from a range of disciplines, the MA outcome resonates with scientists and has influenced their thinking and teaching. The large number of contributors and reviewers act as multipliers with regard both to the framework and thinking behind the MA and its results and implications.

25. In its submission to the request for information on the impact of the MA, Canada provided evidence from a number of scientists working in universities, research institutes, government departments, and entities managing ecosystems. While many of these individuals report using the MA in teaching and outreach, it appears to be less valuable for decisions on the management or monitoring at site level – except for those places that were subject to a subglobal assessment under the MA.

26. Australia reported on research activities carried out by its federal science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) with a view to feeding into decision making processes. They involve, for example: (i) scenario-planning for the Great Barrier Reef Catchment that draws on the philosophy, methodology, and results of the MA global and subglobal

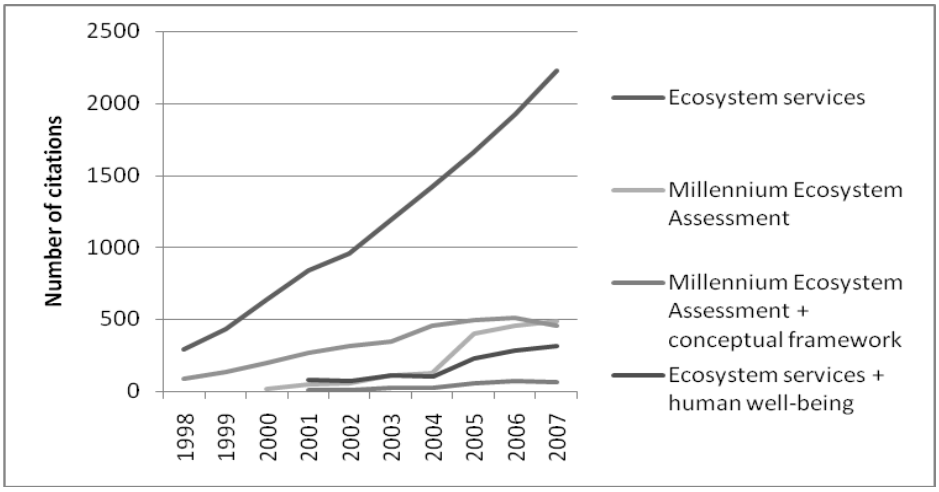
2/ http://www.millenniumassessment.org/documents/document.706.aspx.pdf

3/ http://www.wri.org/publication/developing-corporate-ecosystem-services-review#

assessment (SGA) scenarios, particularly the southern African SGA; 4/ (ii) an agent-based modelling approach to assess outcomes of macroeconomic policy interventions on five constituents of human well-being identified by the MA and the use of natural resources in Indonesian households, involving collaborative research and capacity-building; 5/ and (iii) the development of generic indicators of well-being for indigenous communities and their access to natural resources in the wet tropical part of Northern Australia.

27. A number of editorial articles in scientific journals have championed the approach based on the MA framework. The volume of research on the linkages between biodiversity, ecosystem services, and human well-being has increased dramatically. An analysis of the number of citations making reference to key concepts developed or promoted by the Millennium Ecosystem Assessments or citing its findings shows a steady increase in published articles. The number of publications using the term ecosystem services, for example, has increased by a factor of eight in the last decade (Figure 1). New research teams or even institutes are being created to focus on the issues raised by the MA (e.g. the Stockholm Resilience Centre).

Figure 1. ***Number of scientific articles making reference to key concepts of the Millennium Ecosystem Assessments as listed by Google Scholar (29 February 2008)***



D. Use and impact of the MA on civil society and non-governmental organizations

28. A large number of non-governmental organizations (NGOs) involved in conservation and humanitarian aid have taken up the key messages arising from the MA and used these to further promote their activities. In many subglobal assessments, NGOs have been a driving force, providing for coordination, guiding implementation of the assessment and conducting outreach activities. Some have been instrumental in developing tools to facilitate the application of the MA framework, methodologies and findings (see annex II).

29. In their own assessment, however, the majority of NGOs involved in the MA is dissatisfied with their ability to significantly influence policies as a consequence of the findings of the MA. Moreover, they report that outreach and follow-up activities to subglobal assessments suffer from funding shortfalls. On the other hand, it is believed that there is enough momentum amongst the scientists and the institutions involved in the MA to use the MA framework as a common guiding tool for dialogue about the environmental sensitivities of the sectors upon which an individual country depends.

4/ http://www.csiro.au/science/ps3nv.html

5/ http://www.cse.csiro.au/research/IndonesianSustainability/

III. OPTIONS FOR IMPROVING THE AVAILABILITY OF SCIENTIFIC INFORMATION AND ADVICE ON BIODIVERSITY

30. As noted above, SBSTTA requested the Executive Secretary to contribute to a coherent follow-up strategy that includes developing and/or strengthening capacity to provide coherent, timely and relevant scientific advice on biodiversity and ecosystem services and their relationship to human well-being, considering the need for, and timing of, another global assessment, taking into account the experiences from evaluations of the Millennium Ecosystem Assessment and other processes aimed at improving scientific expertise on biodiversity (SBSTTA recommendation XII/3, para. 2 (b)). Further, the Conference of the Parties decided to consider, at its ninth meeting the need for another integrated assessment of biodiversity and ecosystems (decision VIII/9, para. 29) and options for improving the availability to the SBSTTA of scientific information and advice on biodiversity taking into account the results of other relevant processes, keeping in mind the need to avoid duplication of efforts (decision VIII/9 para. 30).

A. Strategy for operationalizing, mainstreaming and communicating the MA

31. In recommendation XII/3, SBSTTA requested the Executive Secretary to contribute to the preparation of a coherent international multi-agency strategy for follow-up to the Millennium Ecosystem Assessment, including *inter alia* by: identifying ways to support national and subglobal assessment based on the conceptual framework of the MA; considering ways in which the financial mechanism of the Convention could assist in strengthening capacities and supporting implementation of national and subglobal biodiversity assessments; and taking into consideration the three objectives of the Convention.6/

32. Accordingly the Secretariat participated in the preparation of the *Millennium Ecosystem Assessment Follow-up - A Global Strategy for Turning Knowledge into Action* which is intended to guide the activities undertaken by the organizations involved in the MA follow-up process in a coordinated and coherent manner. The development of the strategy was led by UNEP and involved the GEF and many other organizations involved in the MA and/or its follow-up. Several of these organizations participated in a workshop in Stockholm in 22-23 October 2007 convened by UNEP and the Swedish Agency for International Development and a subsequent teleconference organized by UNEP on 6 February 2008.

33. The Strategy is comprised of the following components:

(a) Building the knowledge base – to identify and address the gaps in scientific understanding that hampered the assessment of some ecosystem services in the first MA and to support existing subglobal assessments and stimulate the development of new ones;

(b) Integration of the MA ecosystem service approach in decision-making – to develop and apply practical tools and methodologies to implement the MA findings at the national and regional levels, and among all stakeholders including the private sector.

(c) Outreach and dissemination – to ensure that the findings of the MA reach all stakeholders;

(d) Future global ecosystem services assessments - this is discussed in section III B below.

34. The MA follow-up will be coordinated by an Implementation Group consisting of representatives of partner organizations and led by an Executive Committee. An Advisory Group will provide strategic

6/ The follow-up strategy should also include developing and/or strengthening capacity to provide coherent, timely and relevant scientific advice on biodiversity and ecosystem services and their relationship to human well-being; and considering the need for, and timing of, another global assessment. These issues are addressed in the subsequent section.

direction. Thematic Working Groups with distributed secretariats will be established as need arises. A Global Secretariat will be hosted by UNEP in collaboration with UNDP.

35. Annex I provides further information of the goals, objectives and expected accomplishments of the Strategy. The complete Strategy is contained in document UNEP/CBD/COP/9/INF/26.

36. In addition to the considerations about the MA follow-up strategy, the Secretariat of the Convention on Biological Diversity is integrating considerations of the MA framework, methodologies and findings into the series of capacity-building workshops on national biodiversity strategies and action plans and the mainstreaming of biodiversity.

B. Consideration of the need for, and timing of, another global assessment

37. The Stockholm workshop referred to above concluded that a regular assessment of the state of biodiversity and ecosystem services and the implications for human well-being would be desirable because (i) the first MA showed that the consequences of ecosystem change for human well-being were already a critical concern for development, and are expected to worsen. A regular assessment is needed to provide decision-makers with the necessary information base for adaptive management; (ii) there is a substantial body of new science findings since the publication of the first MA; a regular assessment process would both make use of and contribute to an enhanced knowledge base; and (iii) regular assessments have been shown to be effective in garnering the necessary political will for action.

38. The Workshop identified a number of desirable criteria for a subsequent assessment. These are:

(a) The conceptual framework linking biodiversity with ecosystem services and human well-being should be used as the starting point in any subsequent assessment since this has proved to be effective both as an analytical framework and in communicating results to decision makers;

(b) 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;

(c) Capacity building activities should be incorporated into any future assessment process or mechanism to facilitate application of the findings and methodologies; and

(d) The assessment process should have provision for effective intergovernmental and stakeholder input. Intergovernmental input might be provided by an independent panel, through SBSTTA, or through another process.

39. The workshop participants considered that global assessments should not be too frequent, to allow sufficient time for application of findings, expansion of the knowledge base, and the undertaking of subglobal assessments between the periodic global assessments, and bearing in mind the cost of the assessments. Seven to 10 years between assessments were considered appropriate, with the next assessment therefore concluding in 2012 to 2015.

40. In light of these considerations, the Strategy for the MA follow-up, includes a fourth element to explore the needs, scope 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.

C. Consultations towards an international mechanism of scientific expertise on biodiversity

41. Following the conference on "Biodiversity: Science and Governance" (UNESCO, Paris, 24 to 28 January 2005) an international consultation was launched to assess the need, scope and possible forms of an International Mechanism of Scientific Expertise on Biodiversity (IMoSEB). The consultative process,

launched in early 2006, comprised case studies to identify the gaps and needs at the knowledge – policy interface on biodiversity which served to inform regional consultations in Africa, North America, Europe, South America, Asia and Oceania, which were held through 2006 and 2007, and guided by a multi-stakeholder international steering committee. A final international steering committee meeting was held in Montpellier, 15–17 November 2007. The outcomes of this process and full statement of this final meeting are available in an information document (UNEP/CBD/COP/9/INF/34).

42. The IMoSEB consultations identified three main categories of needs at the science-policy interface: (i) for independent scientific expertise; (ii) to expand capacity; and (iii) to improve communication. More specifically, it recognized the need for:

(a) Credible, timely and accessible information to support biodiversity governance where this is not currently available;

(b) The capacity to identify and respond rapidly to biodiversity-related emergencies;

(c) Strengthened scientific activities at global and subglobal scales, and in the short, medium and long term;

(d) Enhanced linkages between relevant information-using organizations; and

(e) Linkages between the science and policy interface for biodiversity science and other environmental and development processes which impact or depend on biodiversity.

43. The consultations further welcomed the work recently undertaken in preparing for a follow-up to the Millennium Ecosystem Assessment, and noted that the further consideration of an IMoSEB would take full account of this on-going work. It also recommended further and urgent consideration of the establishment of a means and enhancement of existing institutions, to provide an objective source of information about biodiversity change and its impacts on ecosystem services and human well-being.

44. More specifically, in relation to the MA, the IMoSEB consultations noted the mechanism should:

(a) Build upon, and promote, regular global and subglobal assessments of the state and trends in biodiversity and ecosystem services, and their effects on human well-being at multiple spatial scales;

(b) Undertake or promote special studies on emerging issues of importance to biodiversity, particularly those that are transnational and/or cross-cultural in nature, either in response to requests of decision-makers or indicated by science;

(c) Contribute rapid, authoritative scientific information on biodiversity-related emergencies at short time scales;

(d) Promote development of the capacity to generate and use the information, methodology and techniques to accomplish the above objectives,

(e) Promote effective communication, including the results of activities performed under (a), (b) and (c) above; and

(f) Undertake any other activities consistent with its objectives as may be appropriate.

45. Further, participants in the final meeting invited “the Executive Director of UNEP, in collaboration with the Government of France and other Governments, the Convention on Biological Diversity (Secretariat, SBSTTA and COP Bureaux) and the partners of the IMoSEB consultation

process, 7/ to convene an intergovernmental meeting with relevant governmental, and non-governmental organizations, including the relevant multilateral environmental agreements, academic institutions and civil society (including local communities and indigenous people) to consider establishing an efficient international science-policy interface to address the above objectives, and with the following characteristics:

(a) Be flexible, be intergovernmental but also include non-governmental stakeholders, and build upon existing networks of scientists and knowledge-holders;

(b) In collaboration and as a follow up of the Millennium Ecosystem Assessment, consider the need, scope and requirements for assessments of biodiversity and ecosystem changes at the global level;

(c) Ensure the interaction with other relevant assessment processes; and

(d) Has monitoring procedures for measuring its effectiveness, used from the outset for programme evaluation, development and continuation."

D. Convergence of strategies – MA and IMoSEB

46. There is a high degree of congruence between the outcomes of the processes to consider follow-up to the MA and the IMoSEB. Both processes have recognized the need for the improved availability of scientific information. The broader and more general IMoSEB regional consultations have generated strong support and noted the importance of taking into account the follow-up to the MA and underlined the need to improve the knowledge-policy interface at different levels, including to enhance implementation multilateral environmental agreements. The IMoSEB consultations have also resulted in a clear, but not exclusive, need to focus on ecosystem services and human well-being thereby considering all forms of knowledge, including traditional knowledge and private sector knowledge, and enhance synergy between information users and providers. A concept note on an intergovernmental and multi-stakeholder approach to strengthening the science-policy interface on biodiversity and ecosystem services, which builds on the Millennium Ecosystem Assessment and the consultative process towards an International Mechanism of Scientific Expertise on Biodiversity is available as an information document (UNEP/CBD/COP/9/INF/37).

47. It will be important to consider possible synergies and overlaps between the MA follow-up and IMoSEB and to avoid perceived potential competition between the two processes and their constituencies. Harnessing the energy and desirable attributes of both offers a very attractive solution that can make a significant difference to the provision of relevant, impartial, credible and timely scientific information.

IV. PROGRESS REPORT ON OTHER WORK BY THE EXECUTIVE SECRETARY IN FOLLOW-UP TO THE TWELFTH MEETING OF SBSTTA

48. In paragraph 3 of recommendation XII/3, the SBSTTA requested that the Executive Secretary carry out a number of other tasks including:

(a) To prepare, through the clearing-house mechanism and in collaboration with a number of partners, an inventory of existing interoperability mechanisms and options for wider collaborative implementation of modern information exchange mechanisms;

7/ Including Bioversity International, CI, CITES, CMS, DIVERSITAS, EEA, FAO, GBIF, ICSU, IUCN, Ramsar Convention, Smithsonian Institute, TNC , UNCCD, UNDP, UNESCO, UNEP, UNEP-WCMC, World Bank, WWF.

(b) To promote the development of coherent and inclusive biodiversity observation systems with regards to data architecture, scales and standards, observatory network planning and strategic planning for implementation, such as the Global Earth Observation System of Systems;

(c) To bring to the attention of Parties and other Governments any guidance on best practice for integrated local, national or subglobal assessments;

(d) To promote and facilitate, through relevant forums, standardized national, regional and subglobal ecosystem assessments as the basis for the harmonization of national reporting formats.

49. This section provides a progress report on these activities.

Inventory of existing interoperability mechanisms

50. The Secretariat liaised with UNEP-WCMC and the Global Biodiversity Information Facility (GBIF) to consider ways to address this request. As a first step it was decided to create a "living document" based upon appendix 2 of the GBIF Strategic and Operational Plans 2007-2011 (http://www.gbif.org/GBIF_org/GBIF_Documents/strategic_plans.pdf), which already largely summarizes in an inventory fashion the main technologies pertinent to biodiversity informatics. Further steps will be carried out once a better understanding of the needs of Parties is obtained, particularly following discussions in the series of regional workshops on national biodiversity strategy and action plans.

51. It is envisaged that the inventory should address the following areas:

(a) Mechanisms for achieving interoperability including data policies, standards and tools;

(b) Examples of interoperability being worked towards and/or achieved in data relevant to the Convention;

(c) Recommendations and guidance on how to increase access to data and information.

Development of biodiversity observation systems

52. The need to link and combine datasets from various origins is also widely recognized by biodiversity scientists. The Secretariat contributed to the preparation of the concept of a Biodiversity Observation Network developed under the Group on Earth Observations (GEO-BON)_as part of the implementation of the societal benefit area on biodiversity of the Global Earth Observation System of Systems (GEOSS). The Biodiversity Observation Network will provide a global, scientifically robust, framework for biodiversity observations. It will thereby facilitate the efforts of governments and the global community to address biodiversity loss by improving the ability to accurately monitor trends in biodiversity and to develop and test response scenarios. An draft concept note prepared by the GEO-BON interim committee in January-March 2008, was due to be considered for adoption by the broader biodiversity observation community at a GEO meeting in Geneva, 14-16 April 2008 (see document UNEP/CBD/COP/9/INF/36)..

Guidance on best practice for MA-type assessments

53. A number of publications and decision support tools have been prepared, or are under development to provide guidance on best practice for integrated local, national or subglobal assessments. A preliminary list is provided in annex II. This list will be updated and developed through the clearing-house mechanism.

Standardized ecosystem assessments and national reporting

54. Some of the tools mentioned in the aforementioned paragraph may also facilitate the development of standardized national, regional and subglobal ecosystem assessments. The Secretariat works with the lead partners on the implementation of its programmes of work, including other multilateral agreements, relevant international organizations and intergovernmental processes towards harmonizing and streamlining biodiversity-related reporting. However it needs to be borne in mind that approaches should indeed vary from country to country according to national needs.

V. DRAFT DECISION

55. The Conference of the Parties may wish to adopt a decision along the following lines:

The Conference of the Parties:

(The following text was developed by SBSTTA, recommendation XII/3, paragraph 1)

1. *Invites* Parties, other Governments and relevant organizations to promote and support, through various mechanisms, integrated national, regional and subglobal ecosystem assessments including, where appropriate, response scenarios that build on the framework and experiences of the Millennium Ecosystem Assessment;

2. *Invites* Parties, other Governments, relevant organizations, stakeholders and indigenous and local communities to consider, when designing integrated local, national or subglobal assessments, as appropriate, to take into account:

(a) The engagement of stakeholders, including local and national decision makers, and indigenous and local communities in the assessment;

(b) The conceptual framework of the Millennium Ecosystem Assessment and its principles, including the services provided by ecosystems, as a contribution to the Millennium Development Goals;

(c) The relevance of including documented case-studies contributed by indigenous and local communities, including those highlighting economic values as well as traditional non-market benefits of sustainable ecosystem management;

(d) The particular value of assessments such as the Millennium Ecosystem Assessment for capacity development among participants and stakeholders;

(e) The usefulness of providing, whenever possible, free and open access to all past, present and future research results, assessments, maps and databases on biodiversity, in accordance with national and international legislation; and

(f) The relevance of supporting further elaboration of coherent standardized formats for the collection and integration of biodiversity data and information for future assessments and analyses;

3. *Invites* Parties, other Governments and relevant organizations to:

(a) Take note of the need for further improvement of the availability and interoperability of biodiversity data and information; and

(b) Support, contribute to and promote synergy among the ongoing efforts to digitize data in a standardized format, make data and analytical tools widely available, and further develop analytical tools to use these data for policy and management purposes;

4. *Takes into account* the framework, and experiences of the Millennium Ecosystem Assessment in preparing

(a) In-depth reviews of programmes of work under the Convention in accordance with the guidelines for review of programmes of work under the Convention contained in annex III to decision VIII/15, including an analysis of the extent to which these programmes of work address ecosystem services;

(b) A revision of the Strategic Plan beyond 2010;

5. *Invites* Parties and other Governments to make full use of the framework, experiences and findings of the Millennium Ecosystem Assessment when they review, revise and implement their national biodiversity strategy and action plans, relevant development plans, and development cooperation strategies, as appropriate;

(The following text is new)

6. *Requests* the Executive Secretary to continue to carry out tasks specified in SBSTTA recommendation XII/3, as necessary;

The Conference of the Parties further,

Recalling decision VII/9,

Emphasizing that priority should be given to promoting the application of the MA framework, methodologies and findings at national and other sub-national levels and that there is an urgent need for capacity building in this regard,

Noting that a regular assessment is needed to provide decision-makers with the necessary information base for adaptive management and to promote the necessary political will for action in addressing biodiversity loss and the degradation of ecosystem services and their implications for human well-being,

7. *Welcomes* the global strategy for follow-up to the Millennium Ecosystem Assessment aimed at addressing knowledge gaps, promoting subglobal assessments, promoting application of the MA framework, methodologies and findings, and outreach, contained in document UNEP/CBD/COP/9/INF/# and summarized in annex 1 to this note and *invites* Parties, other Governments, relevant organizations, indigenous and local communities and stakeholders and *requests* the Executive Secretary to contribute actively to its implementation;

8. *Welcomes also* the outcomes of the consultative process towards an international mechanism of scientific information on biodiversity (IMoSEB);

9. *Noting* the congruence between the follow up to the MA and the outcomes of the IMoSEB consultation and the opportunity to build upon both processes together to streamline the provision of scientific information on biodiversity, *welcomes* the agreement of the Executive Director of UNEP to convene an intergovernmental meeting to consider establishing an efficient international science-policy interface on biodiversity, ecosystem services and human well-being; and *invites* this process to, *inter alia*, propose a means to provide improved scientific information, as related to the interests of the Convention on Biological Diversity taking into account the role of the Subsidiary Body on

Scientific, Technical and Technological Advice, for consideration of the Conference of the Parties at its tenth meeting;

10. *Welcomes* the initiation of a Biodiversity Observation Network, established under the Group on Earth Observations, and the development of an implementation plan for the network, as part of the implementation of the societal benefit area on biodiversity of the Global Earth Observation System of Systems, and invites Parties, other Governments, relevant organizations, scientists and other relevant stakeholders to support this endeavour;

11. Requests the Executive Secretary to continue collaborating with the Biodiversity Observation Network with a view to promoting coherence in biodiversity observations with regard to data architecture, scales and standards, observatory network planning and strategic planning for its implementation.

Annex I

THE MILLENNIUM ECOSYSTEM ASSESSMENT FOLLOW-UP - A GLOBAL STRATEGY FOR TURNING KNOWLEDGE INTO ACTION 8/

Vision

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

Goal

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

Strategic objectives and expected accomplishments

Based on the independent evaluations' main findings, 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 ongoing and being carried out by a variety of organizations.

The strategy aims to provide a common framework through which organizations working in the respective areas can coordinate their activities, initiate new joint activities, collaborate and exchange information and share experiences so as to minimize the human and financial costs of implementing such a strategy and maximize the impact of respective activities.

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.

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/data gaps clearly identified, with actions initiated to address the development of additional scientific knowledge.

Objective 1.2: **Develop analytical tools for assessing changes in ecosystem services caused by drivers like 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 for integrated ecosystem assessment, the economic analysis of trade-offs based on monetary and non-monetary valuation of ecosystem services and mainstreaming policy interventions based on the MA approach and findings are developed.

8/ This is an abridged version. The complete strategy is contained in document UNEP/CBD/COP/9/INF/26

Objective 1.3: **Build the knowledge base on ecosystem services by advancing subglobal assessments (SGAs).**

Expected accomplishment: Catalysing additional support for existing SGAs, and initiating new SGAs based on the MA framework, with an emphasis on ecosystems and regions not well-covered by the original and ongoing set of MA SGAs.

Objective 1.4: **Develop and foster capacity building programs on ecosystem services and human well-being that contribute to training 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.

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

Promote the systematic application of ecosystem services 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.

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

Objective 2.2: **Promote the mainstreaming of ecosystem service considerations in private sector decisions and encourage businesses to become critical driving force in developing 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 are integrated into decision-making, planning frameworks and operating processes of the private sector 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.

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, civil society, private sector and other institutions to support and respond to the MA's findings. Because the MA's findings have not sufficiently reached decision-makers, the MA has not yet achieved its full impact. Therefore, a critical opportunity remains in ensuring that the MA's findings as well as the knowledge and approaches developed through this follow-up strategy reach decision makers.

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

Expected accomplishment: Awareness of the MA findings and their implications for development aspirations increased worldwide, particularly among targeted audiences.

Objective 4 – Future global ecosystem assessments

Establish a process to explore needs, scope 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.

Objective 4.1: **Establish a process for exploring the needs, scope and modalities for a second global ecosystem assessment.**

Expected accomplishment: A draft strategy for undertaking the second global assessment developed and submitted to the MA Follow-up Advisory Group.

Implementation arrangements

The strategy will be implemented through a consortium of partner institutions that have responsibilities for the implementation of this global strategy. As this strategy recognizes, a wide range of MA follow-up activities are already being implemented by various partner institutions. To ensure coordination and synergies among the partners and their distributed 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** will comprise representatives of partner institutions committed to help implement this strategy. There will be an open membership. The Group will be co-chaired by UNEP and UNDP, and coordinate the implementation of the strategy and promote joint programming among the partners. Lead agencies for various activities under the strategy will become members of the Implementation Group.

- The **Executive Committee** will consist of a subset of the Implementation Group members, and meet inter-sessionally 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 review ongoing activities and promote coordination at the working level among partner agencies. One of the co-chairs 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** will have a wider representation, including representatives from MEA Secretariats, governments, NGOs, private sector, 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 the initiatives. The Group will be co-chaired by two members selected by consensus among all members.

- **Thematic Working Groups** organized by thematic activity area (e.g. research gaps, SGAs, mainstreaming/integration, economic valuation, outreach etc.) will be formed with distributed secretariats as and when needed to facilitate exchange of information and lessons learnt and to ensure coordination at 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 the partners, and facilitate coordination and exchange of information across the various thematic working groups.

Another important aspect relating the implementation arrangements is resource mobilization. A wide variety of MA follow-up activities are currently undertaken by partner institutions, often funded by a number of donors through direct bilateral arrangements, and there is a strong need for developing a

resource mobilization strategy. Under the framework of the MA Follow-up Advisory Group, a resource mobilization strategy for the MA follow-up activities will be developed, in close consultation with bilateral and multilateral donor agencies, foundations, and private sector, which will provide guidance to partner agencies in their fundraising activities.

Annex II

GUIDANCE ON BEST PRACTICE FOR INTEGRATED LOCAL, NATIONAL OR SUBGLOBAL ASSESSMENTS

- Millennium Ecosystem Assessment. 2003. Ecosystems and Human Well-being: A Framework for Assessment. Island Press

- United Nations Environment Programme and United Nations University. 2006. Ecosystems & Human well-being: Conducting and using Integrated Assessments – A training manual. Available at http://www.unpei.org/Knowledge-Management/ecosystemassessments.asp

- Janet Ranganathan, Frances Irwin. 2007. Restoring Nature's Capital: An Action Agenda to Sustain Ecosystem Services. World Resources Institute, Washington. http://www.wri.org/publication/restoring-natures-capital#

- Janet Ranganathan, Ciara Raudsepp-Hearne, Nicolas Lucas, Frances Irwin, Monika Zurek, Karen Bennett, Neville Ash, Paul West. 2008. Ecosystem Services: A Guide for Decision Makers. World Resources Institute, Washington, 80 pp. http://pdf.wri.org/ecosystem_services_guide_for_decisionmakers.pdf

- InVEST: Integrated Valuation of Ecosystem Services and Tradeoffs. A toolbox http://www.naturalcapitalproject.org/InVEST.html (accessed 6 February 2008).

- United Nations Environment Programme - World Conservation Monitoring Centre. In preparation. The Ecosystem Assessment Manual (to be launched at the 2008 World Conservation Congress)

- United Nations Environment Programme and partners. In preparation. Ecosystem Assessment Manual. Expected to be published at the end of 2008.
