



UNEP-GEF Project – Biodiversity Indicators for National Use (BINU)

A follow-up of a BINU Team presentation on November 11, 2003 to participants of the 9th SBSTTA Meeting in Montreal, Canada November 10-14, 2003



This collaborative project, coordinated by the UNEP World Conservation Monitoring Centre (UNEP-WCMC), is aimed at developing operational national-level biodiversity indicators to support planning and decision-making in four participating countries (Kenya, Ecuador, Philippines, and Ukraine). Throughout the project and when it is completed in late 2004, the indicator portfolios and lessons learned will be compared and exchanged among participants. This will ensure that the methods will be highly replicable by other countries. The final outputs of the project will include reports of the state of the focal ecosystem in each country and the indicators developed for them. Guidelines for indicator development and implementation will be published and disseminated under the Convention on

Biological Diversity, supporting its program on biodiversity indicators.

In accordance with the Project Implementation Plan countries performed the following activities in 2003:

- Registered the project and selected key recipients and stakeholders;
- Participated in meetings with the BINU participating countries (in Montreal and Cambridge) and with potential Stakeholders in the host countries;
- Selected key questions and began evaluation of biodiversity indicators; and
- Prepared the 1st BINU Project Reports (January 2003-September 2003).

Ukraine. An integrated assessment of agroecosystem biodiversity has never been done in Ukraine. Because agro-landscapes cover approximately 70% of Ukraine and are undergoing significant changes due to land reform, this is an issue of a great importance. CBD recommendations were taken into account to manage the process of indicator development. As a result, an extensive starting list of 64 key questions was reduced to 5 main questions to be used in the selection of indicators of national importance. Local experts selected 128 species of wild animals and plants (34% birds, 23% mammals, 23% vascular plants and 20% invertebrates) serving as indicators for the assessment of biodiversity in agro-landscapes. The data permitted a preliminary assessment of biodiversity impacts and pressures in major natural-agricultural zones, including Forest, Forest-Steppe, Steppe, Carpathian Mountains, and Crimean Mountains. At present, the major negative pressures appear to be: land use change (37%), inadequate environmental management (16%), habitat fragmentation (7%), exploitation (9%), toxification (7%), disturbance (6%) and others. According to the preliminary expert assessments for the period between 1950 and 2003, in general the number of such agriculturally dependent wild species in different taxonomic groups in Ukraine first declined and then stabilized, rose, or continued declining. Preliminary calculations demonstrated that *an agro-NCI* may be as low as 52% for 2001 as compared to 1994, but *an agro-biodiversity LPI* will probably rise. This suggests that proper management of agriculture biodiversity is of critical importance in Ukraine. New measures to reduce key negative causes of change should be considered by decision-makers. At this stage of project implementation, attention has focused on indicator species. During further project implementation, analyses will proceed on other indicators/directions such as habitat fragmentation, farming practices, soil conditions, governmental policy, etc. Activities will include collection of new *in situ* data and integration of statistical, cartographic, and remote sensing data (MODIS, Landsat, and ASTER). Within the framework of the BINU Project, ULRMC developed a mosaic of agro-landscapes using MODIS 2002 satellite imagery. A pilot GIS with thematic layers is under development, as is the documentation of methodologies, reports on the state of biodiversity and other materials in accordance with the project tasks. ULRMC's BINU web-page (<http://www.ulrhc.org.ua/services/binu/index.html>) is continuously updated as the project develops.

Philippines: Like the rest of the other participating countries, the Philippines underwent a series of consultations to implement the project "Biodiversity Indicators for National Use: Marine and Coastal Ecosystem". The consultation includes stakeholders, representatives from the academe, peoples' organization, from the industry, government and non-governmental organizations. During this series of consultation the group decided to sub-divide the marine and coastal ecosystem component into the following sub-component namely: a) mangrove, b) coral, c) marine plants to include seagrass and seaweeds, d) fish to cover pelagic, demersal and invertebrates and e) threatened and endangered species focusing on turtles, dolphins and whales, sharks and clams. In identifying the probable indicators for the

different sub-component the pressure, state response (PSR) framework was used. Based from this framework key questions were developed and the corresponding indicators were identified. The long list of indicators identified will be evaluated based on the availability of data and data source, will it produce a specific answer to the key questions, will it result in a simple indicator that could easily be understood by the stakeholder and policy maker and other criteria will be used to assess the effectiveness of the indicator. An example of the identified indicator for the fish component under the pressure is the effort in terms of the number of fishers per vessel by gear type, and for the state, the catch per unit of effort or CPUE specific on the mean change in CPUE per species by time and fishing ground, average size of fish as well as percentage of juveniles in the catch. As to the response, effort reduction, gear restrictions, limited access shall be initiated through policy recommendation and issuance. For the coral, seagrass-seaweeds, and mangroves sub-component, a long list of pressure indicators were identified like, climate change, destructive fishing methods, area conversion to aquaculture, pollutions, tourism, development, extractive industries and etc. These identified indicators however will still undergo an evaluation and assessment process to identify the most appropriate indicator for this sub-component. Indicator is a new concept to the participants of the consultation and therefore the degree of understanding about indicators varies among the participants. Their understanding of indicators however became clearer as the series of consultations was done. They finally recognized and acknowledged that indicators would be a good tool to assess the status of the ecosystem.

Ecuador: The BINU project in Ecuador is developing between Ministry of Environment and EcoCiencia (NGO), and is working on a national overview of our natural terrestrial ecosystems. With the support of stakeholder groups, we identified 8 key questions about biophysical and socioeconomic issues related to biodiversity. To answer to this demand, we constructed 30 indicators, based on a pressure – state – response framework, and using geographical information system (GIS) tools and several sources of information (species database, ecosystems maps, land use maps, national socioeconomic indices) from national and international institutions. In our second year of the project (2003-2004), we will prepare a strategy and the tools to communicate, publish, evaluate and update our overview of terrestrial ecosystems for decision makers of our country. For more information about BINU project in Ecuador please visit the web page www.ecociencia.org (Proyecto BINU).

Kenya. The BINU project is being implemented by Kenya Wildlife Service under the Ministry of Environment natural Resources and Wildlife in collaboration with the National Museums of Kenya, Kenya Marine Research Institute, Department of Fisheries, ministry of planning and four national Universities. Kenya's approach to the development of indicators is based on four representative wetland types at a national level. These are the Lake Victoria basin with numerous satellite lakes and swamps, representing swamp and marsh habitats, the Rift Valley system characterised by saline, brackish and alkaline lakes, the central wetlands characterised by freshwater lakes, and high altitude wetlands. Taskforces were established to develop indicator for each habitat type. This approach allowed rapid and adequate consultation with stakeholders both at local and national levels, and generated a high variety and quality of key questions at resource user, resource management and policy levels. This helped identify the key concerns of relevant stakeholders regarding wetland resource conservation, management and sustainable use in tandem with the policy and targets of wetland conservation in Kenya. The five key questions that the indicators should answer were identified as 1. What are the wetland resources values, functions and status? 2. Who are the owners and users of wetland resources? 3. What are the threats to wetlands and their impacts? 4. Is there adequate policy, legislation and management framework for sustainable use? 5. How is the wetland important to national, regional and international development?. Data availability assessment was undertaken on data requirements and sources to answer the five key questions identified. Preliminary indicators were then calculated and stakeholders, managers and scientist are currently evaluating their appropriateness. The result of this evaluation will identify gaps and improve the indicators. The preliminary results so far show that we will use species abundance of popular species such as the flamingos, water quality and quantity, wetland size, species richness and human population growth. Policy makers have expressed the need to develop socio-economic indicators that are tied to biodiversity to effectively answer question five on the importance of wetlands to national economy, indicators such as fish landings, water supply and wetland function have been proposed.

