Sustaining forest ecosystems: FAO's role¹

by David A. Harcharik²

Introduction

It is noteworthy that you have chosen forest ecosystems as the theme of your symposium series, for one of the greatest challenges to the forestry profession is to be able to sustainably and economically manage forests as diverse and highly complex ecological systems. I also think it is appropriate that Brazil take a leading role in stimulating work on forest ecosystem management, for as you know, it is here in Brazil where the largest tract of the world's most biologically diverse forest ecosystem can be found. Brazil also has pioneered work on industrial plantation forestry and is most active in the global debate on forests.

Your organizers have asked me to speak about the Food and Agriculture Organization of the United Nations (FAO) and especially about how FAO can contribute to sustaining forest ecosystems.

Sustainable Forest Management

To understand what FAO is doing to sustain forests and where FAO is going in forestry in general, we must first recognize what I believe is a fundamental change in the way foresters are viewing their stewardship of forest land. I refer to the very rapid move from "sustained yield" management to the broader concept of "sustainable forest management". Let me be as clear and direct as possible right at the outset of my presentation, I believe that sustainable forest management is the most important concept of our time that directly addresses the future of the world's forests. It is through management, wise and long-term management, that forest ecosystems will be sustained.

Sustainable forest management, though, in addition to being a mouthful to say, is a somewhat ambiguous concept. This is because it was born through a largely political process — the UN Conference on Environment and Development, or Earth Summit, held here in Brazil four years ago. Remarkably, UNCED and its follow-up processes have led to political commitments to sustainable forest management without understanding precisely what the concept is.

There is need for a widespread, clear and shared understanding of sustainable forest management and how to implement it. Fortunately, some excellent processes are under way to define and refine this concept by identifying criteria and indicators for it. I refer to the so-called Helsinki and Montreal processes, and of course to the ITTO and Tarapoto processes, in which Brazil has participated. Similar efforts are now underway in Africa, Central America and the Near East, and others are led by various non-governmental organizations. Hopefully, these processes will lead to a shared understanding and wide accep-

tance of a common global framework or core set, of criteria and indicators of sustainable forest management, but also a framework which is sufficiently flexible to allow for ecological and socio-economic differences among regions and countries of the world.

To date, much of what we know about this concept of sustainable forest management is of a general nature; there is still no accepted technical definition of it. Generally, though, we recognize that it includes an environmental dimension that aims at the perpetual maintenance of the resource, an economic dimension that includes the production of commodities and services, and a social dimension that involves people in decision-making processes concerning forest management and the distribution of forest benefits. Our profession of forestry is being challenged to deal substantively with changing perceptions and realities within each of these dimensions.

Let me give you a few examples.

The Environmental Dimension

The environmental roles of forests have long been recognized by foresters, and foresters typically receive training in soils, hydrology, meteorology, genetics, wildlife management and ecology as part of our formal education. We have incorporated the principal concepts from these disciplines into forest management regimes, and we have also set aside special areas for water catchment, wildlife preservation, plant protection and scenic values. In addition, we have promoted the integration of trees into farming systems for environmental benefits as well as commercial use. Indeed, most foresters are proud of their conservation and environmental ethic.

We are also proud of one of our most important and most enduring concepts — that of sustained yield. Although very much in vogue today, "sustainability" has been alive and well in the forestry profession for nearly 200 years. Indeed, it is the core principle on which our profession is based. Where appropriately implemented, sustained yield forestry has been a highly effective means of protecting environmental values while also producing a major economic commodity—wood. We must recognize, though that sustained yield forestry by definition emphasizes the yield of wood over that of other commodities and values. This has sometimes led to abuse, and too often there have been examples where land managers concentrated first and foremost on timber production and only secondarily on environmental values.

One means of rectifying this is to broaden our concept of sustained yield from one of sustaining wood to one of sustaining the forest as an ecological system. Many efforts are under way today to develop the technologies needed to manage forests as

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²Assistant Director-General, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, 00100 Rome, Italy.

ecosystems and in ways that better protect their value as sources of biological diversity, habitats for wildlife, homes for indigenous people, sinks for carbon, and moderators of stream-flow and climate. This broadened view of forests as holistic, complex and diverse ecosystems is an exciting and critically important dimension of modern approaches to forest management.

The Economic Dimension

Let me also give you an example of changing perspectives in the economic aspects of forest management. The forests and trees of the world provide a vast array of goods and services that are utilized in one way or another by virtually all of the world's population. FAO estimates the annual value of fuelwood and wood-based forest products to the global economy to be more than US\$ 400 000 million, or about 2% of the global economic product. Forest-based activities provide income and employment equivalent to 60 million work-years world-wide, of which some 80% is in developing countries.

Yet concern over the destruction or degradation of forests, has led to calls for the reduction or even curtailment of forest utilization. We must make it clear that forested ecosystems will be sustained only if the full value of forest products and services, both wood and non-wood, is realized. Maintaining and managing the forest must be a more valuable option than its destruction or conversion to some other form of land use. Wood has been, and will continue to be, the most important economic commodity from most forests. We must sustain, and enhance its value.

In addition, though, there is need to expand our vision to non-wood products and values of forests. More than 30 years ago, the concept of multiple use forestry became popular. Although this concept has been challenged, its major shortcoming seems to be that it was insufficiently implemented, rather than technically flawed. Implementation of multiple use forestry in the context of sustainable forest management can enhance and diversify the value of forests. This may be especially true for the tropics, where the rich biological diversity is a source of hundreds of products for subsistence and commercial use. You know this better than I. However, even in great timber producing regions, such as northwestern USA and in the Nordic countries, sales of mushrooms, ferns and other non-wood products have become multimillion dollar businesses. A major change in forestry today is that we are finding increasing commercial uses for the non-wood products of forests.

The Social Dimension

Let me now turn to what I think is in many respects the most challenging change in forest management — the social dimension. The challenges with regard to the environmental and economic changes in forest management are large, but at least foresters can take comfort in having pursued these issues since the birth of our profession nearly two centuries ago. However, the concern with people — the socio-cultural dimension of modern forest management — provides the newest and greatest challenge, at least to many of us.

Indeed, the social dimension of sustainable forest management is less well defined than the others, and most foresters are less equipped to address it. Let me make this point by exaggerating a bit. Although there have been important changes in forestry curricula in recent years, in the past most foresters were well educated in the physical, biological and economic sciences, but

less so in the social sciences. We took pride in our professionalism and our sense of public service in managing forests on behalf of the people. Today, though, the people who live in or near the forest, and even many who are distant from it, are demanding to participate in decisions on how forests are managed, and on how forest benefits and costs are shared. Instead of managing *for* the people, we must now manage *with* the people. That is what this social dimension is all about. It is a major change in forest management.

FAO and Forestry³

Let me now turn to FAO and what FAO can do to help define, refine and implement sustainable forest management. Established in 1945, FAO has become the world's leading international agriculture and forestry organization. Today FAO has 174 member governments, a comprehensive regional structure, a physical presence in more than 100 countries, and an experienced cadre of specialists in agriculture, fisheries, forestry and related disciplines. The fact that FAO houses under the same roof, so to speak, all the major disciplines related to overall rural socio-economic development puts it in a unique position with respect to the pursuit of sustainable development, particularly given the important need for cross-sectoral linkages.

Turning specifically to forestry, although FAO's Forestry Department is one of the smallest of its six technical Departments, it is in fact the largest and oldest international forestry unit of its kind with a broad and comprehensive charter that addresses all forests. It is arguably the closest thing available today to a "world forest organization". Because of the comprehensiveness of our charter, the FAO forestry programme is unique among international organizations, and we are thus uniquely equipped to address the geographically and technically broad issues of sustainable forest management. We are not only an organization that deals with assistance to developing countries; nor do we deal only with one or two forest commodities; we do not concentrate only on environmental protection; nor do we address only research. Indeed, we are a forum for all the world's forests: forests in developing and developed countries; boreal, temperate, subtropical and tropical forests; high altitude forests and mangroves; wet and dry ones; dense forests and savannahs; even trees on farms. We can also address the range of technical issues of sustainable forest management — the environmental, economic and social issues. If one message rang loud and clear from the Earth Summit, it is that North and South must come together to address world problems and this must be done in an interdisciplinary, cross-sectoral manner which recognizes that environmental protection and economic development are mutually dependent. In forestry, I think that no organization is better equipped than FAO to do this, and for this reason I am making sustainable forest management the foundation of all FAO's forestry work.

Let me now review for you some of the main ways we go about our work. The primary roles of FAO in forestry are to serve as 1) a neutral forum for policy dialogue, 2) a source of information and knowledge and 3) a provider of technical assistance. Each of these roles offers ample opportunity to advance sustainable forest management globally.

³Parts of this section have been adapted from a similar version published in the *Journal of Forestry*, October 1995.

Policy Forum

As you are aware, the Earth Summit produced two important products for global forestry: 1) the "Forest Principles" (Non-legally binding authoritative statement of principles on the management, conservation and sustainable development of all types of forests), and 2) an agenda for action (Agenda 21). Each reflected the considerable international consensus that existed in 1992 on how to better manage the world's forests and the commitment of governments to do so. Consensus and commitment, though, are not inherently enduring; they need constant renewal and further development as people and priorities change. FAO can help to keep alive the spirit of UNCED. We can do this by serving as a vehicle for policy-level dialogue at both the global and regional levels. Policy dialogue is a major role of FAO, and we have a number of means to accomplish this. At the global level, every two years we invite heads of forest services and other senior government officials to participate in the FAO Committee on Forestry which identifies emerging issues and advises FAO on a course of action. Other international organisations and, increasingly, non-governmental groups are encouraged to participate in COFO.

In conjunction with the March 1995 session of COFO, FAO convened for the first time a meeting of ministers responsible for forestry. We also called meetings of representatives of non-governmental environmental and development organizations, and leaders of private forest industries. Together, these meetings provided excellent policy advice to FAO and identified priority means of speeding UNCED follow-up and implementing sustainable forest management. Their ideas were submitted to the United Nations Commission on Sustainable Development in the form of a Rome Statement on Forestry.

At the regional level, FAO also has six regional forestry commissions, one each for Asia-Pacific, Africa, Latin America and the Caribbean, Europe, Near East, and North America. The commissions normally meet every two years to address both technical and policy issues at the regional level. Each of the six commissions has met during the past year; implementation of UNCED commitments was a major item on each agenda. We have underway right now a very active process to energize our regional commissions and COFO to ensure that they offer the effective policy fora that are needed to address today's regional and global forestry issues.

At the technical level, FAO seeks specialized advice through various standing committees, such as those on forest gene resources, forest products, forestry education etc., and through *ad hoc* working groups on priority technical issues. Recent examples are meetings on criteria and indicators of sustainable forest management, on non-wood forest products and on forest resources assessment. Such fora are excellent means of providing scientific and technical input to policy decisions, thereby further advancing the concept of sustainable forest management.

In the coming years, a number of major global forest policy issues may be addressed by the world community. Among them may be: 1) the desirability of a legally-binding instrument on forests, 2) further definition of the concept of sustainable forest management and the possible need to harmonize current ecoregional approaches to develop criteria and indicators and to include countries not now involved, and 3) advantages and disadvantages of certification schemes. If asked by our Member Governments, FAO could serve as a forum where people can

meet to discuss these and other issues and offer input to political decision-makers.

Source of Technical Information

Successful implementation of sustainable forest management requires comprehensive, quality information on forest ecosystems, forest products and forest practices. The collection, analysis, interpretation and dissemination of such information world-wide has been a priority of FAO from the very beginning. Essentially, we provide two types of information: 1) statistical and descriptive information on the world's forests and on the forestry sector world-wide, and 2) information on technologies, methodologies and forest practices. Obviously, though, we have neither the resources nor the capability to provide all that is needed. Thus, we are making a concerted effort to more clearly identify priorities, or areas of major emphasis.

In setting priorities, it is vital that we maintain a professionally sound foundation programme that allows us to address each of the environmental, economic and social dimensions of sustainable forest management. As mentioned earlier, this is what makes FAO unique as an organization, and it is our primary goal. Beyond that we are giving special emphasis to forest resources assessment, commodity statistics, community forestry and capacity building.

FAO is a major source of information on the world's forest resources. Currently, we undertake a global forest assessment every ten years, highlighting forest cover, deforestation and forest degradation. We work collaboratively with many countries on this. In addition, we make use of satellite imagery and other means of obtaining accurate data. We are now developing a detailed plan for the assessment for the year 2000. The future emphasis of the programme will be on 1) continued improvement of the quality of assessments, 2) increasing the capabilities of national and regional assessment facilities, and 3) development of a continuing (as opposed to recurrent) assessment capability within the FAO Forestry Department. In addition, efforts will be made to broaden assessments, where possible, to include additional quantitative and qualitative information on indicators of sustainable forest management, such as forest health, productivity, diversity and socio-economic development.

FAO also regularly provides information on wood products production, trade and capacity statistics; regional and world forestry outlook studies; and forest sector studies. In the future, increased emphasis will be placed on improving the quality of such data and on strengthening the capacity of national institutes to develop it. A major ongoing effort is a study on the global fibre supply, including paper, recycling and non-wood fibres, which will be undertaken in close collaboration with the private sector. We will also attempt to broaden the range of statistical data to include non-wood forest products and to undertake long-term strategic outlooks for the forest sector on global and regional scales, taking into account impacts on forests from other sectors, such as population, agriculture, energy and mining.

In 1995 we began issuing a report on the State of the World's Forests, which will be a regular feature of FAO every two years. It builds on our work in global forest resources assessment and commodity statistics by describing in a policy-relevant manner the status of forests and the forestry sector worldwide. It should be a valuable tool for forest decision makers.

FAO is also a major source of information on forest science, technology and practice. We develop and facilitate the exchange of technical information, often in multiple languages, on the environmental, economic and social dimensions of forestry including, for example, the protection and management of forests and other natural resources; rehabilitation of degraded or marginal lands; tree planting, especially in a land-use context; enhancing the value, efficiency and environmental soundness of harvesting, utilization and marketing of wood and non-wood forest products; and policy analysis, planning and institution strengthening.

A good example of the information we provide on technology is our work in community forestry, which is one of our priority activities. For a number of years, FAO has been pioneering work on the social dimension of sustainable forest management, with a focus on self-reliance and participatory approaches involving local communities. Through this community forestry initiative, we stress decentralized planning, communal management of forests and tree resources, conflict resolution among user groups, equity issues, the role of gender, and the contribution of forests and trees to food security and nutritional well-being.

Technical Assistance

To help develop and put into practice policies and technologies on sustainable forest management, FAO offers technical assistance to developing countries. This assistance, or capacity building, is another area of special emphasis. The objective of such assistance is to develop national capacities to effectively plan and carry out programmes, eventually without international aid. Ideally, the need for assistance is identified through national strategies, or National Forestry Action Programmes, in which FAO plays a leading role in helping countries develop, jointly with private industry, non-governmental groups and donor organisations.

At the project level, FAO is currently active in some 250 forestry technical assistance projects in 90 countries. Financial support for such projects comes from a variety of sources including FAO, but especially from donor governments, the United Nations Development Programme (UNDP), the World Bank and others. Technical project-level assistance covers most dimensions of sustainable forest management, but with emphases on resource protection and management, people's participation through community forestry, and institution strengthening.

Partnerships

In closing, I would like to draw special attention to the importance of developing partnerships with other organizations. Although FAO is an intergovernmental organization, and as such our main line of communication is with our member governments, it must not be our only one. We need to receive input from a broad range of interest groups, including private forest industries and non-governmental organizations representing environmental and developmental interests and local peoples. Such efforts need to be continued and strengthened at the international, national and local levels.

The surge in world interest in forestry in recent years has been paralleled by the interest and involvement of many international organizations in this sector both within and outside the United Nations system. Forestry as a discipline has become highly complex and it is difficult for any one agency to claim adequate competence and capabilities to cover all aspects. It will be essential that these organizations complement rather than compete with each other. Otherwise, we risk simply spreading already scarce resources even thinner. There is need, therefore, to ensure collaboration and to avoid duplication of effort so that skills and resources are most efficiently utilised. Governments, in particular, have been calling for this repeatedly, and FAO can and should play a lead role in fostering this spirit of partnership. I am giving special priority to partnership development during my term with FAO. Partnerships must also be forged among governments and NGOs. The potential and expertise of governments, non-government groups, industry and private individuals all must be fully tapped. I am, therefore particularly pleased that this Symposium has been organized in a true spirit of partnership among NGOs, government and the private sector.

Conclusion

In conclusion, let me repeat that implementing sustainable forest management is key to sustaining forests as ecosystems. By serving as a vibrant policy forum, a source of technical information and by assisting countries in capacity building, I believe that FAO can do a great deal to help protect forests, derive economic products from them and involve people in decision-making processes.