

منظمة
الأغذية والزراعة
للأمم المتحدة

联合国
粮食及
农业组织

Food and Agriculture
Organization of the
United Nations



Organisation des
Nations Unies pour
l'alimentation et
l'agriculture

Продовольственная и
сельскохозяйственная
организация
Объединенных Наций

Organización de las
Naciones Unidas para la
Agricultura y la
Alimentación

LATIN AMERICA AND CARIBBEAN FORESTRY COMMISSION

TWENTY-SIXTH SESSION

Guatemala City, Guatemala, 24 – 28 May, 2010

STATE OF FOREST GENETIC RESOURCES IN LATIN AMERICA

Secretariat Note

Introduction

1. Genetic resources are a strategic component of biodiversity in global terms and comprise all plant, animal and microorganism species and their biological interrelations and processes, whose genetic variability, passed from generation to generation, constitutes an essential basis for adapting to change. They also represent an invaluable source of sustainable development for agriculture, fisheries, forestry and industry, and are consequently of fundamental importance to the maintenance of socioeconomic systems and the evolution of forest species.

2. In 1967, the FAO Conference recognised the importance of the diversity of forest genetics and requested that FAO establish a Panel of Experts on Forest Genetic Resources¹, PEFGR, to support the planning and coordination of FAO efforts to order forest genetic resources as an integral part of the FAO Forestry Programme. Subsequently, conservation and sustainable use of forest genetic resources, FGR, were discussed in 1997 at the 13th Session of the FAO Forestry Committee, where the value of these resources to local and national development was recognised.

3. The importance of biological diversity and of the genetic resources contained in forests was shown by the approval of the Convention on Biological Diversity, CBD², at the Earth Summit held in 1992 in Rio de Janeiro, Brazil. The Convention, which came into force at the end of 1993, recognised that the conservation of biological diversity is a common concern for humanity and integrates its process of development. It establishes principles for its conservation, the sustainable use of biological

¹ In 1968 FAO created the Panel of Experts on Forest Genetic Resources, FGR, for such tasks as examining priorities and action plans on FGR, on national, regional, eco-regional and global levels; and to advise FAO on the main issues and actions to be implemented on FGR.

² The Convention on Biological Diversity, in place since December 1993, is a legally binding international instrument (Rio de Janeiro, 1992). It has three objectives: the conservation of biological diversity; the sustainable use of its components; and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

resources and the fair and equitable sharing of the benefits derived from these resources. Art. 15 of the Convention recognises the sovereign rights of States over their genetic resources and prohibits access to these resources without prior consent of the country of origin.

4. In the 11th session in 2007, the Commission on Genetic Resources for Food and Agriculture of the FAO, CGRFA, recognised the urgency of tackling the issue of conservation and sustainable utilisation of FGR through sustainable forest management, with special emphasis on endangered FGR. The Commission acknowledged that the lack of information on FGR restricts the capability of authorities to take decisions on the necessary measures for FGR conservation at international, regional and local levels.

5. The CGRFA requested that a State of the World's Forest Genetic Resources report be prepared and presented to the Commission in 2013, recommending the participation of FAO Regional Forestry Commissions.

6. At the 19th session in March 2009, the FAO Committee on Forestry urged member states to collaborate with FAO and the associated organisations in preparing the State of the World's Forest Genetic Resources report, and requested the inclusion of a specific forest genetic resources reference in the FAO strategy for forestry.

7. FAO is developing an information process with regard to preparing the State of the World's Forest Genetic Resources report with its main regional and international technical associates, which have made contributions to the analysis of fundamental questions arising from the preparation of the report. This consultation process was organised in collaboration with associated international organisations, in particular, with Bioversity International and the World Agroforestry Centre (ICRAF), as well as with regional networks and national associates in different regions.

8. In September 2008, the issue was debated at a workshop of the Latin America Forest Genetic Resources Network, LAFORGEN, at the facilities of the Tropical Agronomic Centre for Research and Training, CATIE, in Costa Rica. This event was organised by Bioversity International with the support of the Government of Spain.

9. The Executive Committee of the FAO Latin America and Caribbean Forestry Commission, LACFC, at the meeting of June 2009 held in Managua, Nicaragua, agreed to include the issue of FGR in the region, with special emphasis on the Amazonian sub-region, as one of the priorities which the Amazonian sub-regional group of LACFC must discuss at the 26th Session of the Commission to be held in Guatemala, in May 2010.

10. The State of the World's Forest Genetic Resources report will be prepared through a country-driven approach based on information provided by countries and thematic studies. In March 2010 a regional workshop was organised in Quito, Ecuador, with the participation of experts from the countries of the region to train some potential focal points in the countries towards the preparation of the report. The event had the cooperation of the Ministry of Environment of Ecuador, the Latin America Forest Genetic Resources Network, LAFORGEN, and Bioversity International.

11. The preparation of the State of the World's Forest Genetic Resources report was welcomed by the 9th meeting of the Conference of Parties, COP, (2008) of the Convention on Biological Diversity.

Relevance of the issue at regional and sub-regional levels

The general situation and the state of forest genetic resources

12. As part of the modernisation of environmental and forestry legislation FGR are increasingly being taken into consideration although new laws have only been written with regard to ownership rights and access to biological diversity, and legislation has not been promulgated on the conservation and protection of FGR. However, there have been notable efforts in Latin American countries to regulate access to genetic resources, to encourage the participation of communities in decisions regarding access and to protect traditional knowledge.

13. The Latin America and the Caribbean region has a high level of biodiversity that is of great importance to humanity resulting from the combination of variation in geography, climate and ecosystems. The region contains 22% of the world's forest, with 90% in South America, 9% in Central American and Mexico and 1% in the Caribbean (FAO, 2006). However, it is also the region with highest levels of deforestation, which is a threat to the conservation of Forest Genetic Resources, FGR. For example, from 1990 to 2005, Latin America lost almost 64 million hectares, 7% of forest area; this means that Latin America accounts for more than a third of the deforestation occurring in the world over this period (FAO, 2009).

14. The Amazon basin sub-region is one of the most richly biodiverse regions of the world. With an area of 6.7 million km² it covers the territories of Bolivia, Brazil, Colombia, Ecuador, Guyana, French Guyana, Peru, Suriname and Venezuela, meaning close to 40% of the area of South America. It is home to 370 indigenous groups, with a population of around 1.6 million distributed over more than 2.200 territories. The nine comprised countries are obliged to develop and implement policies, programmes and strategies to protect this biodiversity, on issues such as access to genetic resources, protection of traditional knowledge, equitable sharing of benefits from the use of genetic resources, and others.

15. Despite the enormous importance of the genetic diversity in the region, knowledge of the FGR is insufficient, although growing, and there is a lack of a comprehensive survey of the genetic resources, apart from some species of interest to commerce and conservation. There are very few studies which give details on the FGR situation in different countries, on the actions carried out on the issues of protection, conservation and research and on the responsible institutions that carry out these actions.

16. Some organisations have taken action on these issues, but in a superficial form. For example, through the Panel of Experts on Forest Genetic Resources, FAO has compiled lists of priority tree species for the region, specifying their main uses and the priority in terms of study, collection, conservation and use of the FGR (FAO-LACFC, 2009).

17. A survey of the conservation and use of FGR was performed in all Latin America (excepting Suriname and Guyana) over the internet in 2006, sponsored by Bioversity International and the National Institute for Agriculture and Food Research and Technology (CIFOR-INIA in Spain), and forwarded to people linked to the forestry sector in the region. The survey concludes that in the forestry sector, there are few people that work on issues related to FGR and they work mainly for public entities and international institutions.

18. The main problems identified by the survey with regards to FGR are the following, in order of importance:

1. lack of national policies on the conservation and management of FGR;
2. lack of knowledge of the importance of the correct management of FGR;
3. lack of ties with or commitment from small rural landowners and the local communities in the management of the FGR;

4. lack of opportunities for training and education in relation to FGR;
5. information available on conservation and management of FGR is very limited;
6. lack of research on FGR;
7. lack of definition of priorities for designing conservation plans.

In situ conservation of forest genetic resources³

19. FGR are available in nature, especially in protected wild areas, PWA, which represent the most important reserves *in situ* of FGR. In many cases, conservation of FGR depends on a large extent on decisions made by governments for the creation of protected areas to safeguard endangered or fragile ecosystems, or those that are simply representative of certain types of wild flora and fauna.

20. The percentage of protected areas in the countries in the region is highly variable and there are no precedents to facilitate the definition of the ideal rate for each country. In 2009, for example, Amazonian countries had bestowed some form of legal protection on 11.4% (887 540 km²) of their total rain forest cover (7 783 345 km²).

21. Despite the conservation of protected wild areas⁴, some countries still suffer from problems and deficiencies that impede adequate FGR management. Strengthening of administration, creation of laws and increased sectorial harmony are the challenges faced by environmental authorities. Similarly, the management of information and knowledge on the genetic diversity of species, their distribution and structure must also be strengthened.

22. Therefore, natural forests represent one of the most important sources of FGR, and their management demands on the support and action of Governments to ensure maintenance of the diversity and the genetic development of the species.

Ex situ conservation of forest genetic resources

23. Conservation of native and introduced forest species with high commercial value outside their natural zones (*ex situ* conservation) by public institutions, research centres, universities, is another way in which FGR can be conserved and protected, whether the aim is genetic improvement or simply to conserve endangered forest species.

24. The government sector of the Amazonian countries has created institutions to manage the conservation and development of forest genetic resources outside their natural sites. Peru has created the Centres for *ex situ* Conservation Network as well as germplasm research and conservation institutions, such as INIA and the Forestry Seed Bank; Bolivia has two centres for research and improvement of forest species: the forest seed bank of the Tropical Agricultural Research Centre, CIAT, in Santa Cruz de la Sierra, and the Forest Seed Bank, BASFOR, in the region of Los Valles.

25. Ecuador has included as part of the National Strategy on Biodiversity the creation of the National System for *ex situ* Conservation; Colombia, through the A. von Humboldt Institute has developed an *ex situ* conservation strategy in coordination with botanical gardens, herbariums and universities, etc.

26. Though *ex situ* conservation of genetic resources forms part of most development plans and environmental strategies of the countries in the region, there exists the need for greater investment in

³ The CBD defines '*in situ* conservation' as "The conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of some domesticated or cultivated species, in the surroundings where they have developed their distinctive properties" (CBD, Art. 2).

⁴ CDB / COP 7 in Kuala Lumpur, Protected areas work programme, with the objective of establishing representative national systems of protected areas that are efficiently managed.

strengthening conservation systems through the development of germplasm banks and the promotion of research into FGR in public research institutes, universities, herbariums and botanical gardens.

Institutional framework responsible for FGR management

27. Policies and administration on issues related to biodiversity are handled by the Ministries or Secretaries of Environment in almost all Latin American and Caribbean countries. Within this institutional framework there are forestry or biodiversity offices and departments which have the additional responsibility of handling questions related to biological resources and genetic resources, whether forestry-related or not.

28. Taking a viewpoint outside the public sector, there is a wide network of research centres (universities, national herbariums, botanical gardens, private forestry companies) that carry out research into forest species and maintain germplasm banks and conserve forest seeds, although, in many cases, there is a need for greater support in order to successfully achieve the research and conservation objectives.

29. Some Amazonian countries have created institutions, working groups and advisory councils exclusively to manage biodiversity in general. Mexico and Brazil, for example, have National Biodiversity Commissions; Brazil also has the Biotechnology and Genetic Resources Programme, GENOMA, and the Brazilian Genetic Resources Information System, SIBRAGEN. Cuba has created the National Biodiversity Centre and the National Genetic Resources Group.

Legal framework for FGR management

30. The legal framework for FGR management generally forms part of forestry laws. These laws make reference to biodiversity and genetic resources, whether forestry-related or not. Several countries in the Amazonian sub-region have created legal regulations on access to genetic resources.

31. The member states of the Andean Community, CAN, for example, have brought in regulations to preserve biological ownership and its sustainable use, though Decision 391/96 “Common regime on access to genetic resources”.

32. Peru and Venezuela in their forestry laws make explicit reference to FGR. In Peru Law N° 27308/2000 establishes the principles and bases on which FGR management must be performed⁵. The Law on Forests and Forest Management passed in May 2008 and refers to FGR in terms such as establishing forestry germplasm banks, seed orchards and forestry nurseries⁶.

33. Issues related to genetic resources which are referred to with more emphasis in the regulations of the amazonian countries make reference mainly to the following themes: access; protection of collective copyrights and traditional knowledge of ancestral communities; tangible and intangible cultural heritage; copyright and patents for discoverers of new varieties of genetic resources; biotechnological development; fair and equitable retribution of knowledge and conservation of resources by ancestral communities; germplasm banks; seed orchards; collection of forest genetic material and forest seeds; regulation of scientific research.

⁵ Article 1 of this law states that, with regard to FGR, forestry and wild fauna activities are to be based on principles of biological conservation and clarifies that rights given on biological resources do not include rights on other biological resources in which they are contained.

⁶ Other issues considered by this law are acquisition, importation, storage and treatment of forest seeds or other genetic materials; the collection of forest genetic material for commercial or exportation purposes; the protection of trees outside forests that, because of their characteristics, are classified as seeding trees or bushes.

Access to Genetic Resources in international forums and the participation of the countries of Latin America and the Caribbean

International Regime on Access to Genetic Resources and benefit sharing

34. At the seventh Conference of the Parties of the CBD in 2004, it was agreed to establish the working group on access to genetic resources and fair and equitable benefit sharing (ABS) to prepare and negotiate an international regime on access to genetic resources and benefit sharing with the aim of adopting an instrument or instruments to effectively implement article 15 of the CBD.

35. The scope of this regime covers three issues: access to genetic resources; promotion and safeguarding of the fair and equitable sharing of benefits derived from the utilisation of genetic resources and innovations; and protection or preservation, respect and maintenance of traditional knowledge.

36. As part of this process, one of the instruments that has received particular support is the so-called "certificate of origin/source/legal provenance", which would contribute to resolving problems related to monitoring and traceability of genetic resources. The final text of the ABS regime will be ready for approval by the 10th session of the Conference of Parties of the CBD, to take place in Nagoya, Japan, in October 2010.

The Bonn Guidelines - 2002

37. In 2002, as part of the CBD, the "Bonn Guidelines" were adopted over ABS. These guidelines aim to orient countries in imposing legal, administrative or political measures on access and benefit sharing, indicating the necessary steps and stressing the obligation of users to request prior consent from suppliers.

38. The guidelines are not binding, though they demonstrate the willingness of 180 countries to negotiate an international regime that promotes and safeguards fair and equitable sharing of benefits coming from the use of genetic resources.

39. Though it is true that the guidelines were welcomed by developed countries and companies using the resources, for some developing countries the effort was insufficient, fundamentally for two reasons: 1) they are voluntary; 2) the guidelines pay little attention to measures to be implemented by the countries where the end-users are located (developed countries with companies that use genetic resources) in order to comply with their obligations as part of the Convention.

40. The advances made by countries in the Amazonian sub-region in protecting their biodiversity and access to genetic resources through alliances with countries of similar geographical or ecosystemic characteristics may also be highlighted.

The Andean Community, CAN

41. The Andean Community, CAN (Bolivia, Colombia, Ecuador and Peru), signed Decision 391 in 1996. This Decision contains two fundamental issues with regard to genetic resources: a) genetic resources patrimony of the countries and to have access to them for the purposes of research or economic use, there must be a contract signed by both the owner and a competent national authority in representation of the State; and b) fair and equitable sharing of the benefits derived from the use of the genetic resources.

42. Despite this important advance, the implementation of this Decision by the Andean countries continues to face difficulties in applying a regime of access and benefit-sharing. Some of these

difficulties are: complex administrative procedures; excessive contractual instruments; insufficient institutional capacity.

Group of Like-Minded Megadiverse Countries

43. Countries in this group are Brazil, Colombia, Costa Rica, Ecuador, México, Peru and Venezuela. The group coordinates action and benefits on genetic resources in international fora. One of its main achievements was at the Seventh Conference of Parties of the CBD, in 2004, when a process to develop an international regime on genetic resource access and benefit sharing was initiated.

44. These countries convened in the necessity of formulating a strategy and action plan to strengthen the mechanisms of cooperation and information exchange between countries to better achieve the proposed objectives (Cuzco Declaration, Peru, November 2002).

Amazonian Cooperation Treaty Organisation

45. At a sub-regional level, an important example of the dialogue taking place since 2005 is the Amazonian Cooperation Treaty Organisation, ATCO, composed of the eight Amazonian countries (with the exception of French Guyana), which holds meetings among the member states for the analysis of issues related to preservation of traditional knowledge, access to genetic resources and copyrights.

46. The member states of the ATCO have highlighted some common interests among the group, such as promoting exchange of regulations and regional and national policies on copyrights; cooperation in development of mechanisms for protecting countries' rights to traditional knowledge of the Amazon peoples and its genetic resources; coordination of positions and harmonising legislation while respecting the idiosyncrasies and needs of each country.

47. The environment ministers of the ATCO member states, on the occasion of the 9th session of the COP held in Bonn, Germany, in 2008, highlighted the ATCO as an example of coordination and facilitation of issues related to the management of the Amazon; and they made announcements on the adoption of the international regime on access and benefit sharing; at this point they stated that the main objective of the regime is the creation of mechanisms that respect national legislation and allow for application in different jurisdictions. Similarly, they stressed the importance of consulting the member states on the negotiations of the international regime on ABS.

Threats and risks to FGR

48. The high deforestation rates that affect the region are the main threat to FGR. The degree of deforestation in the Latin American region is 4 million hectares a year (FAO, FRA 2010). Deforestation is fundamentally a direct result of converting land cover to agricultural activities, mainly for cattle ranching and construction of infrastructure.

49. Over the last three decades there has been an expansion of cultivated land and pasture land at the expense of forest areas. In the period 1972-1999 there was an increase in arable and cultivated land in South America of 30.2 million ha, corresponding to 35.1%; in Mesoamerica the increase was 6.3 million ha, that is, 21.3%; and in the Caribbean, 1.8 million ha, 32% (FAOSTAT 2001).

50. Illegal tree felling of species of high commercial value represents, apart from systematic degradation of forests, risk of loss of forest species due to overexploitation, and consequently, risk to the animals and plants which biologically interact with these species.

51. Governments are becoming aware of the need to decrease deforestation rates and are taking action on the matter through protection and conservation incentives, organisation of soil use and satellite monitoring to combat illegal land use change. Ecuador, for example, has created a protection

programme for native forests through an incentive to landowners, with which, by means of a 20 year contract an annual figure is paid to the landowner in exchange for maintaining the area stipulated by the contract unchanged.

52. Climate change is another severe threat to FGR. In the Latin America and the Caribbean region, its population and natural resources are sensitive to climate change and have a limited capacity for adaptation. The indigenous and local communities are among the most unprotected and threatened communities as they live in some of the most vulnerable areas.

Proposals for discussion by the LACFC

53. Based on the preceding information, below are some of the more notable topics for discussion by the Commission:

1. Promotion of knowledge centre state of forest genetic resources and management of information on a national level encouraging action that allows conservation of ecosystems with endangered or vulnerable species.
2. Promotion and financial incentives to research in forest genetic resources, especially endangered species and those with commercial or potentially commercial value, as well as non-timber forest products.
3. Incorporation of FGR in forest policies and legislation.
4. Establishing of priorities for the conservation of forest species and non-timber forest products that are currently endangered due to overexploitation or the expansion of agricultural lands.
5. The access, equitable sharing, copyright and biotechnological development of FGR, including the protection of traditional communities.

Preparation of the Secretariat Note

54. This Secretariat Note was prepared under the authority of the vice-president of the Commission (Ecuador) for the Amazonian sub-region, in accordance with the agreement reached by the Executive Committee meeting of the Commission (Nicaragua, June 2009) and was prepared in collaboration with the Latin America Forest Genetic Resources Network, LAFORGEN, supported by FAO and Bioversity International.