



**HIGHLIGHTS FROM THE NORWAY/UN  
CONFERENCE ON THE ECOSYSTEM APPROACH  
FOR SUSTAINABLE USE OF BIOLOGICAL  
DIVERSITY  
MONDAY, 6 SEPTEMBER 1999**

On the opening day of the Norway/UN Conference on the Ecosystem Approach for Sustainable Use of Biological Diversity, participants met to hear opening remarks and keynote addresses, as well as presentations on the subjects of the ecosystem approach and sustainable use, and decentralization of resource management.

**OPENING SESSION**

Guro Fjellanger, Minister of Environment and Chair of the opening session, welcomed participants to the conference, and along with Anne Katrine Slungård, Mayor of Trondheim, welcomed participants to the ancient city of Viking history and fjords.

Kåre Gjønnes, Norwegian Minister of Agriculture, emphasized that an ecosystem approach to the sustainable use of forestry resources is one of the central topics of the conference and that it is Norway's aim to establish greater clarity at the international level of the balance between commercial use and long-term conservation of forestry resources.

Johannes Nakken, Norwegian Ministry of Fisheries, addressed national fisheries management and its significant contribution to the country's economy. He outlined international agreements relevant to marine resources management, including the UN Convention on the Law of the Sea, the UN Agreement on Fishing on the High Seas, regional seas agreements and the CBD. On the issue of harvesting whales and seals, Nakken noted Norway's commitment to balanced use and ecosystem management, as well as its long-standing cultural traditions.

Shafqat Kakakhel, Assistant Secretary-General of UNEP, emphasized the importance of participants contributing to the Malawi principles for the ecosystem approach developed at a workshop in January 1998. He specifically mentioned the work of the Ecosystem Conservation Group, which has been instrumental in bringing together UNEP, FAO, UNDP, CBD, IUCN, the World Bank, WWF and UNESCO to address the objectives of the ecosystem approach at the global level.

Jeff McNeely, IUCN's Chief Scientist, highlighted the need for ecosystem approaches, recognition of ecosystem services and products, as well as for management at different geographic scales. He stated that the ecosystem approach is able to address many sectors, human impacts, multiple uses and ecosystem restoration, while being more cost-effective than species management. Constraints to implementation include: market failures, insufficient knowledge, bureaucratic and political obstacles, lack of trust among stakeholders and conflicts of interest.

Laszlo Miklos, Slovakian Minister of Environment and Chair of the CBD COP-4, emphasized the importance of an integrated approach to land resources and the need to incorporate the entire landscape at the geo-ecosystem level.

Hamdallah Zedan, Executive Secretary of the CBD, noted previous Trondheim meetings' contribution to CBD implementation and stressed this conference's value for the next meeting of the CBD's SBSTTA, which will address the ecosystem approach and sustainable use. He stressed the need to continue developing the principles from the Malawi workshop on the ecosystem approach and other guidance for implementing policy and management decisions. He also recommended consideration of conservation and benefit sharing in the ecosystem approach, along with other cross-cutting issues such as indicators, incentives, alien species and taxonomy.

Guro Fjellanger, Norwegian Minister of Environment, listed the meeting's organizers as the Norwegian Ministries of Environment, Foreign Affairs, Agriculture and Fisheries in cooperation with UNEP and coordination by the Directorate for Nature Management and the Norwegian Institute for Nature Research. She addressed the inadequate state of knowledge on biodiversity's functions and the need to improve dialogue among politicians, policy-makers and scientists. She stressed coordination of action at the local level and supported local stewardship of resources. Finally, she mentioned Norway's work on a second generation of its National Biodiversity Action Plan, soliciting input from a range of ministries to develop a tool for coordinated policy-making. She then declared the conference officially open.

**INTRODUCTORY NOTES - ECOSYSTEM APPROACH AND SUSTAINABLE USE**

Co-Chair Zipangani Vokhiwa opened the second session by introducing Herbert Prins, Wageningen Agricultural University of the Netherlands, who presented the Malawi Principles for the ecosystem approach. Taking into consideration the CBD's objectives and the properties associated with ecosystems, Prins outlined the 12 characteristics of the ecosystem approach to biodiversity management that were identified at the Malawi workshop. They include, inter alia, that management objectives are a matter of societal choice; management should be decentralized to the lowest appropriate level; ecosystems must be managed within the limits to their functioning; the ecosystem approach should be undertaken at the appropriate scale; and management must recognize that change is inevitable. In addition he highlighted that the principles are interlinked, and that those involved in implementing the ecosystem approach should remain accountable to their constituencies. Prins concluded by saying that the ecosystem approach should be utilized to overcome the shortcomings and deficiencies often found in classical nature conservation approaches, yet it is meant to supplement, not replace, other management options.

Edward Maltby, IUCN Commission on Ecosystem Management and Royal Holloway Institute for Environmental Research, talked on moving the ecosystem approach from principles to practice. He noted

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that the approach is not a static model, but provides a process for engaging stakeholders in managing biological resources. He stressed that it should integrate the conservation, sustainable use and equitable benefit sharing of genetic resources. Maltby listed deficiencies of classical conservation approaches, including, *inter alia*: failure to recognize the importance of ecosystem functioning, sectoral interests and linkages between nature and culture; a focus on species or protected areas; lack of stakeholder participation in management; and an inappropriate division of costs and benefits. He outlined a number of constraints to implementing the ecosystem approach including, market and economic distortions, traditional social practices, natural forces of change and economic and social development. Citing examples of the ecosystem approach, Maltby outlined a number of lessons learned, including the need for close relationships with local stakeholders, investigation of sectoral interests, practical demonstration of simple techniques, guidance and support measures for local actors and work at the appropriate scale. He recommended that scientists could develop knowledge for enhancing predictive abilities and contribute to the understanding of ecosystem structure and function, as well as spatial and temporal dynamics.

In the ensuing discussion one participant stressed the difficulty of maximizing the interests of all stakeholders and the need to find a balance between achieving the Malawi principles with existing realities. Responding to a question on how to implement the approach nationally, Maltby suggested starting with inter-agency communication and interaction and the possibility of independent authorities to coordinate such activities. Others addressed the constraints of national and administrative boundaries, land ownership and tenure, and the physical limits of modifying ecosystem structures.

Bror Jonsson, Norwegian Institute for Nature Research, lectured on sustainable use citing population growth, finite resources, over-exploitation and increasing resource consumption as major challenges. He also noted that unsustainable use can result from time constraints, a conservative management system and scientific uncertainty. He said that the CBD provides a political and administrative approach for managing resources, but questioned whether this agreement is sufficient to secure the sustainable use of biodiversity. He emphasized that resource management and sustainable use can be improved by: limiting access to commonly owned resources and requiring cooperation among users; increasing flexibility through adaptive management; and encouraging multi-sectoral strategic planning.

Responding to a participant's questions on the increasing gap between rich and poor and its effects on sustainable use, Jonsson stated that a population crisis will eventually occur unless resource consumption is stabilized.

Harold Mooney, Stanford University, spoke on biodiversity and ecosystem functions, presenting examples from marine and agricultural ecosystems that illustrated the complex interaction between human impacts and species, along with their larger repercussions. He noted that conservation efforts can have detrimental effects on other locations or species. Mooney reviewed scientific research examining links between factors such as species richness, resilience, functional groups, habitat fragmentation and nitrogen fixation. His general recommendations for managing ecosystems included maintaining species redundancies for provision of specific ecosystem services, protecting important functional groups and being cautious of keystone species. He called for attention to invasive species, which will continue to increase, given favorable conditions such as increased ecosystem disturbances and fragmentation, increased commerce and better adaptability to global change. He recommended, *inter alia*, paying more attention to complex systems, treating each management exercise as an experiment, linking ecosystem functioning with services and addressing basic approaches with management needs.

In the discussion, one participant provided an example where Asian rice farmers managed their fields as ecosystems, thereby pointing to the potential contributions of agriculture. Another noted the difficulties of designing a policy-making system flexible enough to respond to adaptive management techniques. Others highlighted the fragmentation of scientific knowledge and the importance of taxonomic work.

### DE-CENTRALIZATION OF RESOURCE MANAGEMENT

Chair Inger Stoll, Norwegian Agency for Development, introduced Madhav Gadgil, Indian Institute of Science and the GEF's Scientific and Technical Advisory Panel. Gadgil discussed promoting adaptive participatory management, which involves stakeholders in deciding management goals, visualizing alternative management strategies, understanding system behavior on the basis of historical observations, monitoring and stewardship. He also suggested exploring new institutions and capacities to address the issue. Such new capacities could include adaptive management for the scientific and technical community; monitoring techniques for environmental managers; information management for industry; and participatory management for local communities. He added the importance of linking planning and management at the local level with higher spatial scales. In order to further promote discussion on the subject, Gadgil invited participants to access STAP's Electronic Forum on Sustainable Forest Use (<http://stapgef.unep.org/stapweb/Nboard.htm>) from August 20-September 30, 1999.

In the following discussion, one speaker agreed with the importance of new institutions and capacities, especially with regards to monitoring the sustainable use of biodiversity. Another inquired about how to define "stakeholder." Gadgil agreed that this issue should be further explored. A final participant stressed that conservation is most effective at the community level considering that the bulk of biodiversity is found in rural areas.

Vivienne Solis Rivera, IUCN-ORMA, spoke about the challenge of community-based management of biodiversity in Mesoamerica, noting the regions vulnerability to natural, social, cultural, economic and institutional considerations. She highlighted and reinterpreted three of the Malawi Principles related to community-based management. On recognizing the inevitability of change, the ecosystem approach should also recognize and utilize the heterogeneity of social and cultural factors affecting natural resource use. On considering all relevant information, the focus on traditional knowledge should shift away from intellectual property regimes toward incorporating aspects of traditional and community management strategies. On incorporating all relevant sectors of society, practitioners should examine the state and civil society interaction and strengthen democratic systems to promote participation, while recognizing environmental rights and obligations. She stressed the importance of equitable benefit sharing and that it should ensure the principles of prior informed consent, distribution of benefits and consensus on what constitutes ethical behavior. Solis cited examples of the Mesoamerican Biological Corridor and its land-use plans, as well as the recent Costa Rican Biodiversity Law and its approach to sectoral involvement, community rights, distribution of benefits and access to genetic resources. She noted the potential of the ecosystem approach for conservation, but only in a manner that incorporates sustainable use and benefit sharing in the overall development process.

In the ensuing discussion, one participant asked how to balance the rights and obligations of local communities and how to apply enforcement if decentralization fails. Solis noted that the process is long-term and adaptive, and that full stakeholder involvement in policy development should decrease the need for enforcement measures. Another participant inquired about the relation of intellectual property to the ecosystem approach. Solis stressed the need for a broad perspective taking into account not just natural resources, but also knowledge of those resources and their management.

Rashid Sumaila, Norwegian Michelsen Institute, presented a study on the biodiversity and economic decentralization of fisheries. The objective of the study was to examine the interaction between biodiversity and human activities, with a focus on biodiversity concerns in fisheries. He cited biodiversity conservation, equity and distributional concerns, and optimal economic utilization as three main management goals for fisheries. Sumaila noted that his paper is a theoretical and computational framework that can be used to analyze and study the impact of different management scenarios (e.g., centralized versus decentralized models) on biodiversity conservation in a bio-economic model. He said this approach can help examine trade-offs between biodiversity conservation and economic and social considerations.