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COMMITTEE ON FORESTRY

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FOREST BIODIVERSITY, FIRE AND WATER IN THE CONTEXT OF CLIMATE CHANGE

Forest biodiversity in the context of climate change

1. Biological diversity encompasses the variety of existing life forms, the ecological roles they perform and the genetic diversity they contain. Forests are home to the majority of terrestrial biological[1] diversity. The variety of forest trees and shrubs play a vital role in the daily life of rural communities in many areas, as sources of wood and non-wood products, as contributors to soil and water conservation, and as repositories of aesthetic, ethical, cultural and religious values. Forest animals are a vital source of nutrition and income to many people, are used for medicinal purposes, have important cultural roles, and have vital roles in forest ecology, such as pollination, seed dispersal, seed germination, and predation on potential pest species.

2. Biological diversity is the key for resilience of forest ecosystems and adaptation of forest species to climate change. Continued losses of biodiversity are weakening the ability of forest ecosystems to respond to change and this is now compounded by a fast-evolving climate change

[1] The importance of biological diversity is well recognized and there have been several international instruments created to address its different dimensions, from Convention on Biodiversity (CBD), to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to The Ramsar Convention on Wetlands (RAMSAR) and others. Forest biodiversity is of particular concern to CBD. The Conference of Parties adopted an Expanded Programe of Work on Forest Biological Diversity at its sixth meeting, in 2002. Forest biological diversity is also one of the seven thematic elements of sustainable forest management, approved by the UN General Assembly in 2007.

process[2]. This is particularly relevant because forests are being expected not only to adapt to climate change but also to help mitigate it[3].

3. Conserving biological divesity as an important element of sustainable forest management is handicapped by inadequate information and knowledge. This is compounded in the context of climate change and becomes an obstacle in identifying issues, needs and priorities for action. International and regional cooperation is essential in this area. The FAO Committee on Mediterranean Forestry Questions (*Silva Mediterranea*) identified conservation and management of forest genetic resources as crucial for adaptation of Mediterranean ecosystems to climate change. A programe proposal has been prepared for compiling information and developing strategies for mitigation and adaptation to climate change and other pressures, aimed at the sustainable use and reduced vulnerability of Mediterranean forests to environmental changes. Similar initiatives would be useful in other regions.

FOREST BIOLOGICAL DIVERSITY CONSERVATION AND SUSTAINABLE USE

4. Protected areas constitute a key element for conservation of biological diversity and legally established protected areas include an estimated 13% of the world's forests. This implies that the 87 % of the world's forests outside protected areas represent a vital source of forest biological diversity and merit much greater investment of time and resources in the conservation and management of biodiversity through sustainable forest management across the landscape. There is an accelerating trend to integrate biodiversity conservation issues directly into forest management across all landscapes and this positive trend is linked to the adoption by countries of new forest policies and laws that are more in line with principles of sustainable forest management. Guidelines have been prepared by regional and global organizations to assist countries in integrating biodiversity into forest management planning and practices[4]. However, the integration of biodiversity concerns remains incomplete and there is a clear need for action to improve the effective conservation and sustainable use of biodiversity in production forests, particularly in forest concessions.

5. Over-exploitation and unsustainable use of wildlife in many tropical regions, often from protected areas and most pronounced in Central African forests, is a major concern. Commercial hunting driven by consumer demands in major cities will probably in the near future drive many species to extinction, common and emblematic alike, unless effective measures are implemented soon, including law enforcement, community participation, provision of alternative protein where needed, as well as simple and practical wildlife monitoring systems. In this regard, the sustainable use and management of bushmeat outside protected areas by local communities has good potential for alleviating the pressure on wildlife within protected areas.

6. A growing number of forest tree species are included in Appendix II of CITES. Support is often needed for countries to prepare and implement management plans for conservation and sustainable use of species in CITES Appendix II. FAO recently provided such assistance to

[2] The impact of climate change on forest biodiversity can be roughly estimated only using different scenarios available. Estimation of the impacts is limited by insufficient basic information such as the extent and structure of genetic diversity of the species,

[3] As a climate change mitigation effort, it is hoped that a REDD-plus instrument would recognize the importance of the conversation of biological diversity alongside carbon storage in forests.

[4] For example the International Tropical Timber Organization (ITTO) and World Conservation Union (IUCN) Guidelines for the conservation and sustainabale use of biodiversity in tropical timber production forests (2009)

Cameroon for the preparation of a Management Plan for *Prunus africana*[5], in collaboration with several partners.

FOREST BIOLOGICAL DIVERSITY ASSESSMENT AND MONITORING

7. At the national level, the collection of information related to forest biodiversity is now supported by programmes such as FAO's National Forest Monitoring and Assessment (NFMA), which currently provides direct assistance to 15 countries. At the international level, FAO works closely with other forest-related international and regional organizations to harmonize information and reporting requirements on forests. FAO provided forest-related information for the Third Global Biodiversity Outlook and incorporated the 2010 Biodiversity Target and other forest-related biodiversity indicators in the Global Forest Resources Assessment (FRA) 2010, so as to harmonise information and avoid duplication of efforts, using globally accepted forest definitions.

8. Findings of the FRA 2010 show that the area of primary forest continues to decline, and that the global rate of deforestation, although decreasing, remains alarmingly high, with consequent impacts on forest biodiversity. However, there is a continued positive general trend in efforts to conserve forest biological diversity, as measured by quantitative indicators such as the area of forest designated primarily for the conservation of biological diversity, now representing 12% of the world's total forest area.

9. Although information on growing stock composition is a useful proxy indicator of species richness and abundance, indicators still need to be determined or tested for use in the qualitative assessment that is necessary to monitor forest biodiversity. The preparation of the first report on The State of the World's Forest Genetic Resources (SOW-FGR) (see below) and expansion of the NFMA approach should contribute to the development of additional indicators for monitoring forest biological diversity and the effectiveness of conservation measures. The ongoing Collaborative Partnership on Forests' (CPF) initiatives on Assessment and Monitoring of Forest Degradation and Streamlining Forest-Related Reporting are also helping to identify additional relevant indicators and to harmonize reporting mechanisms and forest-related definitions.

ASSESSING THE WORLD'S FOREST GENETIC RESOURCES

10. The Commission on Genetic Resources for Food and Agriculture (CGRFA) acknowledged the urgency to conserve and sustainably utilize forest genetic resources. The Commission requested that a SOW-FGR report be prepared and presented to the Commission in 2013. The CGRFA, at its last session, established an Intergovernmental Technical Working Group on Forest Genetic Resources (ITWG-FGR) and agreed on its statutes[6]. In addition to guiding the preparation of the State of the World's Forest Genetic Resources report, the ITWG-FGR will contribute to international efforts to enhance conservation and sustainable use of forest genetic resources and biodiversity in sustainable forest management policies and programmes. At its Nineteenth Session (March 2009), the Committee on Forestry discussed and supported the preparation of the report, urging member countries to collaborate with FAO and partner organizations in its production. The Subsidiary Body on Scientific, Technical and Technological Advice of the CBD at its 14th Session (May 2010) recommended that the Conference of the Parties to the Convention welcome the preparation by FAO of the report on the SOW-FGR, invite Parties, other Governments, and relevant organizations to support the preparation of the report,

[5] See http://www.fao.org/forestry/enterprises/45716/en/

[6] CGRFA-12/09/Report, paragraph 55

and requested the Executive Secretary to collaborate with FAO in its preparation, including by participating in relevant sessions of the CGRFA and its ITWG-FGR.

11. The report on the SOW-FGR will be based on country reports and thematic studies. Detailed guidelines were prepared to assist in the preparation of country reports, which can both serve as a strategic tool to guide national efforts to enhance the conservation and sustainable use of forest genetic resources, and provide the basis for preparing the global report. Participation of national stakeholders in the process must be ensured. Subject to the availability of extra-budgetary resources, limited financial assistance will be made available to support developing countries in preparing their reports. Two regional workshops, in Latin America and in Africa, have already been organised in cooperation with Bioversity International to train national and regional experts to serve as resource persons to support countries in the preparation of the reports. Similar regional workshops are planned in other regions. Despite these plans and initial efforts, a large proportion of the required resources for the preparation on the report on the SOW-FGR still needs to be secured.

POINTS FOR CONSIDERATION

12. **The Committee may wish to request FAO** in collaboration with CPF members and others partners, to strengthen its capacity to assist member countries in effectively integrating conservation of biological diversity in the sustainable management of production forests, including the conservation and sustainable use of endangered timber species (CITES Appendix I and II).

13. **The Committee may wish to invite** the governing bodies of the CPF member organizations to consider the information and analysis provided by FRA and the report on the SOW-FGR in their work and recommend to the Convention on Biological Diversity that the results of FRA and SOW-FGR be used as objective indicators of progress towards the conservation of forest biological diversity in the context of sustainable forest management.

14. **The Committee may wish to further request FAO** to strengthen its capacity to respond to the international reporting and information sharing needs related to the conservation of forest biological diversity, including through the Global Forest Resources Assessment, National Forest Monitoring and Assessment and the State of the World's Forest Genetic Resources and countries may consider providing additional resources to support some of these initiatives.