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UNEP-GEF Project – Biodiversity Indicators for National Use (BINU), Agro-biodiversity. 1st Ukrainian Report (January 2003 - September 2003)

Abstract

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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). When the project 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 ULRMC 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 Ukraine (Yalta and Kyiv);
- Selected key questions and began evaluation of biodiversity indicators; and
- Prepared the 1st Ukrainian BINU Project Report: Agro-Biodiversity Indicators for National Use (January 2003-September 2003).

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 (Slide 2), this is an issue of a great importance. Within the framework of the BINU Project, ULRMC developed a mosaic of agro-landscapes using MODIS satellite imagery (Slide 3). MODIS products are also being used by RIVM, the Netherlands, who are consultants to this project, for the development of a conceptual global model for biodiversity conservation (GLOBIO). Together, RIVM and ULRMC prepared a publication regarding GLOBIO (http://www.ulrhc.org.ua/publication/envmanag/globio_rivm_ulrhc.pdf).

URLMC participated in a meeting of the BINU participating countries, held in Cambridge, UK, from June 30 through July 4, 2003. Ukraine was represented by Dr. Vasyl Prydatko (ULRMC), Mr. David Schaub (Altatum, ULRMC) and Academician Oleksiy Sozinov (Member of Agro-biodiversity Working Group and ULRMC's Scientific and Technical Advisory Council).

The aforementioned report demonstrated the efficiency and methodical correctness of the process of key questions formulation and indicator selection. This approach has been used by more than 100 international scientists (representing the UK, the Netherlands, Kenya, Philippines, Ecuador and Ukraine) involved in the discussion of this complicated issue. The process also includes identification of potential information users.

As a result, an extensive list of key questions (more than 64 questions) was reduced to five 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 (Slide 4). 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 (Slide 5 and 6).

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 (Slide 7). 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.

For a number of species preliminary predictions have been done for expected population trends by the year 2010. Work is also in progress on risks associated with genetic erosion and loss of domestic varieties.

At this stage of project implementation, attention has focused on indicator species. During further project implementation, analyses will proceed on other indicators 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). 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.ulrmc.org.ua/services/binu/index.html>) is continuously updated as the project develops. The final version of the 1st Ukrainian BINU Project Report will be published on this website in the near future.

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