



Convention on
Biological Diversity



FORESTS

Climate Change, Biodiversity and Land Degradation

Joint Liaison Group of the Rio Conventions





Forests cover approximately 30% of the Earth's land surface and provide critical ecosystem goods and services, including food, fodder, water, shelter, nutrient cycling, and cultural and recreational value. Forests also store carbon, provide habitat for a wide range of species and help alleviate land degradation and desertification.

The Rio Conventions: the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD), all acknowledge the important contribution of forests to the achievement of their respective goals and objectives and are working together to enhance synergies in this area.

Global forest cover was just under 4 billion ha in 2005, 36% of which were classified as primary forests

Forests provide approximately 1.6 billion people with food, medicines, fuel and other basic necessities

Over two thirds of known land-based species live in forests

Approximately 8000 tree species, or 9% of the total number of tree species worldwide, are currently under threat of extinction

The latest deforestation rates are estimated around 13 million hectares per year: a net loss of about 7.3 million hectares per year for 2000—2005

Deforestation is estimated to have been the cause of 20% of annual greenhouse gas emissions in the 1990s

(FAO, 2005; Millenium Ecosystem Assessment, 2005; IPCC, Fourth Assessment Report, 2007)

Collaboration between the Rio Conventions and their secretariats

The Joint Liaison Group (JLG) between the secretariats of the CBD, the UNCCD and the UNFCCC was established with the aim of enhancing coordination between the three conventions including cooperation concerning the links between climate change, biodiversity and desertification.

All three secretariats currently collaborate through information sharing and outreach, including the development of common messages. Further collaboration focuses on ensuring that Parties are kept informed of relevant initiatives in other conventions.

To date, the JLG has identified several options for cooperation at the level of Convention bodies and secretariats and has been called on to support collaboration among national focal points. The JLG continues to consider activities that could be implemented at the level of the secretariats during the period 2007-2008.

This information note is the first step to enhance collaboration in the area of links between climate change, forests, combating desertification, biodiversity conservation and sustainable use.

Forest related partnerships of the Rio Conventions

The secretariats of the Rio Conventions also collaborate with other international organizations and non-governmental organizations with substantial programmes on forests.

All three secretariats are members of the Collaborative Partnership on Forests (CPF), which promotes the sustainable management and conservation of all types of forests and strengthens long-term political commitments to this end. In addition, the three secretariats are members of a special CPF Task Force working towards streamlining forest-related reporting and minimizing the reporting burden on countries.

The secretariats also collaborate closely with the secretariat of the United Nations Forum on Forests (UNFF) and are currently exploring options for enhanced collaboration with this body, particularly in light of the recent adoption, at the seventh session of the UNFF, of the non-legally binding instrument on all types of forests and the new multi-year programme of work for 2007-2015.

In all these interactions, the secretariats advocate the strengthening of capacities of countries to combat threats to forest biodiversity, to combat desertification, land degradation and deforestation (particularly in countries with low forest cover); and to reduce emissions from land use and land-use change activities.



Photo courtesy of C. Buddle

The Importance of Forest Ecosystems

Climate change mitigation and adaptation

Forests present a significant global carbon stock. Global forest vegetation stores 283 Gt of carbon in its biomass, 38 Gt in dead wood and 317 Gt in soils (top 30 cm) and litter. The total carbon content of forest ecosystems has been estimated at 638 Gt for 2005, which is more than the amount of carbon in the entire atmosphere. This standing carbon is combined with a gross terrestrial uptake of carbon, which was estimated at 2.4 Gt a year, a good deal of which is sequestration by forests.

Forests also have a potentially significant role to play in climate change adaptation planning through maintaining ecosystem services and providing livelihood options.



Photo courtesy of K. Muldoon

Conservation and sustainable use of biodiversity

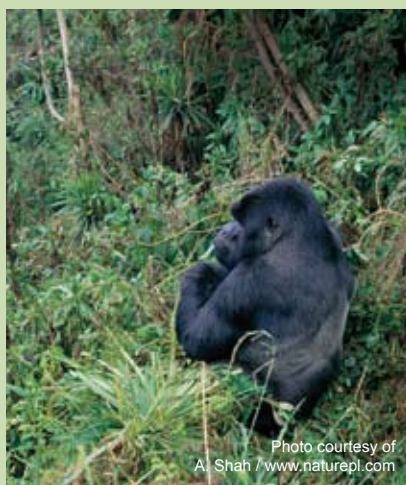


Photo courtesy of A. Shah / www.naturepl.com

Forests are one of the most biodiversity-rich habitats on Earth. For example, approximately 60% of all higher plant species are based in rainforests. Furthermore, in the Amazon basin alone, more than 1,300 species of forest plants are used for medicinal or cultural purposes. This is one example of the vast array of forest biodiversity that has important value as a source of food, medicine, fodder, and raw material. As such, the achievement of the Millennium Development Goals is inextricably linked to forest biodiversity.



Photo courtesy of J. Kern

Combating land degradation and desertification

Deforestation and desertification adversely affect agricultural productivity, the health of humans as well as of livestock, and economic activities such as eco-tourism. Forests and tree cover combat land degradation and desertification by stabilizing soils, reducing water and wind erosion and maintaining nutrient cycling in soils. Sustainable use of goods and services from forest ecosystems and the development of agroforestry systems can, therefore, contribute to poverty reduction, making the rural poor less vulnerable to the impacts of land degradation. Desertification and the associated loss of vegetation, causes biodiversity loss and contributes to climate change through reducing carbon sequestration.



Photo courtesy of Patrick1/www.flickr.com

Forests as a link between climate, biodiversity and land degradation

Forests are biologically diverse systems, however, forests are increasingly threatened as a result of deforestation, fragmentation, climate change and other stressors that can be linked to human activities.

Climate change, in particular, is expected to impact on forest biodiversity and the ability of forests to provide soil and water protection, habitat for species and other ecosystem services. Forest ecosystems identified as being particularly vulnerable to the impacts of climate change include: mangroves, boreal forests, tropical forests, cloud forests and dry forests.

The potential negative impacts of climate change on dry forests are of particular concern since dry forest soils are particularly susceptible to wind and water erosion. According to the Millennium Ecosystem Assessment, drylands occupy 41% of the earth's land area and are home to more than 2 billion people. Intensive human intervention, for example, fire, grazing, agriculture, firewood collection, has adversely transformed many dry forests.

Those dry forest systems that have not been completely destroyed are generally impoverished and fragmented. The degradation process thus initiated has led to a shift away from the original vegetation types to drier, less productive and less resistant forest types, exposing large numbers of people to the threat of desertification and associated disastrous ecological, social, and economic impacts.

On the other hand, there is evidence that primary forests and forests that are adequately managed

for diversity and multiple benefits are more resilient to disturbances. These ecosystems maintain healthy, stable soils, provide natural habitats for forest biodiversity and provide a more stable store of carbon. In fact very often, forests with high biodiversity are mature primary forests which require fewer inputs to maintain standing biomass and soil carbon content.

According to the Intergovernmental Panel on Climate Change, the conservation and restoration of forests can considerably reduce emissions at a low cost and with potential co benefits for adaptation and sustainable development. Further co-benefits can be achieved when steps to combat land degradation and conserve biodiversity are included in forest conservation and restoration.



Programmes and Activities of the Rio Conventions relating to Forests

I. Programmes and Activities of the UNFCCC

Reducing emissions from deforestation in developing countries

The item “Reducing emissions from deforestation in developing countries and approaches to stimulate action” was introduced into the agenda at the eleventh session of the Conference of the Parties, in 2005, and received wide support from almost all Parties, intergovernmental organizations and non-governmental organizations.

It is being recognized that capacity-building, technical assistance and financial support to facilitate actions by developing countries to reduce emissions from deforestation are urgent needs. And that a range of potential policy approaches and positive incentives to reduce emissions from deforestation, including financing options, need to be explored.

More information: <http://unfccc.int/methods_and_science/lulucf/items/1084.php>

The Clean Development Mechanism and forestry

The objective of the Clean Development Mechanism (CDM) is to foster cooperation between developed countries (or Annex I Parties) and developing countries in addressing climate change. CDM project activities relating to forestry are limited to reforestation and afforestation projects for the first commitment period of the Kyoto Protocol (2008-2012). Such projects, in addition to mitigation benefits could also have benefits for biodiversity and environmental conservation.

More information: <<http://cdm.unfccc.int/index.htm>>

National Annual Greenhouse Gas (GHG) Inventory

Parties to the Convention provide data and information on their GHG emissions for all sources, including land use, land-use change and forestry (LULUCF), to the UNFCCC. Developed countries that have ratified the Kyoto Protocol also provide supplementary information on afforestation, reforestation, deforestation and any of the additional elective activities. Technical reviews of annual GHG inventories submitted developed countries are conducted.

More information: <http://unfccc.int/national_reports/items/1408.php>

II. Programmes and Activities of the UNCCD

Thematic Programme Networks (TPNs)

Africa: TPN2: Promotion of agroforestry and soil conservation

Asia: TPN2: Agroforestry and Soil Conservation in Arid, Semi-arid and Dry Sub-humid areas, where tree removal, cropping and overgrazing have resulted in severe soil erosion and watershed depletion.

Latin America and Caribbean (LAC): TPN 4: Proposal for the Regional Thematic Programme Network on Agroforestry and Combating Poverty in Latin America and the Caribbean. The Network is intended as a mechanism for the daily exchange of information and lessons learned between stakeholders and the general public, including contributions and safekeeping of information related to agroforestry systems to combat desertification and drought.

More information: <<http://www.unccd.int/>>

Actions by Parties

Several affected European country Parties reported on various afforestation and reforestation activities that they are undertaking at national level in the framework of their NAPs (such as Albania in 2000, Cyprus in 2000, Greece in 2002, Italy in 2006, Republic of Moldova in 2006, Turkey in 2006). All these national reports can be found on the UNCCD website <www.unccd.int> under “reports”.



Related workshops

A Workshop on Forests and Forest Ecosystems: Promoting synergy in the implementation of the three Rio conventions was organized by the UNCCD and CBD secretariats, in cooperation with the UNFCCC Secretariat, 5-7 April 2004, Viterbo, Italy

More information: <http://www.unccd.int/workshop/docs/finalreport.pdf>

A series of 24 synergy workshops were organized at the national and regional levels in collaboration with other organizations. In this regard, the Committee on Science and Technology has issued a publication, entitled: "Opportunities for Synergy among the Environmental Conventions: Results of National and Local level Workshops", which was launched at COP8 in Madrid, September 2007. In most of the recommendations of these workshops, forestry is the connecting thread for synergy.

Furthermore, a regional meeting for the Northern Mediterranean region held in Bonn, Germany, in 2004, identified reforestation, afforestation and tree planting in affected areas, among the eight priority areas adopted for scientific cooperation.

III. Programmes and Activities of the CBD

Biodiversity and climate change

For a number of years the Conference of the Parties to the CBD has had, on its agenda the cross-cutting issue of biodiversity and climate change with a view to enhancing synergies between the Rio Conventions. Under this cross-cutting issue a direct link was drawn between reducing emissions from deforestation in developing countries and the conservation and sustainable use of forest biodiversity. The cross-cutting issue also calls for enhanced cooperation between the CBD and the UNFCCC including on the links between forest biodiversity and climate change.

More information: <http://www.cbd.int/climate/default.shtml>

Forest biodiversity

Parties to the CBD adopted, in 2002, an expanded programme of work on forest biodiversity. This programme of work aims at the conservation and sustainable use of forest biodiversity and the fair and equitable use of the benefits arising from the utilization of forest genetic resources. The programme of work, therefore, encompasses: specific measures for conservation and sustainable use, activities to build institutional and socio-economic enabling environments, and steps for knowledge-sharing and assessments.

Furthermore, the Conference of the Parties agreed that the maintenance and enhancement of the resilience of the components of biodiversity to adapt to climate change is an integral part of efforts to achieve the 2010 biodiversity target.

More information: <http://www.cbd.int/forest/default.shtml>

Protected areas and traditional and indigenous knowledge

Actions to reduce deforestation are also promoted through the Convention's programme of work on protected areas, which was adopted for the establishment and maintenance of comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas. Further action is promoted through the programme of work on traditional knowledge, innovations and practice.

More information: <http://www.cbd.int/traditional/default.shtml>

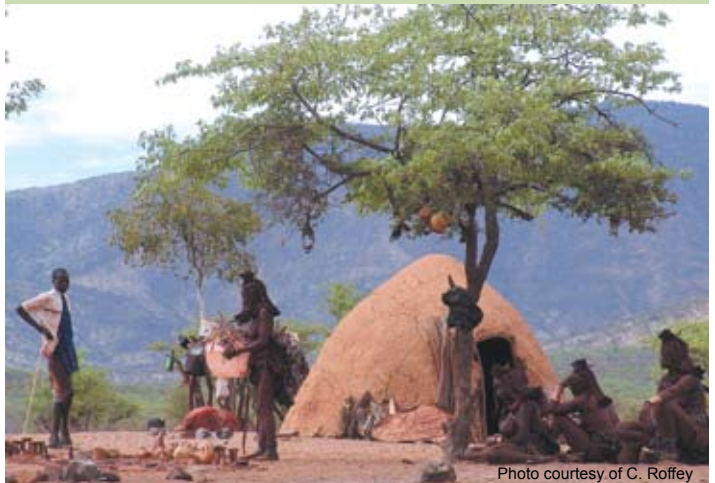


Photo courtesy of C. Roffey

Key Articles and Decisions of the Rio Conventions Relating to Forests

I. Key Articles and Decisions of the UNFCCC

*“The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, **stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.** Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.” (Article 2)*

Key Articles under the Convention

Article 4, paragraph 1 on commitments on LULUCF, taking into account common but differentiated responsibilities, such as developing national GHG inventories; implementing programmes on mitigation and adaptation, cooperating in the development and transfer of technologies for the forestry sector and promoting sustainable management and conservation of forests and other terrestrial ecosystems.

For text of the Convention: <http://unfccc.int/essential_background/convention/background/items/2853.php>

Key Articles under the Kyoto Protocol

Annex I (Article 2.1(a)(ii)) on protecting and enhancing sinks and reservoirs of GHG through promotion of sustainable forest management, afforestation and reforestation

Annex I (Articles 3.3, 3.4, 3.7) on reporting and accounting for emissions and removals of GHG resulting from LULUCF activities in annual inventories, for each year of the commitment period (2008-2012).

Article 12 under The Clean Development Mechanism on allowing for afforestation and reforestation project activities to be implemented in Non-Annex I countries.

(Article 6) under Joint Implementation on allowing Annex I Parties to implement LULUCF projects in another Annex I country.

For text of the Kyoto Protocol: <http://unfccc.int/kyoto_protocol/items/2830.php>

Key Decisions

Key decisions relating to the treatment, reporting and accounting of LULUCF categories/ activities for Annex I Parties under the Convention and Kyoto Protocol.

- **Decisions 13/CP.9** *Good practice guidance for LULUCF in the preparation of national greenhouse gas inventories under the Convention.*
- **Decision 14/CP.11** *Tables of the common reporting format for land use, land-use change and forestry.*
- **Decision 16/CMP.1** *Land use, land-use change and forestry*
- **Decision 17/CMP.1** *Good practice Guidance for land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol*

**** Other decisions under the Kyoto Protocol relating to the reporting and accounting of emissions from LULUCF activities by Annex I Parties: 13/CMP.1, 15/CMP.1, 18/CMP.1 and 21/CMP.1 ****

Key decisions relating to the implementation of afforestation and reforestation project activities under the CDM.

- **Decision 5/CMP.1** *Modalities and procedures for afforestation and reforestation project activities under the clean development mechanism in the first commitment period of the Kyoto Protocol*
- **Decision 6/CMP.1** *Simplified modalities and procedures for small-scale afforestation and reforestation project activities under the clean development mechanism in the first commitment period of the Kyoto Protocol and measures to facilitate their implementation*

For full text of all decisions, go to: <<http://unfccc.int/documentation/decisions/items/3597.php>>



Executive Secretaries of the Rio Conventions



Joint meeting between the IPCC and the SBSTTA bureau of the CBD

II. Key Articles and Decisions of the UNCCD

Key Articles

(All referring to forests in the context of national action programmes)

“The objective of this Convention is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas.” (Article 2)

Annex I, Article 8. (b) (i) on ensuring integrated and sustainable management of natural resources

Annex III, Article 4. (c) on sustainable development

Annex IV, Article 6. (b) on land use patterns

For text of the Convention: <<http://www.unccd.int/>>

Key Decisions

- **Decision 8/COP.4** on commitments to enhance the implementation of the obligations of the UNCCD (Bonn Declaration) **item V:** Launch of reforestation/afforestation programmes and intensification of soil conservation programmes

<http://documents-dds-ny.un.org/doc/UNDOC/LTD/G00/707/19/pdf/G0070719.pdf?OpenElement>

- **Decision 12/COP.6**, which called on the secretariat to contribute with other partners to strengthening the capacity of low forest cover countries (LFCCs) to combat desertification, land degradation and deforestation

<http://documents-dds-ny.un.org/doc/UNDOC/LTD/G03/705/42/pdf/G0370542.pdf?OpenElement>

- **By decision 12/COP.7**, the COP of the UNCCD requested the Executive Secretary to pursue consultations and closer collaboration with other members of the CPF and other interested organizations with a view to fostering joint initiatives relating to sustainable forest management.

<http://documents-dds-ny.un.org/doc/UNDOC/LTD/G05/708/82/pdf/G0570882.pdf?OpenElement>

- **Decision 12/COP.7** which encourages Parties and relevant institutions to explore opportunities to promote sustainable forest management, including forest conservation and sustainable use of forests, as an effective additional means of addressing relevant objectives of the three conventions;



Celebrations of International Biodiversity Day in 2007 on the theme 'biodiversity and climate change'

III. Key Articles and Decisions of the CBD

Key Articles

“The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.”
(Article 1)

Article 6 on General Measures for Conservation and Sustainable Use

Article 8 on In situ Conservation

Article 10 on Sustainable Use of the Components of Biological Diversity

For text of the Convention: <<http://www.cbd.int/convention/convention.shtml>>



Joint Liaison Group of the Rio Conventions

Key Decisions

- **Decision VIII/30** on the cross-cutting issue of biodiversity and climate change, welcomes the UNFCCC process to consider reducing emissions from deforestation in developing countries which could constitute a unique opportunity for biodiversity protection

- **Decision VI/22** on the expanded programme of work on forest biodiversity calls for Parties to mitigate the negative impacts of climate change on forest biodiversity and to:

- a. Promote monitoring and research on the impacts of climate change
- b. Develop coordinated response strategies and action plans
- c. Promote biodiversity in forests in order to enhance their capacity to resist to, recover from and adapt to climate change
- d. Promote forest biodiversity in climate change mitigation and adaptation measures
- e. Assess how the conservation and sustainable use of forest biodiversity can contribute to international climate change work

- **Decision V/4** on progress on the implementation of the programme of work for forest biodiversity considers (i) the impact of climate change on forest biodiversity, (ii) consistency between the UNFCCC and the conservation and sustainable use of biodiversity, and (iii) the integration of biodiversity considerations in the implementation of the UNFCCC and its Kyoto Protocol

For full text of all decisions, go to: <<http://www.cbd.int/convention/cops.shtml>>

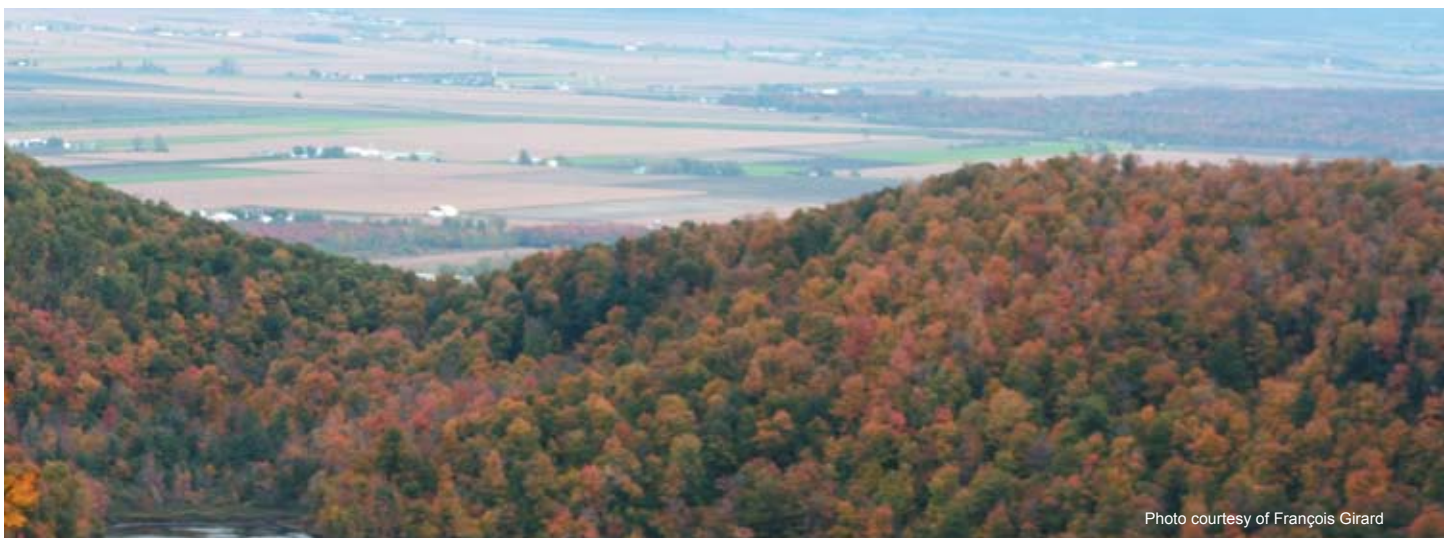


Photo courtesy of François Girard

Contact information of the Rio Conventions



“A single tree provides shelter for plants and animals, cycles nutrients through our soils, and stores carbon. Multiply that a million fold for what an entire forest can do. When climate change threatens our forests, it threatens life on Earth.”

- Mr. Ahmed Djoghlaif, Executive Secretary, CBD



The international community has the responsibility to promote, and cooperate in, the conservation and sustainable use of terrestrial ecosystems. Enhancing afforestation and reforestation, and reducing emissions from deforestation contribute to stabilising greenhouse gas concentrations in the atmosphere, help communities to adapt to climate change, while reinforcing the efforts of governments in implementing the three Rio Conventions.

-Mr. Yvo de Boer, Executive Secretary, UNFCCC



“There could be more ‘Wangari Mathais’ (2004 Nobel Peace Prize winner) just waiting for their calling. We hereby endeavor to nudge them into action for the sake of future generations.”

- Mr. Luc Gnacadja, Executive Secretary, UNCCD

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