**Third ad hoc intergovernmental and multi-stakeholder
meeting on an intergovernmental science-policy platform
on biodiversity and ecosystem services**
Busan, Republic of Korea, 7–11 June 2010
Item 3 of the provisional agenda[*]
**Consideration of whether to establish an intergovernmental
science-policy platform on biodiversity and ecosystem services**

Current and future status of biodiversity and ecosystem service indicators

Note by the secretariat

Addendum

Executive summary[1]

1.   Indicators are tools for measuring and communicating progress. They provide evidence of the magnitude, distribution, pace and direction of change in defined parameters. Indicators are often used by Governments as barometers of progress, and increasingly in conjunction with quantitative policy targets, at a range of scales and in a range of thematic assessments. While indicators are increasingly being developed and used at all levels, from global to regional to national, concerns often arise as to whether they are effective.

2.   Various mandates exist for improved collaboration in the development and uptake of indicators relating to biodiversity and ecosystem services. Several international processes, including those of the Commission on Sustainable Development, the Millennium Development Goals and the Convention on Biological Diversity, have adopted frameworks encompassing sets of defined indicators upon which they focus. The range of mandates and processes requiring biodiversity and ecosystem service indicators notwithstanding, there is considerable overlap in indicator content between frameworks. This

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reflects the relevance of biodiversity and ecosystem services to a number of processes, in addition to efforts to harmonize indicators and the interaction between stakeholders.

3.   Importantly, however, the suite of internationally developed biodiversity and ecosystem service indicators is limited and incomplete. Biodiversity indicators are most well-developed at the species level, whereas information on genetic or ecosystem changes is much patchier. While indicators for provisioning services, as defined in the Millennium Ecosystem Assessment, are relatively well developed, other ecosystem service categories defined in the Assessment – specifically, those for "supporting", "regulating" and "cultural" services – lag considerably behind in both conceptual and data-driven indicator development. These gaps are apparent at all scales.

4.   Part of the challenge for ecosystem service indicators lies in the fact that the underlying science continues to evolve and is not yet strongly evidence-based. Equally, although many economic, health and development indicators are in use, particularly at the national level, few take into account dependence on biodiversity and ecosystems.

5.   To ensure the effective use of indicators at the international level, coordination mechanisms to bring key stakeholders together are essential. A range of such mechanisms exists, including, at the international level, mechanisms for indicators under the Commission on Sustainable Development, the Millennium Development Goals and the Convention on Biological Diversity. There are also a number of regional initiatives. There is increasing understanding at the national level of the need for indicators with which to assess and manage progress in meeting both national and international biodiversity targets. The same is true of the need to build capacity to develop and use indicators successfully. Various initiatives in both the development and environment sectors are being put in place.

6.   Experience gained from multiple processes suggests unprecedented levels of interest in and development of biodiversity and ecosystem service indicators, stimulated in part by the various existing mandates, agreements and coordination mechanisms. It also reveals, however, important common challenges, including gaps in data availability and coverage, underdeveloped scientific peer review and validation, weak communication of the messages conveyed by the indicators and a need for greater investment in capacity-building. The key messages from this review, which representatives may wish to take into account in their deliberations, are:

       (a)   *Established need*: Biodiversity and ecosystem service indicators are needed at various scales for various uses, from measuring national progress to monitoring the achievement of international commitments, and for a range of assessment processes. Currently, however, their development and the metrics and measures underpinning them are incomplete. Gaps exist in the thematic and geographic coverage of biodiversity indicators and in particular in the development of ecosystem service indicators other than those for provisioning services. The linkages to human well-being in current indicators are also yet to be made clear;

       (b)   *Existing experience*: Substantial experience has already been accumulated in developing and using biodiversity and ecosystem service indicators at all levels across a range of processes and initiatives. Some degree of coordination is provided through existing multi-stakeholder partnerships, with key agencies contributing data and indicators to various processes. Efforts are under way to harmonize across scales (from global to regional to national). There is also a significant opportunity to integrate further the efforts of the scientific community with those of international agencies;

       (c)   *Good science*: The process of developing indicators should follow the best available scientific practices that would enable indicators to be clear and credible. The methodology for the development of each indicator should be clearly documented, peer-reviewed and published. There should also be access to underlying data and data quality control, with the indicators subject to initial testing and periodic independent review of results, with a view to obtaining meaningful, scientifically sound indicators;

       (d)   *Indicator theory and conceptual frameworks*: Indicators are often defined and developed collectively within frameworks, with each indicator relating to a distinct issue within a bigger picture. It is important to be able to articulate clearly how indicators in a framework fit together, particularly when using indicators to understand policy impacts or to identify why some targets have or have not been met. For example, a framework of indicators including measures of threats to biodiversity, the state of biodiversity, ecosystem services, human well-being and policy responses will be most useful to decision makers where the effect of changes in one category of indicator on changes in other categories are well understood and can be easily explained. The relationships between the indicators in any framework should be clearly explained and documented, including their scientific basis and any theoretical assumptions;

(e)   *Building capacity*: National capacity for framework application, indicator development, data collection and information management needs to be developed and equipped with suitable resources to strengthen countries' ability to develop, monitor and communicate indicators in a participatory, sustained and integrated way and to link with other processes, such as multilateral environmental agreements, at all levels. The development of appropriate portals, including clearing-house mechanisms, for sharing and reviewing data appropriately would greatly support the improvement of access to such data and their availability. Programmes are already under way that aim to increase the development and use of biodiversity and ecosystem services indicators at the national level, drawing on both national and international experience. These could be further streamlined and built upon;

(f)   *Communicating indicators*: Recognition needs to be given to the importance of developing communication strategies for indicators, relating to their intended uses, to inform policy discussions and ensure the effective communication of messages coming from the indicators in all sectors;

(g)   *Collaboration and facilitation*: It would be hugely beneficial if the research and policy communities were to work together in a more coordinated way, building on existing collaborative initiatives and experience, to continue to design appropriate indicators, to implement the sustained monitoring programmes needed to ensure the availability of data and indicators in the long term, to develop appropriate communications strategies in order to ensure that the indicators are used well and to facilitate the improved use of indicators at the national level. A clear and open process, allowing for all stakeholders to engage however they may wish to do so, would support this;

(h)   *Global partnership*: Efforts should be made to consider the involvement of all potential developers and users of indicators so as to encourage a harmonized approach to such complex and dynamic subjects as biodiversity and ecosystem services. There is increasing emphasis on the use of indicators to monitor the effectiveness of a number of multilateral environmental agreements and other global initiatives, which has implications for the investment of time, funding and expertise. The resource burden at all levels – from the global coordinating systems to national-level development and use – will need to be considered when promoting indicator uptake, with a view to achieving the greatest success.

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