Forests and climate change

AS MORE SCIENTIFIC INFORMATION about global warming accumulates, climate change is emerging as perhaps the greatest environmental challenge of the twenty-first century. What is more, a virtual Pandora's box of major global threats, such as hunger, poverty, population growth, armed conflict, displacement, air pollution, soil degradation, desertification and deforestation are intricately intertwined with climate change, necessitating a comprehensive approach to a solution. Rising to this challenge will necessitate unprecedented cooperation among the world's nations and strong support from international organizations concerned. FAO is particularly implicated, as its domain encompasses major sources of greenhouse gases, major potential victims of climate change, and major mitigation potentials though carbon "sinks?

Forests have four major roles in climate change: they currently contribute about one-fifth of global carbon emissions when cleared; they react sensitively to a changing climate; when managed sustainably, they produce woodfuels as a benign alternative to fossil fuels; and finally, they have the potential to absorb about one-tenth of projected global carbon emissions into their biomass, soils and products and store them – in principle in perpetuity.

In Kyoto, Japan in 1997, the international community undertook a first, concrete step to combat global warming, agreeing to reduce net emissions by 5 percent below 1990 levels. Further detail, for example specifying the contribution of forests in climate change mitigation, was spelled out in the Marrakech Accord in 2001. Because the United States decided not to ratify the protocol, relying instead on voluntary emission intensity reductions, the global commitment under the protocol was lowered to about 4 percent of 1990 emissions.

By year's end 2002, 101 parties to the United Nations Framework Convention on Climate Change (UNFCCC), among them industrialized countries responsible for 44 percent of this group's emissions, had ratified the Kyoto Protocol. Should the Russian Federation join, the emissions-related threshold of 55 percent will have been passed, and the Kyoto Protocol will enter into force. Carbon sequestration through forests will contribute the lion's share of parties' overall reduction commitment: utilized to the fullest, forests will lower the global reduction commitment from 4 percent to about 1 percent of 1990 emissions.

With ratification imminent, some major forest-related issues remain to be settled.

- New methods, skills and terminology will be necessary for assessing carbon stocks and their changes in forests.
- The Clean Development Mechanism (CDM) allows industrialized countries to offset part of their carbon emissions and to contribute towards sustainable development of a developing country through afforestation projects – yet difficult questions remain related to non-permanence and additionality of

carbon storage, carbon leakage outside project boundaries, measurement uncertainty and socio-environmental impacts.

- Estimating and accounting of the carbon pool in harvested wood products remains unresolved.
- Domestic forests must be linked to national and global carbon markets through a regime that furthers their sustainable management.

FAO, climate change and forests

FAO's programme on forests and climate seeks to enhance climate change mitigation and, in this context, sustainable forest management. FAO has ranked climate change as one of its priorities. An interdepartmental working group coordinates its work. Recognizing the crucial role of forests in climate change, the Forestry Department is devoting increased resources to cover this new facet of forestry. The activities of the programme on forests and climate cover the following main areas.

Integrating climate change concerns into core forestry activities

The programme on forests and climate is exploiting synergies with other FAO programmes such as the Global Forest Resources Assessment, the National Forest Programme Facility and programmes on wood energy and forest plantations.

The Global Forest Resources Assessment will henceforth include global biomass and carbon data. UNFCCC also requires that parties report periodically on biomass and carbon stock changes in their forests, following methods currently being elaborated by the Intergovernmental Panel on Climate Change (IPCC). All international documentation of carbon change in forests relies to a large extent on national forest surveys, which are often outdated, rudimentary or unreliable, particularly for developing countries. FAO's recently initiated programme of support to national forest assessments will help improve this information. Moreover, a global data bank on biomass expansion factors is being assembled. To exploit these obvious synergies in international carbon monitoring, ongoing work focuses on common forest data, expansion factors, assessment methods, terminology and funding. These activities also dovetail with efforts by the Collaborative Partnership on Forests (CPF) to streamline forest-related reporting.

Strong links exist between wood energy from forests and trees outside forests and climate change mitigation. Thus woodfuel and forest products data traditionally collected by FAO also have climate-related significance. Work on climate change overlaps with work on trade and marketing of forest products as well. For example, certification of carbon offsets from afforestation under the CDM and forest certification have similar objectives; carbon offset credits and carbon in forest products will eventually become novel commodities in forest products trade. FAO's programme on planted forests can contribute a wealth of data and information for negotiations and

implementation. Conversely, the climate change mitigation regime will provide new funding and possibly new concepts for planted forests.

Advocating forests in the nascent climate change mitigation regime

FAO supports UNFCCC and its secretariat through document reviews, through active participation in working groups on the CDM and technology transfer, and through conference side events synchronized with the negotiations. FAO is working closely with IPCC on forest-related definitions and on forest carbon assessment in the Good Practice Guidance.

Assisting member countries in climate change-related tasks

FAO seeks to improve the capacity of its developing-country members to participate in negotiations on the CDM through regional workshops organized cooperatively with the World Conservation Union (IUCN) and the United Nations Environment Programme (UNEP) in Latin America and the Caribbean, Africa and Asia. FAO contributes its experience in harmonizing diverging country information to the European Community's effort to harmonize its members' reporting obligations under UNFCCC. UNEP, IUCN, the International Union of Forestry Research Organizations (IUFRO) and the Center for International Forestry Research (CIFOR) are regular workshop partners.

Providing forest and climate change-related information

FAO disseminates information on forests and climate change through its CLIM-FO-L electronic newsletter, its climate change Web site, a climate change-related library collection and papers on forests and climate change. Workshop proceedings on forest- and carbon-related definitions, a reader on the most recent CDM literature and a working paper on forestry activities under the CDM in Africa have been compiled. An existing compendium on forests and climate change will be revised, targeted specifically for foresters.

For additional information:

www.fao.org/forestry/climate