UNITED NATIONS **E**

Economic and Social Council

Distr.
GENERAL

FO: EFC/00/10

Food and Agriculture Organization

28 July 2000

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

TIMBER COMMITTEE
Fifty-eighth session

FOOD AND AGRICULTURE ORGANIZATION

EUROPEAN FORESTRY COMMISSION
Thirtieth session

JOINT SESSION
FAO Headquarters, Rome
9-13 October 2000

Forestry and the Kyoto Protocol: Key Issues

(Item 11 of the Provisional Agenda)

Secretariat Note

The paper gives a brief overview on the United Nations Framework Convention on Climate Change and the Kyoto Protocol. It introduces the possible contribution of forests towards the reduction or mitigation of carbon emissions and points out open questions regarding the consideration of forests and forest management within the ambit of the Kyoto Protocol. The role of FAO in the context of the world community's reaction to climate change is highlighted.

Forests and the UNFCCC

1. The UN Framework Convention on Climate Change (UNFCCC) was adopted in 1992 as a consequence of worldwide concern over global warming. It aims at stabilizing the concentration of greenhouse gases (GHGs) in the atmosphere in an effort to minimize human-induced disturbances to the global climate system. The Convention commits the Parties to carry out national inventories of greenhouse gas emissions and sinks, and to work toward meeting voluntary goals in the reduction of emissions. A Conference of Parties (CoP) was established – parties being the signatory countries mentioned in Annex B of the Convention – to promote the effective implementation of the Convention.

2. Under the UNFCCC, a pilot phase of "activities implemented jointly" (AIJ) was started to test and evaluate the feasibility of achieving the Convention's objectives. AIJs are cooperative projects between the Parties designed to avoid, sequester or reduce GHG emissions. Forests play a significant role in moderating the net flux of some GHGs between land and atmosphere. Forests act as reservoirs by storing carbon in biomass and soils. They act as carbon sinks when their area or productivity is increased, resulting in greater uptake of atmospheric CO_2. Conversely, they act as a source of GHGs when burning and decay of biomass or disturbances to soil result in emissions of CO_2 and other GHGs. Changes in land use (primarily deforestation in tropical areas) currently constitute about 20 percent of global anthropogenic CO_2 emissions. Appropriate forest management decisions can result in cost-effective net reductions in GHG emissions, either by diminishing the contribution of forests to global net emissions, or by enhancing their importance as carbon sinks. By providing renewable materials and fuels – thereby reducing reliance on fossil fuels – and still maintaining their role as carbon reservoirs, forests can make a long-term contribution to mitigating climate change.

3. The magnitude of benefits available through the activities of the forestry sector will depend upon the amount of land available, improvements in forest productivity, and technical developments that allow more efficient harvesting and use of forest products.

4. Various forestry practices play a significant role in helping to slow down the accumulation of CO_2 in the atmosphere:

- Conservation management: maintaining existing stocks of carbon in forests through forest protection, conservation and sustainable harvesting; and activities to reduce the rate of deforestation and forest degradation, and prevent associated CO_2 emissions.
- Storage management: increasing net uptake of CO_2 from the atmosphere through carbon storage in forests and forest products, by enlarging the forest area, increasing the forest carbon stored per unit area through silvicultural measures (e.g. longer rotations, greater tree stocking densities, reduced impact logging), and extending the time over which the harvested wood remains in use.
- Substitution management: substituting fossil fuels with biomass energy from sustainably managed forests, and using wood products instead of energy-intensive alternatives (such as steel and concrete). The use of sustainably harvested biofuels produces a CO_2 benefit when the emissions from biomass combustion are offset by biomass growth, and emissions from fossil fuel combustion are avoided.

5. The quantification of the contribution of forests to the limitation of CO_2 emissions will require a comprehensive accounting of the associated carbon sources and sinks over time, and a comprehensive analysis of other environmental and socio-economic criteria that influence forest management choices.

6. The Intergovernmental Panel on Climate Change (IPCC) estimates that between 1995 and 2050, global carbon sequestration from reduced deforestation, forest regeneration, and increased development of plantations and agroforestry could correspond to 12-15 percent of the amount of carbon emissions from fossil fuels.

Kyoto Protocol

7. Some 10 000 delegates, observers and journalists participated in the CoP3 event hosted in Kyoto, Japan, in December 1997. The CoP adopted by consensus an additional legally binding commitment, the so-called "Kyoto Protocol" (KP). Its salient points are:

- 39 developed countries and countries with economies in transition (Annex B countries) commit themselves to reduce their GHG emissions between 2008 and 2012 by an overall 5.2 percent compared to 1990 levels. The emission cuts range from – 8 % for most European and some other countries to +10 % for Iceland. Within the European Union (EU), a redistribution of the overall target amongst its member countries is permitted - this redistribution scheme is called “bubble”. Some countries have additionally committed themselves (e.g. Germany) to reduce GHG emissions until 2005 by 25 % based on the 1990 figures.
- Three “flexibility mechanisms” for the mitigation of climate change were agreed upon: (i) trading with quantified emission limitations and reduction obligations (QUELRO), between industrialized countries; (ii) Joint Implementation (JI) of emission reduction projects between industrialized countries; and (iii) The Clean Development Mechanism (CDM), between industrialized and developing countries.

Clean Development Mechanism

8. The mechanism of relevance for developing countries is CDM, defined in art. 12 of the KP. It permits Annex B countries to buy emission reduction units from non-Annex B (developing) countries and thus meet industrial emissions commitments through reductions achieved elsewhere.

9. CDM also intends to assist countries not listed in Annex B in implementing sustainable development and in obtaining funds to carry out project activities resulting in certified emission reductions (CER) of GHG.

10. Participation in CDM is voluntary, the benefits related to the mitigation of climate change have to be real, measurable and of a long-term nature. The reduction in emissions will only be certified if they are additional to any that would occur in absence of the project activity.

11. These Certified Emission Reductions can be banked or sold by the respective developing countries from the year 2000 up to the beginning of the first reporting period (2008– 2012), i.e. for eight year.

Issues requiring clarification

12. At the eighth session of the Subsidiary Bodies on Scientific and Technical Advice and Implementation (SBSTA-8) in 1998, UNFCCC had requested IPCC to examine the state of scientific and technical understanding for carbon sequestration strategies related to "land use, land-use change and forestry" (LULUCF). IPCC presented the "Special Report on Land Use, Land-Use Change and Forestry" at the 12th meeting of the SBSTA in Bonn, Germany (June 2000).

13. The issues examined have been discussed during the SBSTA Meeting, as well as at a subsequent workshop on LULUCF activities in Poznañ, Poland (July 2000) and at the 13th SBSTA meeting in Lyon, France (September 2000). However, particularly in relation to forestry, a number of issues still require clarification and/or agreement, namely:

- **Inclusion of forestry**
  - The inclusion of forests as carbon sinks is still disputed;
  - Consideration of forestry has, until now, been limited to afforestation, reforestation and deforestation connected with land-use change (art.3.3);
  - Inclusion of forestry in the CDM is still unclear, since it is not expressly mentioned in art.12;
  - Forest management has as yet not been considered;
  - The inclusion of forest conservation is still under discussion, and the protection of natural forests, wetlands and soils in general as natural carbon sinks is not actively promoted;
  - Degradation of forests is not accounted for.

- **Forest plantations**
  - The establishment of plantations to serve as carbon sinks could promote the conversion of secondary or even primary forests to plantations;
  - The short commitment periods of five years could promote the establishment of fast-growing plantation trees which would not guarantee sustainable carbon stocks.

- **Definitions and guidelines**
  - Many of the terms applied are not defined with sufficient accuracy (e.g. direct human – induced, additionality, leakage);
  - Definitions of forestry, afforestation, reforestation and deforestation and their effect on the accounting are still disputed;
  - No guidelines exist on how to apply the flexible mechanisms;
  - No guidelines exist on reporting, validation, monitoring, verification and certification.

- **Linkages to other Conventions and initiatives**
  - The Protocol does not foresee linkages to other relevant conventions or initiatives (e.g. Criteria and Indicators - C&I) in the context of the international forestry debate.

- **Time frame**
  - Carbon sinks are only taken into account for the period 2008-2012. It is unclear, how the impact of forestry activities during the period between 1990 and 2008 will be handled;
  - The year 1990 as baseline for measurement of GHG emissions is disputed since it may confer an advantage to countries that had cleared substantial tracts of forests prior to 1990;
  - The time frame for the measurement of carbon sequestration in forestry projects is not yet clear. Different measurement times will lead to different results.

- **Carbon accounting**
  - The IPCC guidelines for carbon accounting are considered outdated. No internationally accepted guidelines and standards for measurement and accounting systems have since been adopted by the IPCC;
  - Accounting rules for additional human-induced activities (3.4) are not yet established;
  - Which pools should be included (above/below ground) is still disputed;
  - Carbon storage in forest products is not considered.

- **"Administration" of Carbon Management**
  - Who will verify national communications on carbon pools and fluxes, against which standards, according to which guidelines?
  - How are sudden events triggering the release of stored and accounted for carbon (e.g. forest fires) dealt with (permanence)?

  - Who has the right to the carbon sequestered, and to whom are the benefits of the investment in sequestration projects assigned?
  - What legal tools for enforcement and sanctions exist?

- **Different positions of industrialized countries**
  - While some countries want an open market for trading certificates, others prefer limiting purchases by Annex B countries to 50 percent of their agreed-upon reductions in emissions, so that each country would have to limit its own emissions by the remaining 50 percent;
  - A fear was expressed by some parties that JI and CDM could be an incentive to continue polluting the atmosphere, rather than a motivation to reduce industrial emissions;
  - Some parties insist on including developing countries in the emission reductions scheme to avoid market imbalances.

14. It can be assumed that at CoP-6 in The Hague, Netherlands (November 2000) some of these open questions will be addressed.

The Way Ahead

15. The validity of the Kyoto Protocol will depend on its ratification by at least 55 signatory countries, accounting together for at least 55 percent of total 1990 carbon dioxide emissions by industrialized

countries. As of 22 June 2000, 84 Parties had signed and 22 ratified the KP. There is, however, no Annex 1 country amongst those having ratified it. Many Parties may wish to bring the Protocol into force at the latest by 2002 - on the tenth anniversary of the Rio Conference and the adoption of the UNFCCC.

16. Nevertheless, a number of developments in the direction of implementing the CDM can already be witnessed.

17. In October 1999, the World Bank set up a Prototype Carbon Fund (PCF) for governments and private companies to invest in renewable energy projects in developing countries under its Private-Public-Partnership scheme. Contributors to the PCF will receive a *pro rata* share of the emission reduction, verified and certified in accordance with the host countries. The World Bank has set aside for this Fund US$150 million at US$20-25 per tonne of carbon.

18. The World Business Council for Sustainable Development set up a clearing house for companies interested in carbon offset ventures.

19. In September 1999, the Global Environment Facility (GEF) submitted its operational programme on carbon sequestration (GEF/c.1314), which considers the requirements of the Conventions on Biodiversity and Water, as well as sound forest management principles, as prerequisites for assisting carbon offset projects.

20. Up to now, about 4 million hectares of forests worldwide are managed with GHG mitigation funding and, after Kyoto, investments in carbon offset projects have increased to US$ 350 million annually.

21. It is estimated that the potential annual value of CDM tropical carbon offsets is at least US$ 840 million. Thus, even if the process of clarification and legalization takes a considerable time, carbon offset trading will surely become one of the tools for financing certain forest operations in the tropics.

22. An important issue, particularly for forestry projects under the CDM will be to make sure that it is implemented in harmony with the concepts of sustainable forest management and other forestry relevant, internationally agreed, legally binding instruments and conventions such as those on Biodiversity (CBD), Wetlands (RAMSAR), and Desertification (CCC).

FAO's Role

23. FAO has established an interdepartmental *Group on Climate in Relation to Agriculture and Food Security* to ensure the Organization’s contribution to technical issues as well as in the international debate on climate change.

24. With regard to forestry issues, a departmental *Task Force for the Role of Forestry in Carbon Sequestration and Substitution* was established. It works in close cooperation with the Climate Group and addresses forestry issues in the context of climate change.

25. FAO assisted the IPCC and the Secretariat of the UNFCCC with advice regarding terminology and consistency of definitions and methodologies and in the review of the Special Report to be submitted in May 2000, and is participating as an observer in the various CoP meetings.

26. In September 2000, FAO hosted an Expert Consultation on *Verification of Country Level Carbon Stocks and Exchanges* in order to contribute towards throwing some light on this particular issue.

27. FAO is disseminating information to Member Countries on the prospects for the forestry sector under the Kyoto Protocol. Three regional publications are being produced. *Carbon dioxide offset investment in the Asia-Pacific Forestry Sector: Opportunities and constraints,* published in May 1998; *El Protocolo de Kyoto y el Mecanismo para un Desarrollo Limpio,* published in April 1999; and a third publication for Africa is under preparation.

28. Projects to support countries interested in developing activities under the Kyoto Protocol are being formulated, such as the *Estrategia Forestal para América Central* for the Central American sub-region.

29. FAO conducts national and regional workshops on the subject (in Honduras, October 1999), and supports member countries in organizing workshops on the subject (Bolivia, August 2000).

30. Based on its international mandate, FAO will position itself as a partner contributing to:

- a technical forum to discuss land-use changes and forestry activities;
- a neutral forum to discuss the other pending issues;
- baseline data at national, regional, ecosystem and global level;
- studies in relation to specific issues;
- methodology development and dissemination/training;
- technical know-how, when and where required;
- information and advice to member countries.

31. In view of the importance of the subject now and in the future, the Forest Department of FAO is considering new activities in this field, addressing the contribution of forests in mitigating climate change. Member's views are sought on this proposal.