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BIODIVERSITY INDICATORS FOR NATIONAL USE: PRELIMINARY LESSONS FROM THE GEF PROJECT

Progress report by the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC) and the National Institute for Public Health and Environment in the Netherlands (RIVM)

Note by the Executive Secretary

1. In January 2002, the Global Environment Facility (GEF) decided to support the medium-sized regional project on biodiversity indicators for national use. The project aims at operationalizing ecosystem-specific indicator frameworks and core sets of indicators for use at national level, using a case-study approach and building on work already carried out under the Convention on Biological Diversity.

2. The attached progress report on the project is being circulated for the information of participants in the ninth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA). It was prepared by the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC) and the National Institute for Public Health and Environment in the Netherlands (RIVM) and is being circulated in the language and form in which it was received by the Secretariat of the Convention on Biological Diversity.

* UNEP/CBD/SBSTTA/9/1.

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BIODIVERSITY INDICATORS FOR NATIONAL USE: PRELIMINARY LESSONS FROM THE GEF PROJECT

The CBD and SBSTTA have repeatedly identified the importance of indicators of biodiversity for tracking progress in the implementation of the Convention and in biodiversity conservation more generally (*UNEP/CBD/SBSTTA/3/9* and *inf.13*, *UNEP/CBD/SBSTTA/7/12* and SBSTTA recommendations V/11 and VII/11). At national level, biodiversity indicators are the information tools needed by countries to summarise data on complex and sometimes conflicting environmental issues to indicate the overall status and trends of their biodiversity. The CBD has called on institutions and Parties to develop such indicators and in 1996 (decision III/10) specifically recommended that countries should implement pilot projects to advance the development of biodiversity indicators for national use. In response to this call, the Global Environment Facility has supported a medium sized project, *Biodiversity Indicators for National Use* (BINU), which is also funded by the governments of Switzerland, the Netherlands and the United Kingdom.

The BINU project was originally conceived and proposed during a workshop at Lake Naivasha, Kenya in June 2000, and implementation began formally in July 2002. It involves efforts by four partner countries to develop biodiversity indicators, each for a single focal ecosystem, which are appropriate for use to support policy and decision-making at national level. The four country partners are: Ecuador, addressing forests and terrestrial ecosystems more generally; Kenya, working on wetlands; the Philippines, addressing marine ecosystems; and the Ukraine, which is addressing agricultural biodiversity. Details of the executing agencies in each country are provided in the annex below. The project is funded through UNEP-GEF, with co-financing from the governments of the UK, the Netherlands and Switzerland. It is coordinated by the UNEP World Conservation Monitoring Centre (UNEP-WCMC), with added technical support from National Institute for Public Health and Environment in the Netherlands (RIVM). Further information on the project and its participants is available through the project's central website (http://sea.unep-wcmc.org/collaborations/BINU/index.cfm) and the links it provides to the websites of the national project components.

In each participating country, the project teams follow a series of steps that are analogous to those recommended by the recent CBD expert meeting report (UNEP/CBD/SBSTTA/9/INF/7) as being crucial to biodiversity indicator development (Figure 1). They identify and consult with a broad range of stakeholders to identify key questions about biodiversity of interest to policy and decision-makers. Close examination of policy objectives and targets also plays an important role in identifying key questions, as does the use of frameworks, such as pressure-state-response to organise the questions. Project partners then locate and gather appropriate data and select the indicators that could be developed with the data available. Repeated consultation with stakeholders helps to refine both the key questions and the indicators selected. The final project outputs will include guidelines for indicator development and use based on the project experience and indicator portfolios for the focal ecosystem in each participating country. The process of implementing the project will itself promote the implementation of the CBD within the participating countries.

The partners have proceeded rapidly with project implementation, and institutional roles and responsibilities are well established. The identification of key stakeholders and their initial consultation has been completed in all four countries, and more in-depth consultations have been carried out with some important specific groups and sectors. The consultation process has helped the partners to identify key questions that biodiversity indicators should address within each national context and focal ecosystem, and initial surveys of data availability have been carried out by all the partners. The results of these initial steps in the project were compared and commonalities and divergences of experience identified during a mid-term workshop held in Cambridge in July 2003. The national partners are now proceeding with the identification and implementation of indicators based on the available data that are

appropriate to addressing the key questions identified by the stakeholders. The most recent progress will be presented during a side event during SBSTTA9, and subsequent updates will be provided to COP7.

The major focus of this paper is to report on the lessons learned about the process of developing indicators from the practical experience of the partners during the initial phases of the project. These lessons relate to each of the steps of the process and also provide some crosscutting and general insights into the nature of the problems attached to developing biodiversity indicators. A few recommendations are included for consideration in wider discussion with respect to biodiversity indicators in the context of the CBD.

Stakeholder identification and consultation

Although each of the national teams had distinct experiences in identifying and consulting their stakeholders, a number of common lessons emerged. Firstly, it is easiest to involve those stakeholders with whom the agencies developing indicators already have established relationships; significant extra effort is required to ensure that a wider range of stakeholders are consulted. For example, project teams have found it more difficult to involve stakeholders from socio-economic sectors than from natural resources sectors. In some cases, teams had difficulty involving policy makers, who tended to be impatient with the time scale of the indicator development process. Other groups without strong participation were the large-scale productive private sector and organisations and small-scale biodiversity users.

For all stakeholders, and indeed for those most involved in the process, it is imperative to allocate time and effort to clarifying key concepts, including 'biological diversity' and 'indicator', as well as the functions of indicators and the scales of interest. A common understanding of these issues cannot be assumed. Individuals, and indeed countries, vary in their familiarity with indicators as a concept and in their willingness to embrace their use. The wider the range of stakeholders incorporated in a single consultation, the less common understanding of indicators and their potential functions there is likely to be among them. Furthermore, no single mechanism or forum will be effective for all types of stakeholders, and some disenfranchised groups (e.g. the rural poor) may be especially hard to involve, even indirectly. Therefore, several consultations, each involving a specific group of stakeholders, may be the most appropriate means of reaching the full range of stakeholders. These consultations are very important in providing a firm basis from which the subsequent steps are approached and executed, in particular the development of key questions.

Key questions

The key questions identified by stakeholders and project teams as being of interest for indicator development often proved to be very general, and there was sometimes a reluctance to identify specific policy objectives that might help to focus the key questions. This may relate to concerns about accountability in relation to the achievement of such targets and objectives. On the other hand, there was a great deal of interest in questions pertaining to management of biodiversity as well as to policy. Many questions were linked to economic values and most related to trends rather than to status. Threats to and pressures on biodiversity also featured prominently among the key questions.

Many of the questions initially identified were not expressed in forms amenable to being addressed by indicators. Some other questions of interest to stakeholders were important issues for resource management (e.g. questions about resource ownership and tenure), but were outside the remit of biodiversity indicators. Therefore, an iterative process of refinement jointly with the stakeholders was needed (see clarifying key concepts, in the previous section). A further difficulty in identifying key questions is that they tend not to be confined to the focal ecosystems on which the project teams are concentrating, and this had led some teams to redefine the scope of their efforts. Some of the most useful

questions to emerge were those that were driven by very specific policy or management needs, e.g. which land to remove from agriculture, or when fishing can be allowed to recommence at a particular site.

Use of existing frameworks

The project tested the utility of existing frameworks for organising environmental information and indicators, such as Driver-Pressure-State-Impact-Response (DPSIR) and the GEF's framework for programme evaluation. Participants initially found many of these frameworks difficult to understand, but found that, when understood, they were a useful way of organising questions and checking for gaps in their coverage. The frameworks do not in themselves identify indicators. All frameworks are purpose-specific; e.g. the DPSIR framework is useful for causal chain analysis and state-of-the-environment reporting, the GEF framework is aimed at programmes assessment, others are aimed at evaluating management effectiveness. All the available frameworks have weaknesses, but the Pressure-State-Response framework (as distinct from the more complicated DPSIR) has proved the most useful to project participants.

Data availability

There is a substantial amount of data available to address some types of questions and for some ecosystems. However, the data come from many sources, their generation and use is often uncoordinated, and they are often neither accessible nor entirely appropriate for indicator development. To identify appropriate data it has proved to be of the utmost importance that the consultation process is as inclusive as possible and succeeds in effectively clarifying the aims of indicator development.

Criteria for indicator selection

The most promising approaches for indicator development will be largely dictated by the availability of appropriate data. However, in their discussions the project teams identified the following additional criteria as useful in helping to select the best indicators from among a range of candidates:

- Does it help answer the key question?
- Is it easy to understand?
- Can it be implemented?
- Is it applicable to large areas?
- Does it help answer more than one key question?
- Is it biologically sound?
- It is precise in its wording and interpretation?
- Does it have a spatial component?
- Does it provide different viewpoints?
- Is it amenable to forecasting?

Cross-cutting issues and general lessons learned

The experience from the project is that the development of biodiversity indicators sits firmly at the intersection between policy making, natural resource management and science, and is therefore not simple. There is less existing expertise in the area of biodiversity indicators at national level than may have been assumed during CBD discussions. Although some research has been carried out on specific local questions of biodiversity trends, it is not yet clear whether local indicators identified in these studies can be scaled up easily. Developing indicators is a continuous and iterative process, which may metamorphose over time. Maintaining a clear understanding of the key concepts involved is challenging, even for those most involved in the process and still more so for wider groups of stakeholders, who are less familiar with the CBD as a source of the concepts. 'Mainstreaming' of biodiversity considerations

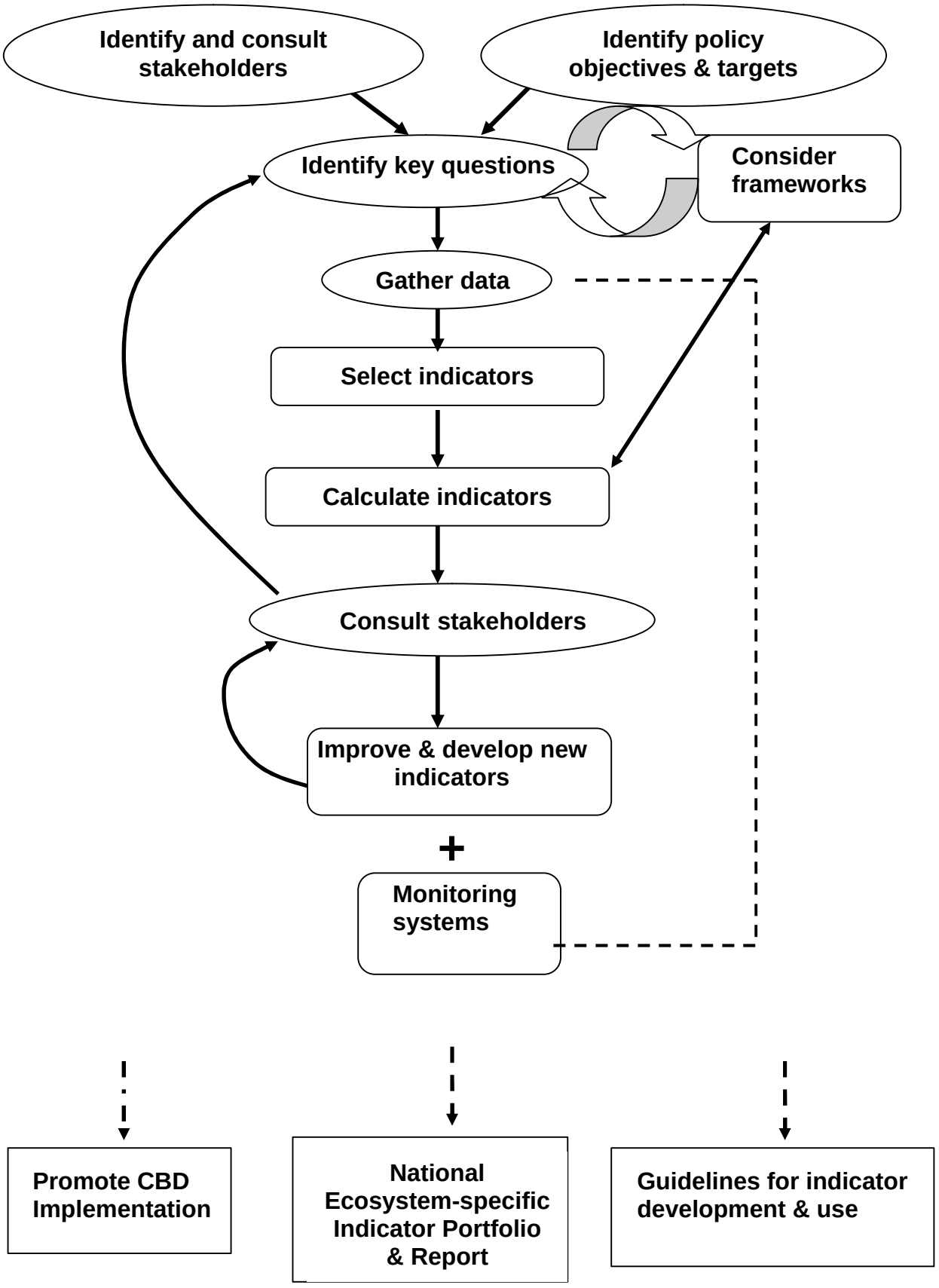
will clearly be a limiting factor in determining interest in and uptake of biodiversity indicators. Both the scope and the scale of questions and indicators need to be defined clearly, but it may be necessary to adjust them to take account of the context in which the phenomena of interest occur (e.g. indicators for wetlands may need to include the properties of their catchment areas). Considerable thought is needed to decide whether broad scale indicators can best be derived by scaling up from finer scale information or by using overview approaches. Site based approaches may provide more tangible interim benefits from the process. In order to ensure the development of effective indicators that meet the greatest range of needs, it is crucial that the consultation process be iterative so that all parties' perceptions can evolve through it. Domestication and ownership of the indicators is of paramount importance because when stakeholders feel that they have not been adequately involved then sustainability and use of the indicators is adversely affected.

Further information on the national teams' recent progress on indicator selection and calculation will be presented during a side event at SBSTTA9 and in a new information document to be prepared for COP7. The BINU project will ultimately generate operational biodiversity indicators for the focal ecosystem in each participating country, documentation of the project experience and guidelines for developing national biodiversity indicators.

Recommendations

It is important that the Subsidiary Body and Conference of the Parties recognise that the definition and importance of biological diversity are still not well understood by everyone, including some key stakeholders in the development of biodiversity indicators. People have different notions about what the process of biodiversity depletion is and how it should be described. To ensure the successful development of such indicators at national level, countries should first assess their own needs for indicators and then relate these needs to those of the Convention. Countries should move ahead with this as soon as possible, as it is a lengthy process. Progress is possible: useful data exist and can be used to construct indicators to answer some important questions about biodiversity at national level.

Figure 1. BINU Project Stages and Outputs



Annex

EXECUTING AGENCIES FOR THE BIODIVERSITY INDICATORS FOR NATIONAL USE PROJECT

Ecuador

EcoCiencia
http://www.ecociencia.org/proyectos.asp?idtema=1&idproy=55

Ministerio del Ambiente
http://www.ambiente.gov.ec/

Kenya

Kenya Wildlife Service
http://www.kws.org/default.htm

Ukraine

Ukrainian Land and Resource Management Centre (ULRMC)
http://www.ulrmc.org.ua/services/index.html

Ministry of Ecology and Natural Resources of Ukraine (MENRU)

Philippines

Bureau of Fisheries and Aquatic Resources (BFAR)

Protected Areas and Wildlife Bureau (PAWB)

Co-ordination and technical support:

UNEP-World Conservation Monitoring Centre
http://www.unep-wcmc.org

National Institute for Public Health and Environment in the Netherlands (RIVM)
http://www.rivm.nl/en/milieu/internationaal/
