Sustainable Forest Management: From the Philosophical to the Practical

The need to manage the world's forests sustainably is immediate and one of global concern. If the discussion of sustainable forest management is to deal with the practical challenges, then agreement will be necessary on the environmental and socio-economic elements of sustainable development and the basis for their integration. Concepts and ideals now must be translated into specific "criteria and indicators" that can be practically applied in the development of sound ecosystem management.

***Criteria** are measurable facets or features that must be considered in setting objectives or policy. All criteria involve an element of change, and it is this change that provides a guide as to whether the objective—sustainable forest management—is being achieved.*
***Indicators** are designed to measure and provide quantitative and qualitative evaluation of the progress made toward meeting policy objectives.*

The criteria would include specific subject areas such as the maintenance of forest productivity. In this case, the indicators might include measurement of such factors as total biomass and area of a forest; rates of disturbance due to fire, insects, forest harvesting or natural forces; status of soil nutrients; and relative productivity of managed and natural stands by eco-region. Monitoring such indicators would show if forest productivity was improving, staying the same or deteriorating. This would assist in determining whether certain forest practices needed to be modified to attain sustainable management of our forests.

At the 1992 United Nations Conference on Environment and Development (UNCED), the urgency for scientifically based and internationally accepted criteria for sustainable forestry was clearly identified by nations involved in forestry, in both the Forest Principles and Chapter 11 of Agenda 21. Following UNCED, these nations have continued their efforts to define sustainable management and develop national criteria and indicators for sustainable forestry.

Canada recently organized the CSCE Seminar of Experts on the Sustainable Development of Boreal and Temperate Forest to provide a high-level forum that would: 1) advance discussions of measurable criteria and indicators for evaluating progress toward achieving sustainable forest management; and 2) examine the state of data collection and monitoring activities, as they relate to the criteria and indicators identified.

The deliberations of the more than 50 delegations representing non-governmental organizations, international organizations such as the International Tropical Timber Organization (ITTO), and both developed and developing countries, resulted in broad agreement on 12 criteria for the sustainable management of boreal and temperate forests. These criteria represent the current scientific understanding of sustainable forestry and the broad ecological and socio-economic forest values that must be sustained over time. By discussing criteria and indicators in an ecosystem context, the CSCE seminar reinforced the ideas expressed in the Forest Principles developed at UNCED, especially that forests need to be seen as integrated ecosystems, covering a full range of values.

Canada has now created a domestic process to develop, by early 1995, scientifically based, measurable criteria and indicators for Canada. This parallel process underscores Canada's commitment to the development of these criteria and indicators, and to the success of the international process. Proposals for follow-up work to the Montréal meeting are now being discussed by a key group of countries, and it is hoped that the next meeting will take place by mid-1994.

Canada's hope is that its domestic initiative will converge with the international process to feed into the review on forests in 1995.

Criteria for Sustainable Management of Boreal and Temperate Forests

Biological/Environmental

- Biodiversity
- Ecosystem productivity
- Soil and water conservation
- Forest ecosystem health and vitality
- Contribution to global ecological cycles
- Ability of the forest ecosystem to fulfil socio-economic function

Social/Economic

- Recognition of the full spectrum of forest functions and uses
- Long-term supply of social benefits
- Long-term output of multiple economic benefits
- Institutions and infrastructures to provide for sustainable forests
- Recognition of and respect for indigenous rights and knowledge, history and archaeological sites

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Facts & Figures

- Among major forest nations, Canada is unique in that most of its forests (94 percent) are publicly owned. Provincial governments own 71 percent of the forests and the federal government 23 percent, most of it located in the Northwest Territories and the Yukon. The remaining 6 percent belongs to more than 425 000 private landowners.
- Canada is the world's largest exporter of wood products. However, only about 27 percent of the total forest land base, or 112 million hectares, is currently managed for timber production.
- In 1992, the forestry industry provided employment for one out of 17 Canadians, or a total of 729 000. Nearly 350 communities depend on forestry.
- In the pulp and paper industry, environmentally related research is now estimated to represent 40 to 50 percent of total research efforts.
- The area of forest depleted by natural causes, such as fire, insects and disease, continues to exceed the annual harvest.

Sources: Forestry Canada

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