



# Combating Deforestation

## AGENDA 21, CHAPTER 11

*Prepared by World Resources Institute for  
Rio +5: From Agenda to Action, March 13–19, 1997  
with support from the Earth Council and UNEP*

---

**A**n issue high on the global environmental agenda for many years, deforestation remains a serious problem today. In the tropics and in many other parts of the world, nations continue to lose their natural forests—along with the valuable biodiversity, soil and water conservation, and climate regulation these ecosystems provide.

Over the past 30 years, the world has lost fully a fifth of all tropical forest cover. While deforestation has stabilized in most developed countries, only a fraction of primary temperate forests still stand. A more pressing issue in these countries today is the condition of the remaining forests. Even though virtually none of their primary forests remain, developed nations continue to allow their commercial exploitation. Meanwhile, pollution and fragmentation endanger forest ecosystems throughout much of the developed world.

Released in 1995, a United Nations Food and Agriculture Organization (FAO) report provides the first complete estimate of global forest cover as of 1990, as well as of changes in that cover over the preceding decade. The report, “Forest Resources Assessment 1990: Global Synthesis,” includes the most recent statistics on such issues as:

### **Forest Cover**

- ❖ In 1990, forest and other wooded land covered 5.1 billion hectares, about 40 percent of earth’s land area.
- ❖ Of this total, 3.4 billion hectares are either natural or plantation forest.
- ❖ The remaining 1.7 billion hectares consist of other woody vegetation, including open woodland, scrubland, and areas under shifting cultivation.

### **Deforestation**

- ❖ Between 1980 and 1990, global forest and other wooded land area declined by 2 percent, or 100 million acres. (FAO defines deforestation as forest conversion to other uses, leaving out logged areas left to regenerate.)
- ❖ Nearly all this deforestation occurred in the tropics, which lost 3.6 percent of its forests and wooded lands.

- ❖ Natural forest cover declined by 8 percent—163 million hectares—in developing countries. (No data from developed countries are available.)
- ❖ Since 1960, some 450 million hectares of tropical forest have disappeared. Asia has lost nearly a third of its tropical forest cover while Africa and Latin America each lost about 18 percent.

### **Forest Condition**

- ❖ Except for the northernmost boreal forests, most of the woodland areas of Europe and North America consist of plantations and secondary growth quite distinct from original primary forest.
- ❖ In the tropics, more than 7 percent of the forest cover present in 1980 changed during the following decade over half this area experienced changes in forest condition, ranging from moderate to severe degradation, and the rest conversion to other land uses.

International concern about forests reached a peak in 1992 at the United Nations Conference on Environment and Development (UNCED). Although no comprehensive, binding agreements resulted from the conference, it produced significant consensus on the importance of forests to the welfare of nations worldwide. The two treaties opened for signature at UNCED—the Convention on Biological Diversity and the Framework Convention on Climate Change—both recognize the critical role forests play in maintaining the global environment.

Since UNCED, continued debate on the need for a binding agreement dealing specifically with forest resources continues, and several international initiatives have focussed on deforestation. In 1995, the United Nations Commission on Sustainable Development created the Intergovernmental Panel on Forests (IPF)—the highest international body ever created to address forest issues—to generate consensus and propose actions to implement UNCED's forest-related agreements at national and international levels.

Perhaps the most significant point of international agreement in recent years has been the definition of criteria and indicators for sustainable forest management—a step that should help governments and other organizations define sustainable forest management, as well as assess progress toward achieving it. In 1990, the International Tropical Timber Organization (ITTO) became the first intergovernmental body to produce such criteria. Four years later, timber-producing countries obtained an agreement from timber-consuming countries to comply with ITTO's Target 2000, the year by which all forest products should come from sustainably managed forests.

More recently, through various international processes, criteria and indicators for sustainable forest management have been drafted. Two of them, the Pan-European Helsinki process

and the non-European Montreal process, focus on temperate and boreal forests. A third, from the Amazon Treaty Organization, sets guidelines for sustainable management of tropical forests in Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela.

Drafted in February 1995, this document—called the Tarapoto Proposal—presents 12 criteria for sustainable management of Amazonian forests. Under each one, the document lists several indicators with which to judge progress or success. Its authors consider the proposal “a useful guide . . . both for policy formulation and for the establishment of common positions in meetings, conferences, and international organizations.” Because one nation’s forest policies—no matter how effective—can be undercut by the actions of neighboring countries, such regional collaboration is critical to making sustainable forest management work.

## **Policy Opportunities**

International efforts such as these are important and must intensify. Yet, more attention must now be devoted to implementing international agreements to managing rather than mining forests, and to alleviating pressures on forested areas from agriculture and the extraction of non-timber products. On all the fronts, promising policy opportunities exist at the national as well as sub-national level too. Among them, the following five could be particularly effective:

### **I. Build the capacity to respond effectively to today’s rapidly changing global timber market.**

Around the world, new government policies, rising timber prices, the depletion of once-profitable forest concessions, and other changes are encouraging large logging interests to exploit new forest resources in both temperate and tropical regions. Many of these companies have poor environmental and social records in the countries whose forests they already have exhausted. To meet the new challenge, forested countries badly need well-trained and motivated people from a wide variety of professional backgrounds—ranging from basic forest management and ecology to contract negotiation, administration, monitoring, and enforcement.

Although some tasks could be handled by foreign consultants, permanent local capacity would in the long term be more effective and less expensive. In many cases, the south-south transfer of experiences and expertise will be more cost-effective and appropriate than sending people away for training in North America or Europe. Critical components of in-country capacity-building programs include the capacity to

- ❖ Engender participation and build consensus;
- ❖ Plan, strategize, and create policy options;

- ❖ Implement, monitor, and enforce agreements and laws;
- ❖ Establish and consolidate protected areas and community lands.

## II. Enact legislation revamping forest concession policies.

In most countries—both temperate and tropical—policies governing how forest concessions are awarded, taxed, and enforced encourage highly destructive logging practices. Low fees paid by most concessionaires also mean that governments fail to capture even a fraction of the full value of their forests—revenue that could be channeled back into sustainable forest management.

Concession policies should be reformed so that they are viewed as agreements between government and the private sector to manage public forests for a variety of goods and services, including—but not limited to—timber. Besides receiving rights, companies must accept responsibility for maintaining a forest’s vital ecological services.

*To increase the rent they capture from public forests, governments might:*

- ❖ Establish an auction system whereby forest concessions are awarded to companies offering the highest bid (above a predetermined minimum, or “floor” price);
- ❖ Require companies that win concessions to pay two types of “performance bond” totaling at least 10 percent of the estimated investment;
- ❖ Consider removing incentives for secondary timber processing;
- ❖ Clarify and lengthen tenure to encourage responsible logging;
- ❖ Charge reduced fees for community-based forestry initiatives;
- ❖ Privatize some fee collection and information gathering tasks; and
- ❖ Encourage management schemes that involve local communities as principal stakeholders or as partners in joint ventures.

*To reduce the environmental impact of forest concessions, governments should:*

- ❖ Award “forest management” rather than “logging” concessions that include such responsibilities as using watersheds as the basis for management planning, using low-impact harvesting techniques, and setting aside areas for strict conservation;
- ❖ Require preparation of environmental impact assessments for all concessions and monitor compliance;
- ❖ Allow concessions to be transferred only under government scrutiny;
- ❖ Make annual release of the next block of forest contingent upon industry performance in the previous block; and
- ❖ Set aside some of the revenue collected as an “environmental fee” for forest conservation and management.

### **III. Provide economic incentives for industry to manage forests more sustainably.**

Following the failure of bans and boycotts to significantly influence commercial logging practices, many independent organizations have launched “good wood” programs to create markets for timber obtained from sustainable sources. Harnessing such positive economic forces offers more promise than fines and other punishments. To influence the main-stream timber trade, however, certification programs still need support, including:

- ❖ A sufficient number of producers—and consumers—willing and able to subscribe to certification;
- ❖ Market access;
- ❖ Secure forest land tenure;
- ❖ A favorable policy environment for timber production in producing countries;
- ❖ A system for tracking products from source to market; and
- ❖ A credible and capable institution to standardize certification and to set monitoring protocols.

Established in 1993, the Forest Stewardship Council (FSC) offers hope for solving some of these problems. This assembly of non-governmental organizations, industry representatives, scientists, and indigenous people was created to promote environmentally appropriate, socially beneficial, and economically viable forest management. In 1994, FSC adopted a set of principles and criteria for voluntary sustainable forest management and set guidelines for verifying the credibility of certified forest products as they move from the forest to the market. In 1995, it developed a rigorous framework for evaluating, accrediting, and monitoring organizations that issue certification claims, as well as a protocol for endorsing national certification initiatives. Currently, national initiatives based on these guidelines are under development in more than 15 countries, and FSC’s approach has been endorsed by major retailers in eight countries.

Procurement policies that favor the purchase of certified forest products would give suppliers needed assurance that steps to produce “good wood” would be financially rewarded.

### **IV. Establish programs for valuing forests for carbon sequestration, biodiversity prospecting, and the nontimber products they provide.**

Defying strong evidence to the contrary, many national governments still treat forests as though their only values were timber and land that can be converted to other uses. While many forest benefits—such as watershed protection—are difficult to quantify, others are amenable to economic valuation. Accordingly, governments should revise national income accounting systems to reflect the full value of forests.

## **V. Establish mechanisms for joint management of forests by national governments and local communities.**

Most of the world's remaining forests are owned by national governments. But very few governments are equipped to manage their forests effectively—a problem that is worsening in this age of government downsizing and budget cuts. Possessing considerable but unrecognized skills and expertise, forest-based communities can help national governments manage forest lands more sustainably and economically.

Local management typically entails better policing and husbanding of forest resources and a more equitable distribution of benefits. Communities that depend on the land are usually committed to sustainability and can better weather market fluctuations and sociopolitical change. For any community-forestry project to succeed, however, its members must first be granted secure tenure to forest land.

In negotiating joint-management projects, national governments must inform local communities of the plan and make sure that members fully understand their rights, duties, and options. Those who will be affected by the plan must receive written notice and grant their informed consent. After the community and the state reach a preliminary consensus, they can begin formal negotiations leading to an agreement that may cover—but should not be limited to:

- ❖ A natural resource management plan;
- ❖ Project boundaries;
- ❖ Employment guarantees;
- ❖ Hunting, gathering, and farming rights; and
- ❖ Provisions for benefit sharing, such as a formula for allocating profits to communities, individuals, or the national government.

Once set into motion, community forestry projects need effective leadership, managerial skills, sound fiscal management, schemes to distribute project benefits fairly, and outside political and financial support that doesn't interfere with internal consensus. Meeting such challenges early in the project cycle is critical for long-term success.

Particular attention must be given to developing adequate local capacity. Community forestry projects will depend on a wide range of scientific, technical, social, and policy skills and tools that are rarely available in a single institution. To promote capacity-building as well as pooling the various skills available to the project, organizers should take several actions, including:

- ❖ Develop leadership skills;
- ❖ Identify and assess the capabilities of existing organizations and fill in the gaps;

- ❖ Use and build on existing capacity wherever possible;
- ❖ Build the capacity to handle change;
- ❖ Use authority to foster cooperation; and
- ❖ As needed, redistribute power over land and resources to develop authority and responsibility.

## VI. Examples of Success

- ❖ In Xapuri, in the Brazilian Amazon, local rubber tappers have worked with help from the international community to develop their own Brazil nut processing cooperative employing hundreds of local women cracking nuts and returned greater income to the people in the forest who collect the nuts. They are able to market directly to international buyers.
- ❖ In Costa Rica, the government has established a sophisticated and innovative mechanism for trading carbon storage value in local reforestation and natural forest management projects. This cutting-edge initiative could lead to large payoffs for forest managers, including communities, which conserve the carbon storage value of forests.
- ❖ In Suriname, South America, Conservation International has worked with a partnership of forest community leaders, US pharmaceutical companies, and the government of Suriname, to create a program for harvesting medicinal plants from the forest and then experimenting to search for compounds that could become the basis for new anti-cancer or AIDS drugs. The program includes a Forest Peoples' Fund that is managed by the local community leaders to share the economic benefits of the research with the communities.
- ❖ In the Russian Far East, in the village of Katen, which used to be dominated by the state-owned timber company, Lespromkhoz, former employees of the company created a new company, the Kafensky Forest Management Enterprise to experiment with new approaches to forest management.
- ❖ A number of European timber companies with extensive operations in Central Africa are now seeking to certify their timber harvesting to ensure that it will still be acceptable to the highly environmentally conscious markets of Western Europe.

## References

- Johnson, N. and B. Cabarle. 1993. *Surviving the Cut: Natural Forest Management in the Humid Tropics*. WRI, Washington, D.C.
- Lynch, O.J. and K. Talbott. 1995. *Balancing Acts: Community-based Forest Management and National Law in Asia and the Pacific*. WRI, Washington, D.C.
- Sizer, N. and R. Rice. 1995. *Backs to the Wall in Suriname: Forest Policy in a Country in Crisis*. WRI, Washington, D.C.
- Sizer, N. 1996. *Profit Without Plunder: How to Reap Revenue From Tropical Forests Without Destroying Them—the Guyana Case Study*. WRI, Washington, D.C.

WRI, UNEP, UNDP, The World Bank. 1996. *World Resources 1996-97*. Oxford University Press, New York and Oxford.

## Other Sources of Information:

### Publications:

Amazon Cooperation Treaty. 1995. *Proposal of Criteria and Indicators for Sustainability of the Amazon Forest*. ACT, Amazon Cooperation Treaty, Protem Secretariat, Lima, Peru.

Barber, C.V. et al. 1994. *Breaking the Logjam: Obstacles to Policy Reform in Indonesia and the United States*. WRI, Washington, D.C.

Faeth, P. et al. 1994. *Evaluating the Carbon Sequestration Benefits of Forestry Projects in Developing Countries*. WRI, Washington, D.C.

Food and Agriculture Organization of the United Nations (FAO). 1995. *Forest Resources Assessment 1990: Global Synthesis*. FAO, Rome.

Forest Stewardship Council (FSC). 1994. *FSC Principles and Criteria for Natural Forest Management, FSC Guidelines for Certifiers, and FSC Manual for Evaluation and Accreditation of Certification Bodies*. FSC, Oaxaca, Mexico.

Miller, K. and L. Tanglely. 1991. *Trees of Life: Saving Tropical Forests and Their Biological Wealth*. Beacon Press, Boston.

### World Wide Web:

WRI Forest Resources theme site: "<http://www.wri.org/wri/biodiv/foresthm.html>"

WRI Forest Frontiers Initiative project site: "<http://www.wri.org/wri/ffi/>"

January, 1997

## About WRI

The World Resources Institute (WRI) is an independent center for policy research and technical assistance on global environmental and development issues. WRI's mission is to move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations.

Because people are inspired by ideas, empowered by knowledge, and moved to change by greater understanding, the Institute provides and helps other institutions provide objective information and practical proposals for policy and institutional change that will foster environmentally sound, socially equitable development. WRI's particular concerns are with globally significant environmental problems and their interaction with economic development and social equity at all levels.

The Institute's current areas of work include economics, forests, biodiversity, climate change, energy, sustainable agriculture, resource and environmental information, trade, technology, national strategies for environmental and resource management, and human health.

In all of its research and work with institutions, WRI tries to build bridges between ideas and action, meshing the insights of scientific research, economic and institutional analyses, and practical experience with the need for open and participatory decision-making.