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منظمة الأغذية  
والزراعة  
للأمم المتحدة

联合国  
粮食及  
农业组织

Food  
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Organización  
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para la  
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## LATIN AMERICAN AND CARIBBEAN FORESTRY COMMISSION

### Item 4 of the Provisional Agenda

### TWENTY-FIFTH SESSION

Quito, Ecuador, 29 September – 3 October 2008

### FORESTS AND CLIMATE CHANGE

### Secretariat Note

#### INTRODUCTION

1. The first commitment period of the Kyoto Protocol (2008-2012) recently began and intensive deliberations on the post-2012 arrangements, including related to forests, were launched at the thirteen Conference of the Parties (COP13) of the United Nations Framework Convention on Climate Change (UNFCCC), held in Bali Indonesia in December 2007.<sup>1</sup> Attention on forests' role in climate change mitigation and adaptation can be expected to remain high in the coming years, providing both challenges and opportunities for the forestry sector.
2. The Fourth Assessment Report (AR4)<sup>2</sup> of the Intergovernmental Panel on Climate Change (IPCC) concludes that global greenhouse gas (GHG) emissions are likely to continue to grow over the next few decades. Climate variability and extreme events – including intense rainfall, flooding and drought – have severely affected Latin America in recent years. Changes in precipitation and increased temperatures have affected hydrology, resulted in glacier retreat and exacerbated many land degradation processes in the region.
3. AR4 indicates that future impacts of climate change in Latin America are likely to include: replacement of tropical forest by savannah in eastern Amazonia and the tropical forests of central and southern Mexico, replacement of semi-arid vegetation by arid vegetation in parts of northeast Brazil and most of central and northern Mexico, more frequent wildfires in much of South America, more runoff in northwestern South America and less runoff in Central America,

<sup>1</sup> Deliberations on the post-2012 climate change regime leading up to a decision anticipated to be taken at COP15 in Copenhagen in December 2009 are being carried out under two bodies: the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) and the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol ([AWG-KP](#)), as well as SBSTA and COP.

<sup>2</sup> <http://www.ipcc.ch>

degradation or loss of cloud forests in mountainous areas, shifts in species ranges and species extinctions.

4. Coastal areas in Latin America and the Caribbean will be affected by sea level rise, which is expected to exacerbate inundation, storm surge erosion and other coastal hazards. Hurricane intensity in the Caribbean sub-region is expected to increase, and Caribbean islands may experience increased water stress as a result of reduced rainfall in the summer months.

## **FORESTS AND CLIMATE CHANGE MITIGATION**

5. IPCC AR4 identifies the following main mitigation options in the forest sector:

- maintaining or increasing forest area through reduced deforestation and forest degradation and afforestation/reforestation;
- maintaining or increasing stand- or landscape-level carbon density through forest conservation and forest management measures;
- increasing off-site carbon stocks in wood products; and
- enhancing fuel substitution to reduce use of fossil fuels.

### *Afforestation and reforestation projects*

6. The Clean Development Mechanism (CDM) provides public and private entities in developed countries the opportunity to fulfill part of their emissions reductions obligations under the Kyoto Protocol by investing in “clean development” projects in developing countries. Within the land use, land use change and forestry sector, only afforestation and reforestation (AR) activities qualify for the CDM. However, AR CDM projects have been slow to materialize; as of July 2008, only one AR CDM project (in China) had been approved. Impediments to progress include relatively high transaction costs and complex modalities.

7. In 2005, UNFCCC adopted simplified modalities and procedures for small-scale project activities to promote projects involving low-income communities, and at COP13 UNFCCC decided to increase the limit on the size of small-scale AR projects.

8. Carbon markets for AR projects are developing through various trading schemes and funds, including those administered by the World Bank. Emerging voluntary carbon markets are growing rapidly and offer possibilities beyond CDM project types. As of mid-2007, forestry projects accounted for the largest share - about 36 percent - of the carbon credits sold on the voluntary carbon market.<sup>3</sup>

### *Reducing emissions from deforestation in developing countries*

9. According to IPCC, “forestry” accounts for 17.4 percent of global greenhouse gas emissions, a majority of which derives from deforestation in developing countries. Emission reductions from reducing deforestation (or “avoided deforestation”) were not included in the CDM, mainly for technical and methodological reasons. This mitigation option is again under discussion in UNFCCC. COP13 Decision 2/CP.13<sup>4</sup> encourages Parties to strengthen and support

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<sup>3</sup> K. Hamilton, R Bayon, G. Turner and D. Higgins. 2007. State of the voluntary carbon market 2007 – picking up steam. Ecosystem Market Place and New Carbon Finance. July 17, 2007.

<http://www.ecosystemmarketplace.com/documents/acrobat/StateoftheVoluntaryCarbonMarket17July.pdf>

<sup>4</sup> <http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=8>

efforts to reduce emissions from deforestation and forest degradation in developing countries (hereafter referred to as “REDD”) and to undertake related demonstration and capacity strengthening activities. It also called for additional methodological work, building on the results of two UNFCCC workshops (Rome in September 2005 and Cairns, Australia in March 2007) on this topic.

10. Further discussions on methodological issues on REDD (i.a. methods for monitoring and assessing forest carbon) took place in a UNFCCC meeting held in Tokyo from 25-27 June 2008. The most recent discussions on policy approaches and positive incentives took place at the third meeting of the AWG-LCA and the sixth session of [AWG-KP](#), which both took place in Accra, Ghana from 21-27 August 2008.

11. Several initiatives to support REDD efforts, including those which are considered necessary to make countries “REDD-ready”<sup>5</sup> for an eventual instrument under UNFCCC, have been launched over the past year and a half, representing an unprecedented level of international financial support for forests. Australia’s Global Initiative on Forests and Climate (AUS \$ 200 million) was launched in March 2007, and the Government of Norway announced at COP13 its contribution of US\$ 500-600 million annually over five years for efforts to reduce deforestation and forest degradation. The World Bank launched at COP13 the *Forest Carbon Partnership Facility (FCPF)*, which became operational in June 2008 with donor contributions to date reaching \$20 million. FAO, UNDP and UNEP have joined forces in the “UN-REDD” programme, which also became operational in June 2008. Efforts are underway to ensure that FCPF and UN-REDD are well coordinated and mutually supportive. Many other bilateral and NGO efforts in support of REDD are also under way.

12. The objectives of FCPF are to strengthen countries’ capacities to access a future system of financial incentives for REDD and to pilot carbon finance transactions for “ready” countries before the post-2012 regime is in place. As of July 2008, five countries in the Latin America and Caribbean region had been selected to receive FCPF support: Bolivia, Costa Rica, Mexico, Guyana and Panama.

13. UN-REDD will strengthen country capacity in REDD, including for “REDD-readiness activities. REDD-related financial mechanisms are intended to provide support for development of methodologies and standards setting, and to support awareness raising and capacity strengthening activities at regional and global levels. Many countries are taking a “wait and see” approach, hoping that REDD will result in concrete results, unlike the CDM which has been very disappointing.

14. The wealth of experience, tools, approaches and partnerships in sustainable forest management developed over the past two or more decades represents a firm foundation for REDD and other climate change challenges. Successful REDD implementation will also rely on effective cross-sectoral coordination. IPCC has stressed the need for “comprehensive intersectoral programmes that combine measures to control deforestation and forest degradation with measures to increase agricultural productivity and sustainability”.

## **CLIMATE CHANGE ADAPTATION AND FORESTS**

15. Greater attention has been given to adaptation since UNFCCC at COP12 (Nairobi, November 2006) filled in many details of a five-year work plan launched two years before in

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<sup>5</sup> “REDD-readiness” activities include: having a system in place for monitoring and assessing forest carbon stock changes; setting a REDD “reference level” (or baseline); and developing a REDD strategy for reducing forest emissions.

Buenos Aires, and renamed it the *Nairobi Work Programme on Impacts, Vulnerability, and Adaptation to Climate Change*. The plan includes a series of workshops and reports from 2007 through 2009 on topics including climate data and modeling, adaptation tools and methods, climate variability and extreme events, and economic diversification.

16. Adaptation measures in forestry include efforts both to help reduce the impacts of climate change on vulnerable people and to adapt forest management practices to reduce the vulnerability of forests to climate change impacts. In most developing countries, including many in Latin America and the Caribbean, forest policy responses and field activities in climate change adaptation appear to be relatively limited and *ad-hoc* as yet. A more systematic approach to the needs and opportunities for adaptation in the forest sector, as part of overall forest policy and planning processes (i.e. national forest programmes) and in concert with mitigation efforts, is needed in all countries around the world.

17. Various UNFCCC-designated funds are available to support countries' adaptation measures, including three administered by the Global Environment Facility (GEF): the Least Developed Countries Fund (LDCF), the Special Climate Change Fund; and the Adaptation Fund. The LDCF is earmarked for support to Least Developed Countries (LDCs) for the preparation and implementation of the National Adaptation Programmes of Action (NAPAs). UNFCCC reached agreement at COP13 on the management of the Adaptation Fund, which is supported by a two percent levy on projects generating emission credits through the CDM. A board was established to manage the fund; GEF was designated as the fund's secretariat; and the World Bank as its trustee, on an interim basis.

18. In 2007, two additional funds were established: the GEF's "Sustainable Forest Management" programme (a cross-cutting programme to support countries' forestry efforts related to biodiversity, climate change and sustainable land management) and the Millennium Development Goals (MDGs) Achievement Fund of the Government of Spain and UNDP.

## **FORESTS AND BIOENERGY CONSIDERATIONS**

19. Wood in various forms (fuelwood, pellets, charcoal, gas, black liquor) has traditionally been a major source of energy. Globally, about 50 percent of all wood harvested annually is used for energy. Household woodfuel dependence is rising in Central America and remains steady in the Caribbean. Household woodfuel use is declining in South America mainly due to urbanization and increased use of fossil fuel and biofuels made from plants other than wood. The production of woodfuel in the region has been gradually rising over the past 10 years, and this trend is expected to continue, mainly due to industrial charcoal use in Brazil. Future demand is also dependent on future supply of fossil fuels and developments in renewable energy technologies, in particular cellulosic biofuels. If wood becomes an economically competitive feedstock for liquid biofuels, the forestry landscape in the region may be dramatically affected.

20. Bioenergy generated from biofuels (generic term for any fuels of biological origin) can contribute to stabilization of greenhouse gases, in particular CO<sub>2</sub>, in the atmosphere, and thus to climate change mitigation. As a result, the use of biofuels is encouraged and supported in many countries. Brazil is a global leader in the use of liquid biofuels, in particular bioethanol from cane-sugar. Climate change issues, increasing fossil fuel prices and concern over energy security have triggered an increase in demand for liquid biofuels such as bioethanol and biodiesel produced from agricultural crops. It is just a matter of time when wood will present an economically competitive alternative for producing liquid fuels.

21. Growing demand for palm oil for biodiesel production is resulting in the expansion of the area of oil palm plantations at the expense of forested areas. So far, this has been a bigger problem in Asia than in Latin America. There are increasing concerns over such forest conversion. Some scientists doubt that the energy generation from some liquid biofuels actually results in a net

positive carbon emission balance, in particular, when peat swamp forests are converted to oil palm plantations. For an in-depth review of this subject, please refer to the new FAO publication, *Forests and Energy: Key Issues* (FAO Forestry Paper 154, 2008).

## **INSTITUTIONAL, POLICY AND LEGAL RESPONSES**

22. Changes in forest policies, laws and institutions are needed to facilitate effective climate change mitigation and adaptation actions. In addition, research, education and training, and extension programmes will have to be expanded to include climate change needs.

23. Several countries have already begun to introduce institutional, policy and legal measures to address climate change needs. Examples include the following:

- In Chile, a Climate Change Council has been created under the Ministry of Agriculture, including, among others, specialists from the forestry, agricultural and fishing sector to analyze possible mitigation and adaptation measures.
- The National Climate Change Strategy for Costa Rica has as a stated goal that the country will be carbon neutral by 2021.
- The Ministry of Environment of Brazil has established a Secretariat of Climate Change and Environment Quality, whose function is to coordinate and support climate change.
- Brazil has introduced national and regional legislation<sup>6</sup> to regulate ownership of forest carbon credits and provide financial incentives for mitigation efforts, respectively.
- The 2003 General Law for Sustainable Forest Development of Mexico entrusts the Secretariat for the Environment and Natural Resources to take action to promote carbon capture through forest policies, including the promotion of a market for environmental services, including carbon sequestration.

## **CONCLUSIONS**

24. Climate change brings new challenges and opportunities to the forest sector: it is essential that forestry institutions are prepared and fully engaged in national and international discussions regarding forests and climate change mitigation and adaptation. Experience in SFM gained over the past few decades, including the existing voluntary codes and guidelines, represents a sound foundation ready to be deployed for rapid action in climate change adaptation and mitigation, including reducing emissions from deforestation and forest degradation.

25. Forest-related efforts in climate change mitigation can produce significant co-benefits in terms of ecosystem services and livelihoods support, but may have negative environmental and social side effects if poorly designed. Experience in climate change adaptation in the forest sector is limited and more research and systematic approaches are needed.

26. Forest-related adaptation and mitigation measures, including the reduction of emissions from deforestation and forest degradation, will need to address the forestry-agriculture interface and be integrated in national forest programmes.

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<sup>6</sup> Law on Public Forests Management for Sustainable Timber Production (Act No. 11284) and Law on the Use and Protection of the Atlantic Forest (Act No. 11428), both adopted in 2006, exclude forest carbon credits from private ownership. The Act on Climate Change, Environmental Conservation and Sustainable Development, passed by the State Government of Amazonas in June 2007, provides a framework for financial incentives for landowners for forest mitigation efforts.

## DISCUSSION ITEMS FOR THE COMMISSION

27. COFLAC members may wish to consider taking action and to provide guidance for FAO support on the following points:

- integrating climate change mitigation and adaptation measures in national forest programmes;
- strengthening countries' capacities for REDD readiness, including through UN-REDD, for forest carbon monitoring, assessment and reporting (including through FAO's national and global resource assessment programmes); establishment of reference levels, and development of REDD strategies;
- developing adaptation projects in the forest sector;
- compiling and disseminating information and organizing workshops on forests and climate change to increase capacities for, among other things, engaging effectively in climate change negotiations, increasing access to funding opportunities, and facilitating regional cooperation;
- assessing the trade-offs between different land-use options, e.g. forests and liquid biofuel crops;
- assisting the Subsidiary Body for Scientific and Technological Advice of UNFCCC on methodological issues related to reducing emissions from deforestation and forest degradation; and
- enhancing coordinated activities to support country efforts in forests and climate change, together with the UNFCCC Secretariat, other members of the Collaborative Partnership on Forests (CPF) and other partner organizations.