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
ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y LA ALIMENTACION

CPGR/91/9
March 1991

Item 7 of the
Provisional Agenda

COMMISSION ON PLANT GENETIC RESOURCES

Fourth session

Rome, 15 - 19 April 1991

BIOLOGICAL DIVERSITY AND PLANT GENETIC RESOURCES

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REY TO ACRONYMS

CGIAR	Consultative Group on International Agricultural Research
CITES	Convention on the International Trade on Endangered Species of World Fauna and Flora
IBPGR	International Board for Plant Genetic Resources
IUCN	World Conservation Union
MAB	Man and the Biosphere
NCO	Non-governmental Organization
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environmental Programme
Unesco	United Nations Educational Scientific and Cultural Organization
UNIDO	United Nations International Development Organization
WHO	World Health Organization
MI	World Resources Institute
WWF	World wide Fund for Nature

BIOLOGICAL DIVERSITY AND PLANT GENETIC RESOURCES

I . INTRODUCTION

1. Much of human material culture, including food and medicine, shelter, clothing, fuel and tools, is derived from biological resources. This is particularly the case for rural societies in developing countries. The advent of new biotechnologies, which increase our capacity to utilize an ever wider range of living resources, increases rather than reduces our dependence upon diversity. Humanity's dependence on biological diversity also implies human interdependence, because no country or region is self-sufficient in biological resources.

2. The growth of government and public concern for the conservation of biological diversity is now leading to a number of inter-governmental initiatives to ensure that biological diversity is secured for present and future generations. The earliest and one of the most notable of these has been the establishment of the FAO Global System for Plant Genetic Resources to address a critical part of biological diversity. Others are the initiative of the United Nations Environment Programme (UNEP) to establish a legal instrument for biological diversity, and FAO's initiative to establish a forestry convention. Great importance is also attached to biological diversity in the preparations for the United Nations Conference on Environment and Development (UNCED), to be held in Brazil, in June, 1992.

3. The Ninety-eighth Session of the Council examined a paper on the International Undertaking on Plant Genetic Resources and Other Matters Related to Biological Diversity. The Council also considered a draft resolution on biodiversity in the context of the preparatory process of UNCED. The Council then made a number of recommendations to the Commission and the Committee on Agriculture, and considered that the Commission might be the most appropriate Plant Genetic Resources forum for further discussion.

4. The present document has two objectives:

(i) to meet the request of the Third Session of the Commission to address policy issues on biological diversity and plant genetic resources at its Fourth Session; and

(ii) to follow up on the relevant recommendations of the Ninety-eighth Session of the Council that are quoted in paragraphs 15, 19 and 24 of this paper.

II. PLANT GENETIC RESOURCES AND BIOLOGICAL DIVERSITY: THE ROLE AND WORK OF FAO

5. "Biodiversity" means the variety of the world's organisms, and the assemblages they form. The term, "genetic diversity", covers all of

biological diversity that is inheritable, (including inter-specific and intra-specific variation, and a large part of ecosystem diversity). The term "genetic resources" is more specifically used to refer to that part of genetic diversity that is of actual or potential value. FAO concentrates its technical competence on those genetic resources which are currently known to be of use to humanity, especially for food and agriculture, including crops, forestry, livestock and fish. FAO's contribution to international activities in the field of biological diversity is crucial to the development process.

6. Biological diversity is of direct concern to FAO because it is the basis of agriculture, forestry and fisheries. As limitations to the transfer of genetic material between organisms are overcome by new biotechnologies, the range of biological diversity of direct value in food and agriculture is increasing. Although all genetic diversity is of potential value in the long term, FAO emphasizes those aspects of biological diversity that are of immediate importance in ensuring equitable and sustainable development, as the Ninety-eighth Session of the Council noted.

7. The FAO Global System on Plant Genetic Resources (see document CPGR/91/5) includes three institutional components, the Commission, the International Undertaking, and the International Fund for Plant Genetic Resources. It focuses on crop, pasture and forestry plants, and their wild and weedy relatives. It addresses both in situ and ex situ conservation, and the utilization of plant genetic resources, at all levels, from the farm community, the nation, the region, to the world. The Commission is in an excellent position to determine threats to plant resources, assign conservation priorities on the basis of the value of the plants involved, and recommend and help develop a wide range of action for the conservation and sustainable utilization of plant genetic resources.

8. FAO also has a wide range of other activities directly related to biological diversity. FAO has played a leading role in the preparation and implementation of the Tropical Forestry Action Plan, one priority of which is the conservation of tropical forest ecosystems. The Sixth Session of the FAO Panel of Experts on Forest Gene Resources recommended that the highest priority be put on the conservation of forest resources, including wild relatives of crops. FAO is also involved in wildlife and protected area programmes.

9. Since 1985, FAO has worked with UNEP to develop activities for the improved management and conservation of animal genetic resources at the national and regional levels. The Animal Genetic Resources Data Bank, recently established with FAO's cooperation, could become a global information centre for the improved conservation and use of indigenous breeds in the developing regions. Within fisheries, research concentrates on the demographics of dominant species, and the establishment of reserves to cover diverse ecosystems.

10. Since 1988, all departments concerned with genetic resources within FAO have participated in a Working Group on Biological Diversity which helps coordinate FAO policy and programmes in this field, and monitors developments of interest. The FAO special action programmes for animal and plant genetic resources, which are being prepared, will, as far as possible, be managed within the framework of an overall programme for the conservation and utilization of biological diversity.

III. THE WORK OF OTHER INTERNATIONAL ORGANIZATIONS

11.. In the years since the UN Conference on the Human Environment in Stockholm, in 1972, the world community has shown a growing interest in the conservation of biological diversity. There are now several conventions on various aspects of biodiversity (including CITES, the Ramsar Convention, and the World Cultural and National Heritage Convention) and many institutions which concern themselves with biodiversity, including UNEP, UNCED, Unesco, UNIDO and WHO, as well as a large number of non-governmental institutions.

12. A number of new international initiatives, currently being elaborated by the UN system, aim at the conservation and sustainable utilization of biological diversity. These include preparations for a legal framework at UNEP; discussions on biodiversity and the environmentally safe use of biotechnologies at UNCED; and provision of funds for the conservation of biodiversity as part of the Global Environmental Facility, which is administered by the World Bank, in conjunction with UNDP and UNEP. FAO has participated and given its full support to the preparatory process for UNCED.

13. Other institutions, particularly NGOs, put the priority on endangered species of flora and fauna, and endangered natural ecosystems, within their activities for the conservation of nature and the protection of the environment. Recent developments that follow such a strategy include the work of several NGOs - notably IUCN, WRI and WWF - in cooperation with UNEP, to develop a "Biodiversity Conservation Strategy" to be followed by a "Decade Action Plan", which would concentrate on these aspects of the conservation of biodiversity.

14. FAO maintains a dialogue with these and other NGOs involved in the conservation of biodiversity and, in particular, with those that are members of the Ecosystem Conservation Group (ECG), and of the UNCED Working Party on Biodiversity.

IV. AREAS WHERE GUIDANCE OF THE COMMISSION IS REQUIRED

IV.1 Involvement of FAO and the Commission in the negotiations for a legal framework on biodiversity

15. The Ninety-eighth session of the Council "requested the CPGR, as the primary intergovernmental body mandated to address a large and

important area of biodiversity of agriculture and forestry, to ensure that its long-standing experience was fully utilized and its views taken fully into account in the formulation and negotiation of a global legal instrument for the conservation and sustainable use of biodiversity". In this context the Council "encouraged the FAO Secretariat and CPGR, within the framework of the formulation and negotiation of a legal instrument on biodiversity, to (a) stress the socio-economic importance of biodiversity, (b) emphasize the interdependence of the conservation and sustainable development of biodiversity in agriculture, forestry and fisheries, in order to ensure that both aspects were given equal consideration and weight, and (c) to ensure further that the important work accomplished, agreements reached, and institutional structures established in this field, by FAO were not duplicated or ignored.

16. In the preparation of this legal framework, UNEP has convened an intergovernmental working group of technical experts, which has met three times, and an intergovernmental working group of legal and technical experts, which has met once. Following the proceedings of the latter working group, a further UNEP intergovernmental group started negotiations in February 1991. FAO participated as an observer in all sessions of these working groups, and drafted articles for possible inclusion in the legal instrument. FAO expects to be present in its observer capacity at all the envisaged negotiating sessions.

17. The policy-formulation and negotiating experience of FAO and -the Commission in developing the various elements of the Global System on Plant Genetic Resources might be of great value in the process of preparing the proposed legal instrument on biological diversity. These elements include the formulation and negotiation. of the International Undertaking and the Resolution on Farmers' Rights, and the drafting of the Code of Conduct for the International Collecting and Transfer of Germplasm (see CPGR/91/10), and of the proposed Code of Conduct on Biotechnology as it affects plant genetic resources (see CPGR/91/12).

18. The Commission, in considering its role and that of FAO vis-à-vis UNEP in the formulation and negotiation of this Convention, should take account of the general memorandum of understanding that already exists between FAO and UNEP.

IV.2 Nature of the International Undertaking on Plant Genetic Resources

19. The Ninety-eighth Session of the Council discussed the question of "transforming, with appropriate revisions, the International Undertaking into a legally binding instrument, possibly as a protocol of the proposed legal instrument on biodiversity", and "recommended that this matter should be brought first to the attention of the Commission on Plant Genetic Resources and its Working Group."

20. The International Undertaking is based on the principle of unrestricted exchange of plant genetic resources. It has been qualified by two FAO Conference resolutions, one an Agreed interpretation, and the other on Farmers' Rights: both now form integral parts of the Undertaking. These resolutions state that Plant Breeders' Rights are compatible with the International Undertaking, recognize Farmers' Rights, and identify the International Fund for Plant Genetic Resources as a possible way of giving practical expression to the concept of Farmers' Rights. The principle of unrestricted exchange will be further qualified by the proposed Code of Conduct for the International Collecting and Transfer of Germplasm, which suggests a set of regulations for these matters.

21. The International Undertaking is at present a non-binding agreement. If it were to be developed into a binding agreement, it might (i) take the form of an independent convention; or (ii) be revised to become a protocol to the legal instrument on biodiversity. In the latter case, modification might be needed to ensure consistency with the legal instrument on biodiversity.

22. The Secretariat has sought legal advice on the issue of the current Undertaking becoming legally binding in either of the above manners, and it is reasonable to conclude that there would be no unsurmountable legal or technical constraints to changes in the International Undertaking, provided that member governments support the changes proposed.

23. The Commission may therefore wish to consider (i) whether or not it would be opportune to convert the International Undertaking into a binding agreement, and (ii) if so, by what process.

IV.3 Possible expansion of the Commission's mandate

24. The Ninety-eighth Session of the Council "discussed the widening of the mandate of the Commission on Plant Genetic Resources to become a commission on biological diversity for food and agriculture, which would include plant and animal genetic resources, in order to allow the Organization to deal with problems related to biological diversity and its conservation and use within a single conceptual approach. The Council recognized in this context that (i) there were technical differences between plant and animal genetic resources, and (ii) there were several legal, institutional and policy aspects common to the conservation and utilization of plant and animal genetic resources, especially as regarded in situ conservation and management. The Council realized the merits of having different administrative and technical structures for plant and animal genetic resources. However, there were differences of opinion on whether there should be a single intergovernmental commission. Some members noted that the widening of

the Commission's mandate might lead to closer collaboration with the United Nations Environment Programme (UNEP), but could on the other hand dilute the present distinct focus and therefore weaken the relationship with IBPGR. The Council agreed that the subject of widening the scope of CPGR needed to be further discussed by both CPGR and COAG, taking into consideration technical, legal, institutional and financial implications."

25. The Secretariat has accordingly considered a number of factors arguing for and against an expansion of the Commission to incorporate wider aspects of biological diversity. A general consideration of the advantages and disadvantages is given below.

IV.3.1 Advantages of widening the mandate

26. There could be a number of advantages to widening the mandate. FAO's strength has lain in its capacity to address genetic resources as they affect food and agriculture at the level of rural communities. The Commission's work, on in situ conservation and management, in particular, could benefit from a broader approach at this level. The widening of the mandate might also assist in promoting diversification and integrated approaches to sustainable ecosystem utilization.

27. The plant and animal kingdoms are closely interrelated at the ecosystem level, where it is necessary to consider plants and animals together. Biotechnology, which cuts across the whole of biodiversity, is also breaking down many of the barriers that separate species, orders and kingdoms, by allowing genes to be transferred widely.

28. There might also be institutional advantages, and greater cost efficiency, in having one body cover all biodiversity. A single body might facilitate coordination with governments, which are increasingly dealing with policy issues regarding biological diversity in an integrated manner. A wider mandate might also allow the Commission to cooperate more fully with such organizations as the UNEP, Unesco, UNIDO, IUCN and WRI.

IV.3.2 Disadvantages to widening the mandate:

29. There are also possible disadvantages to widening the mandate. The Commission, at present, is based on precise and extensive knowledge and experience regarding the genetic resources of useful plants. The Commission might be diverted from its present focus on economic plant genetic resources, and its work programme on both technical and policy issues might be slowed down, or interrupted. Even if long-term efficiencies were achieved, in the short term the pressures of integration might dilute or overwhelm programme activity, at a time when the world community sorely needs FAO's expertise on plant genetic resources.

30. Legal regimes governing intellectual property rights for the different sectors of biodiversity are, in general, at different stage.; of development. For example, the question of Breeders' Rights - while very important for plants, in some countries - hardly arises in the case of animals. Moreover, there are different patterns of genetic diversification and interdependence for plants and animals: most genetic diversity for the major crops is in developing countries, while the diversity for the main domesticated animal species lies in the developed countries.

31. Maintaining the current structure would also facilitate cooperation with IBPGR, and other crop-oriented International Agricultural Research Centres. On the technical side, it must be noted that the management of plant and animal genetic resources differs considerably in details, which might make the implementation of an extended mandate rather cumbersome. Nonetheless, the technical difficulty of handling, within a single Commission, various aspects of biodiversity, needing different types of expertise, might be resolved by establishing appropriate panels of experts.

IV.3.3 Possible scenarios

32. Four possibilities, ranging from maintaining the status quo to expansion to cover various other aspects of biodiversity are presented below. These scenarios are not necessarily exclusive, because there may be a gradual transition between them over time. However, they provide a broad range of possibilities for the consideration of the Commission.

33. The simplest scenario would be to maintain the Commission and its current mandate unchanged. The main argument that the Commission may wish to consider is that hasty expansion and restructuring might damage a programme that appears to be proceeding well, that has resolved many technical and policy considerations in a manner which may be uniquely appropriate to plants, and that appears to be proceeding effectively in the implementation of the International Undertaking, through the Global System for Plant Genetic Resources.

34. Next in complexity would be to include livestock, and other economically important land-based animals within the Commission's mandate, along with plant genetic resources. Separate technical expert panels for plants and animals would be needed to advise on work in specialized fields, while the Commission might set priorities and give policy guidance to the overall programme.

35. A further possibility might be to expand the Commission's mandate to include all genetic resources of interest for food and agriculture, that is, those described in the preceding paragraph, with the addition of useful aquatic genetic resources, including fish and other material, such as seaweed. The advantage of this scenario is that it would assist

the Commission to focus upon policy development across the whole range of FAO's activities. In this and the preceding scenario, a possible structure might be an umbrella Commission, with the specialized experts panels for technical programme guidance in the various sectors.

36. The most complete scenario would be an expansion of the mandate to cover all biodiversity, on the rationale that it is not easy to distinguish between those parts of biodiversity which are of immediate usefulness and those which are of potential usefulness. In practice, such a wide expansion may be difficult. The absence of a clear economic and social focus might make the establishment of reasonable priorities and targets problematic. It might also blur the lines off demarcation between FAO and organizations such as IUCN and WWF that have historically concentrated on endangered undomesticated species, and natural resources.

37. The issues involved in the possible widening of the Commission turn mainly on policy rather than technical concerns. Whatever the final decision may be, it is important to keep a clear focus, be it through one or more Commissions, on linking conservation to utilization and on putting genetic resources to work for the good of the world.

38. The Commission may proceed immediately to a recommendation regarding the widening of its scope; it may, however, wish to await further discussions and developments in this field, before making its recommendation. In either case, the Commission might request that the Secretariat make a further study of the issues and draw up proposals for the possible widening of the mandate. The study might include such matters as institutional arrangements for plants, livestock and fisheries, the name of the expanded Commission, its functions, the possibility of modifying the International Undertaking accordingly, as well as possible timetables for implementation.

V. MATTERS FOR CONSIDERATION BY THE COMMISSION

39. The guidance of the Commission is requested on the following:

(1) the role of FAO and of the Commission in the negotiations for a legal framework on biological diversity (paras. 15-18);
(2) the possible conversion of the International Undertaking into a binding agreement, or a protocol of the planned legal framework on biological diversity (paras. 19-23);
(3) the desirability of, and possible modalities for widening the mandate of the Commission to cover further aspects of biodiversity (paras. 24-38).