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THE GLOBAL SYSTEM FOR THE CONSERVATION AND UTILIZATION OF PLANT GENETIC RESOURCES

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THE GLOBAL SYSTEM FOR THE CONSERVATION AND UTILIZATION OF PLANT GENETIC RESOURCES

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

1. In recent years, due largely to the work of the Commission on Plant Genetic Resources, a broad intergovernmental consensus on plant genetic resources has emerged. The task before the Fourth Session of the Commission is to reinforce structural and financial arrangements so that the Global System on Plant Genetic Resources may come into full operation. This paper described the evolution of the Global System, its component parts,, and the state of their development. It first covers the institutional elements that have been in place for some time. It then describes progress made in developing the other components of the Global System, as recommended by the Third Session of the Commission: many of these elements are dealt with in separate documents submitted to the Commission. This paper attempts to place the various documents within a common framework, and show how the Global System forms a coherent whole. Figure 1 shows the function of the Global System, and figure 2 its structure.

2. The paper pays particular attention to those recommendations of the Third Session of the Commission that have not yet been realized, and requests the Commission for more specific guidance essential for their implementation. These include the preparation of the first report on the "State of the World's Plant Genetic Resources", and the proposed Global Plan of Action for Plant Genetic Resources, as well as the mechanisms needed for their preparation and implementation. The Commissions' advice is also sought on the proposal of the Working Group for the convening of a Fourth International Technical Conference on Plant Genetic Resources.

1.2 General Background

3. World interest in plant genetic resources has grown rapidly in recent years, because they represent both the raw material used in the production of new cultivars - either through traditional plant breeding or the use of biotechnology - and a reservoir of genetic adaptability that acts as a buffer against harmful environmental change. It has been recognized that the erosion of these resources severely threatens world food security. The urgent need to conserve and utilize plant genetic resources as a safeguard against an unpredictable future is clear. The advent of powerful new biotechnologies, able to use a wider range of plant genetic resources, has also stimulated great interest in both public and private research institutions. The prospect of dwindling plant genetic diversity, coupled with dramatically increased demands on these resources, has propelled them into the centre of global discussions on the environment and sustainable development. The expanding interest in biodiversity in general is dealt with in document CPGR/91/9.

4. In the realization of its constitutional mandate, FAO initiated international discussions on plant genetic resources in 1947. In 1957, it introduced the first specialized international newsletter on crop genetic resources. A parallel publication covering forest genetic resources was launched in 1972. Following a meeting convened by FAO in 1961, a Panel of Experts on Crop Germplasm Exploration and Introduction was formed in 1965. A similar Panel on Forest Gene Resources was established in 1968. FAO's Crop Ecology and Genetic Resources Unit began work at almost the same time.

5. In 1967, 1973 and 1981, FAO hosted a series of International Technical Conferences on Plant Genetic Resources. It co-sponsored an Expert Consultation on Forest Genetic Resources in 1980, with UNEP. From 1974, FAO actively supported the formation and development of the International Board for Plant Genetic Resources (IBPGR). (See document CPGR/91/11.)

6. During this period, and in many cases because of the catalytic effect of FAO's initiatives, many national, regional, international and private organizations either set up or strengthened their programmes to safeguard and utilize plant genetic resources, particularly ex situ.

7. It rapidly became obvious that questions regarding the conservation and use of plant genetic diversity were not only technical. Three major factors had to be taken into consideration: (i) the value of genetic diversity in providing the basic material for agricultural development, food security and environmental stability; (ii) the fact that plant genetic diversity of agricultural interest is largely concentrated in the tropical and subtropical developing regions; and (iii) the fact that no country or region is self-sufficient in plant genetic resources. Recent studies indicate that the average level of regional dependence is more than 50 percent for the most important crops.

8. The last few years have seen a growing realization of the greatly increased value of plant germplasm, due to the fact that rapid genetic erosion has shown that it is not an unlimited or replenishable resource, and that the new biotechnologies have greatly expanded the frontiers of its utilization. This has already resulted in a number of formal or practical restrictions on the availability of germplasm. Since the relative value of plant genetic resources will continue to grow rapidly in the near future, it has become clear that plant germplasm needs to be protected for the use of future generations, and its availability for scientific purposes ensured through equitable agreements at an international level.

1.3 Development of the Global System

9. As germplasm of major crops was collected and stored in genebanks, questions of the safety of the material, the ownership of collections, the development of national laws restricting the availability of germplasm, and intellectual property rights over new varieties, became the subject of continuing debate. Such discussions were already significant during the Twentieth Session of the FAO Conference, in 1979. As the number of activities related to plant genetic resources increased, the need was recognized to establish ways of coordinating intergovernmental action at a global level, in order to avoid duplication, and foster complementarity among the national, regional and international organizations involved. It

was also recognized that, to be successful, any system to be developed should benefit all participants, and fully take into account the rights of the donors of germplasm, funds and technology, and the obligations of the recipients.

10. As a result of these discussions, and the 1972 UN Conference on Human Environment's request to FAO to coordinate activities at a world level, and at the request of its Member Countries, FAO has, since 1983, developed a Global System on Plant Genetic Resources. The basic components of the system are (i) a flexible framework, the International Undertaking; (ii) a unique intergovernmental forum, the Commission; and (iii) the beginning of a financial mechanism, the International Fund for Plant Genetic Resources.

11. A large number of obstacles have had to be overcome, including the reluctance of a number of countries to accept international commitments in these matters. In the debates during the first two Sessions of the Commission, in March 1985 and 1987, which were attended both by member countries and non-member countries as observers, the major reservations raised regarded: (i) the compatibility of the Undertaking with national laws related to Plant Breeders' Rights; (ii) the need to compensate the donors of germplasm; and (iii) the possible overlap between the Commission and other organizations dealing with plant genetic resources.

12. The Third Session of the Commission, in April 1989, greatly contributed to resolving such questions. It achieved an Agreed Interpretation of the International Undertaking that recognizes the rights of both donors of technology and donors of germplasm to be compensated of their contribution, through the simulataneous and parallel recognition of Plant Breeders' and Farmers' Rights. This was endorsed by the Twenty-fifth Session of the FAO Conference, in resolutions which are now part of the International Undertaking. The Third Session of the Commission also clarified the unique intergovernmental role of the Commission in monitoring the implementation of the Undertaking, and in ensuring the comprehensiveness and efficiency of the Global System, in coordination with the various national, regional and international organizations dealing with plant genetic resources.

13. In its Third Session, the Commission, assisted by its Working Group, also discussed and reached consensus on the development of a number of other aspects of the Global System. The recommendations it made in this regard, according to the Ninety-fifth Session of the FAO Council, are likely to influence for many years the policies, programmes and activities of FAO and other international, regional and national organizations.

2. THE GLOBAL SYSTEM FOR THE CONSERVATION AND UTILIZATION OF PLANT GENETIC RESOURCES

14. The Global System is based on the following assumptions:

- that nations have sovereign rights over their plant genetic resources in their territories;

- that plant genetic resources should be available without restriction, on agreed terms, for plant breeding and other scientific purposes;

- that plant genetic resources, and the information, technologies and funds necessary to conserve and utilize them, are complementary and of equal importance;

- that all nations are donors and users of plant genetic resources, information, technologies and funds;

- that the best way to guarantee the maintenance of plant genetic resources is to ensure their effective and beneficial utilization, in all countries;

- that the farmers of the world have, over the millennia, domesticated, conserved, nurtured, improved and made available plant genetic resources, and continue to do so today;

- that advanced technologies, and local rural technologies, are both important and complementary in the conservation and utilization of plant genetic resources;

- that in situ and ex situ conservation are important and complementary strategies or maintaining genetic diversity.

15. The objectives of the System are to ensure the safe conservation, and promote the unrestricted availability and sustainable utilization of plant genetic resources for present and future generations, by providing a flexible framework for sharing the benefits and burdens. The System covers the conservation (ex situ and in situ) and utilization of plant genetic resources - genes, genotypes and genepools - at molecular, population, species and ecosystem level.

16. To date, 127 countries are formally part of the Global System, by becoming members of the Commission, or adhering to the International Undertaking, or taking both steps (see Appendix 1).

2.1 Institutional Components of the Global System

2.1.1 The Commission on Plant Genetic Resources

17. The Commission on Plant Genetic Resources was established following Resolution 9/83 of the Twenty-second Session of the FAO Conference. It is a unique intergovernmental global forum, where countries that are donors or users of germplasm, funds and technology, can discuss, on an equal footing, matters related to plant genetic resources, and monitor the implementation of the principles contained in the International Undertaking. Through its debates, the Commission aims to reach consensus in areas of global interest, and compromise in areas where there is disagreement. Relevant technical assistance agencies, intergovernmental organizations, development banks, and non-governmental organizations and private foundations, also attend these meetings. The Commission has established an Intergovernmental Working Group, with balanced regional representation, that meets between Sessions of the Commission, and provides guidance to the Secretariat for the implementation of the Commission's recommendations. As of February, 1991, 110 countries had joined the Commission; 14 of these have joined since the last Session.

2.1.2 The International Undertaking on Plant Genetic Resources

18. The International Undertaking was established by Resolution 8/83 of the Twenty-second Session of the FAO Conference. It is a non-binding agreement, the objective of which is to ensure that plant genetic resources, especially species of present or future economic and social importance, are explored, collected, conserved, evaluated, utilized and made available, without restriction, for plant breeding and other scientific purposes. It is based on the principle that plant genetic resources, as part of the heritage of mankind, should be conserved for future generations. This principle, which is subject to the over-riding sovereign rights of nations over their national genetic resources, has been qualified by two FAO Conference Resolutions (Resolution 4/89, the Agreed Interpretation of the International Undertaking; and Resolution 5/89, on Farmers' Rights) that are now annexes to the International Undertaking. The Resolution on Farmers' Rights recognizes the rights of the donors of germplasm to be compensated for their contribution. The exchange of plant genetic resources is further regulated by the proposed Code of Conduct for International Collecting and Transfer of Germplasm. (See document CPGR/91/10.) As of February, 1991, 101 countries had adhered to the International Undertaking; this includes 12 countries that joined since the last Session of the Commission in 1989. A number of countries that originally joined with reservations have, since the last Session, removed their reservations.

2.1.3 The International Fund for Plant Genetic Resources

19. The International Fund for Plant Genetic Resources was established by FAO in 1988 pursuant to Article 6 of the Undertaking. It provides a channel for countries, inter-governmental and non-governmental organizations, private industry, and individuals to support the conservation, and promote the use of plant genetic resources on a sustainable basis, at world level. Donors to the Fund may maintain their identity by ear-marking their contributions for individual projects. The nature and scope of the Fund will evolve with the guidance of the Commission. It is expected to become a critical element in ensuring the equability of the Global System, and the implementation of Farmers' Rights. The expenditure of funds, on a project basis, might then be through national and regional institutions, or, where appropriate, through FAO Programmes or those of other institutions with technical competence in this field.

2.2 Other Components of the Global System Under Development

20. A number of other components of the Global System are being developed on the basis of decisions the Commission has taken in implementing the International Undertaking. These are described below. They include various international agreements, arrangements and mechanisms to regulate and facilitate the exchange of germplasm, information and technology. They are at varying stages of development. It must be noted that the financial constraints under which FAO has laboured in recent years have limited its ability to go forward with the range of activities necessary to put the Global System into full operation.

2.2.1 International Agreements and Arrangements

21. The Commission has considered one of its most important tasks to be the development of international agreement and arrangements to facilitate the conservation and use of plants genetic resources. Apart from the Resolutions on the Agreed Interpretation of the International Undertaking and Farmers' Rights, two codes of conduct are presently being developed.

2.2.1.1 The International Code of Conduct for Plant Germplasm Collecting and Transfer

22. The Third Session of the Commission requested the preparation of this Code. The Code, which is contained in document CPGR/91/10, is now ready for the consideration and, if so decided, the endorsement of the Commission. The Code will form an important tool in regulating the collection and transfer of plant genetic resources, with the aim of facilitating access to these resources, and promoting their utilization and development. The Code includes provisions for reporting, to enable the Commission to monitor its implementation.

2.2.1.2 Towards a Code of Conduct for Biotechnology, as it affects the conservation and use of plant genetic resources

23. The Third Session of the Commission requested FAO to prepare such a Code for its consideration. A questionnaire was circulated to a large number of experts working in the field, to seek their advice and recommendations on the objectives and contents of the code. Document CPGR/91/12 presents possible elements for the Code, based on the results of this survey, so that the Commission may give its guidance for its finalization.

2.2.2 Facilitating the exchange of germplasm

2.2.2.1 The network of ex situ base collections

24. To ensure the safe conservation of plant germplasm, and to facilitate its exchange and sustainable use, the Commission is monitoring the establishment of a network of ex situ base collections in genebanks under the auspices or jurisdiction of FM, in accordance with Article 7a of the International Undertaking. A progress report is presented as document CPGR/91/13. As of February, 1991, 25 countries and institutions had formally offered to bring their collections within the network. In addition, four countries have offered space in their genebanks, free of charge, for the conservation of truly international collections of germplasm. There is also a proposal for the establishment of an International Seed Bank, to be held in permafrost at Svalbard, Norway. In order to achieve maximum complementarity between the FAO network of base collections and the IBPGR register of base collections, efforts are underway to merge them to the extent possible. (See document CPGR/91/11.)

2.2.2.2 The network of in situ conservation areas

25. The Commission has stressed the importance of creating a network of in situ conservation areas, as a necessary complement to ex situ conservation. The Forestry Department of FAO has played a leading role. Some pilot areas have already been established, in collaboration with national institutions in developing countries, and various documents and handbooks on methodology have been published. It is now important to develop an overall strategy for in situ conservation. A progress report is presented in document CPGR/91/6.

2.2.3 Facilitating the exchange of information and technology: the Global Information and Early Warning System

26. The Global Information and Early Warning System on Plant Genetic Resources (PGR/GIS) was called for by the Third Session of the Commission, in fulfillment of Article 7 of the International Undertaking. Its purpose is to collect and disseminate data and facilitate the exchange of information on plant genetic resources and related technologies. A main component will be a database of databases. It is planned to develop it in collaboration with IBPGR, and in consultation with other organizations holding relevant databases. The PGR/GIS will also be a major tool in stimulating collaborative work among various institutions at national, regional and global levels. The Commission recommended that the PGR/GIS include an Early Warning System (PGR/EWS) to draw rapid attention to hazards threatening the operation of genebanks holding base collections, and to the danger of the extinction of plant species and the loss of genetic diversity throughout the world. Document CPGR/91/7 elaborates upon progress in establishing the overall system.

2.2.4 Facilitating the Commission's monitoring function: "The State of the World's Plant Genetic Resources"

27. The Third Session of the Commission recommended that the Secretariat periodically prepare a report on the "State of the World's Plant Genetic Resources" (PGR/SW). Article 11 of the International Undertaking makes allowance for governments to provide regular reports on their programmes and plans related to plant genetic resources. The Secretariat is now preparing questionnaires, to systematically pursue the collection of such reports. The information from these questionnaires, and information contained in the PGR/GIS, will form the basis on which the PGR/SW will be prepared. It will describe the state of the art, and cover all aspects of the conservation and utilization of plant genetic resources, as well as activities and programmes being carried out by regional, international and non-governmental organizations, with the aim of identifying gaps, constraints, and emergency situations. This will allow the Commission to recommend priorities, and ways of harmonizing the overall effort.

28. Plans to develop the PGR/SW, and its possible contents, are presented in detail in document CPGR/91/7, where the guidance of the Commission is sought. Arrangements for covering the costs are needed, perhaps through the International Fund for Plant Genetic Resources.

29. The **PGR/SW** would be an authoritative document that would help guide international discussions regarding plant genetic resources. It would be used by governments, national and international research and development institutions, as well as donors, whether multilateral, bilateral or non-governmental. It would be of great value in directing the available financial resources towards the priorities for action. The Working Group, in its Fifth Session, felt that the preparation of the **PGR/SW** would be particularly important in defining the priorities that should guide the preparation of the proposed Plan of Action. The Commission may wish to consider financial arrangements for work, including the possibility of covering the costs from the International Fund.

2.2.5 Facilitation the Commission's Coordinating Function: The Global Plan of Action for Plant Genetic Resources

30. The Third Session of the Commission "considered that implementation of the International Undertaking, and the many activities this would involve, was a task which would have to draw on the resources of all the world's countries, and also involve, by means of appropriate coordination, intergovernmental, international, regional and non-governmental organizations working in this field", and therefore recommended that its Working Group develop a proposal to establish a committee "to foster dialogue between the organizations involved, harmonize responsibilities, and promote cooperation".

31. The Third Session of the Commission also discussed the need for a coordinated Action Plan and requested the Working Group to study the possible form that such an action plan might take. The Fifth Session of the Working Group considered that it should be a Global Plan of Action that included a general budget, as well as priority programmes and projects, to be financed through the International Fund for Plant Genetic Resources, and to be implemented by appropriate agencies and organizations, under the supervision of the Commission.

32. The Plan of Action would be a global framework for local, national and regional activities to be implemented by national institutions, supported, when appropriate, by FAO and other intergovernmental, as well as non-governmental institutions. It might also include global coordination services, such as conservation networks and information services, to facilitate the work of national and regional programmes. Within the context of the Plan of Action, the International Fund might be given special responsibility for priority areas identified by the Commission, filling gaps in the international effort, and coping with emergency situations. It is very important that the major parties that will be involved in the implementation of the Plan be involved in its preparation, to ensure coordination, and to avoid the danger of the "duplication of activities and a waste of resources" that the Third Session of the Commission noted.

33. During the process of preparing the Global Plan of Action, various agencies and institutions that will be involved in financing and implementing it, will be able to:

(i) promote the most adequate use of the available funds, whether provided bilaterally or multilaterally;

(ii) ensure coordination of the activities and programmes of the

Plan of Action within a clear global framework, thereby avoiding duplication of effort;

(iii) allow prospective implementing institutions to discuss the division of responsibilities in the Plan of Action; and

(iv) identify priorities, emergency situations, and gaps in the work.

34. The effective implementation of the Plan of Action for Plant Genetic Resources, on a programme and project basis, would do much to enhance international cooperation among the donors of germplasm, funds and technology, and would offer a unique mechanism for spreading the benefits derived from the utilization of plant genetic resources, and for sharing the burden of their conservation.

35. Through the Commission, the donors of germplasm, funds and technology will together oversee and monitor the whole process without prejudice to the full autonomy and responsibilities of the individual institutions and programmes involved.

36. The Commission may wish to discuss arrangements for the preparation, monitoring and implementation of the Plan of Action, including, in particular, financial arrangements. It is suggested that funds for the preparation of the plan be made available through the International Fund.

2.2.6 Financing the Global System: Implementation of the Resolution on Farmers' Rights

37. Resolutions 4/89 (the Agreed Interpretation of the International Undertaking) and 5/89 (Farmers' Rights), 1/ unanimously adopted by the Twenty-fifth session of the FAO Conference, and now annexed to the International Undertaking, stated that Farmers' Rights are "vested in the International Community, as trustee for present and future generations of farmers", and recognized that the implementation of Farmers' Rights "could be achieved through appropriate means monitored by the Commission on Plant Genetic Resources including, in particular, the International Fund for Plant Genetic Resources". The concept of Farmers' Rights had since been discussed and endorsed in a number of important international fora.

1/ During the FAO Conference debate on Plant Breeders' and Farmers' Rights that preceded the adoption of resolutions 4/89 and 5/89, some points that needed clarification or further negotiation were raised by a number of delegates, and it was requested that a document on the matter be prepared., The document, which is available as CPGR/91/Inf.3, was discussed by the Fifth Session of the Working Group, and its recommendations are given in the Report of its Chairman (CPGR/91/4), which will be discussed under item 3 of the Provisional Agenda. Further discussion of the concept of Farmers' Rights occurs in other documents before the Commission, including CPGR/91/12.

38. The Fifth Session of the Working Group, in December 1990, discussed mechanisms for implementing Farmers' Rights and "agreed that the best way to implement farmers' rights would be an International Fund, such as the Fund currently existing at FAO, which supports programmes for the conservation and utilization of plant genetic resources, especially but not exclusively in the Third World". The Working Group also "agreed that, through the FAO Commission on Plant Genetic Resources, the donors of genetic resources, funds and technology have the responsibility to determine and supervise the policies, programmes and priorities of the Fund, with the advice of the appropriate technical bodies".

39. It further recognized that "the conservation and sustainable utilization of plant genetic resources is a permanent need, and therefore considered that the International Fund should also be sustainable." For this reason, the Working Group "recognized the need to have, as soon as possible, the document on the State of the World's Plant Genetic Resources, and a Global Plan of Action on Plant Genetic Resources, both of which had been requested by the Commission", and considered that "the Plan of Action should include a general budget, as well as priority programmes and projects, to be financed, on a step-by-step basis, through the International Fund for Plant Genetic Resources, and to be implemented by the appropriate agencies and organizations under the supervision of the Commission". The procedures and role of the International Fund may need to be defined accordingly.

40. The practical expression of Farmers' Rights, through the International Fund, and a scientifically well-founded Plan of Action, will make it possible to consolidate the Global System, and achieve its objectives, that is, the availability, conservation and utilization of plant germplasm in a sustainable and equitable manner. This might do much to reverse the trend towards constraints in the exchange of plant genetic resources that has been growing in past years, and to foster a new spirit of cooperation.

41. The International Fund, by supporting conservation, will protect humanity's invaluable heritage of plant genetic resources for future generations, especially for farmers. It will also promote the utilization of these resources by building up local, national and regional capabilities to the benefit of farmers, especially in developing countries. Special emphasis will need to be given to crops of local importance. By compensating the donors of plant germplasm, in particular through the projects and programmes in the Action Plan, it will be an invaluable tool to ensure continued access to this germplasm for scientific purposes.

42. The Working Group, in discussing the financial implications of preparing the **PGR/SW** and the Plan of Action, realized that, this could not be carried out under FAO's Regular Programme because of the current financial constraints. Nor could the extra-budgetary funds necessary for this work be obtained before the **PGR/SW** and the Plan of Action had themselves been prepared, to specify the real financial needs, and the projects and programmes to be financed. In order to break this stalemate, the Working Group made the proposal, described below, for a new International Technical Conference on Plant Genetic Resources.

2.2.7 The Fourth International Technical Conference on Plant Genetic Resources

43. The Working Group, at its Fifth Session, in December 1990, recommended that FAO convene a Fourth International Technical Conference on Plant Genetic Resources, to follow on the three previous conferences convened by FAO in 1967, 1973 and 1981. The working Group considered that "the proposed Conference should be funded by extra-budgetary contributions, preferably through the International Fund for Plant Genetic Resources," and that, "within the framework of this Technical Conference, and through the preparatory technical meetings, the draft of the first 'State of the World's Plant Genetic Resources', and the draft Plan of Action for Plant Genetic Resources should be prepared." It also "suggested that the Technical Conference be followed by a meeting to define the terms and conditions of financing and the financial commitments needed for the implementation of the Action Plan".

44. The Commission may wish to give its guidance on the convening of such a Conference, including the possible date. The Director-General will, after studying the Commission's proposal make a recommendation to the FAO Council and Conference for their consideration and approval. If the recommendation is endorsed by the Conference, the Director-General will initiate consultation with potential donors for securing the necessary extra-budgetary funds required for the convening of the Fourth International Technical Conference on Plant Genetic Resources.

45. Based on the experience of the FAO/WHO International Conference on Nutrition, to be held in December 1992 in Rome, the Director-General wishes to inform the Commission that the estimated cost of the Fourth International Technical Conference on Plant Genetic Resources could be of the order of US$ 3 million.

46. Within the context of the preparation of the first "State of the World's Plant Genetic Resources" and the first "Global Plan of Action" for Plant Genetic Resources, the International Technical Conference will:

i) review the state of the art, or current knowledge and practice for the conservation and utilization of plant genetic resources; particular attention could be paid to the new biotechnologies and the use of information technology to manage relevant data;

ii) assess, by region and by crop, the present state of genetic diversity and degree of genetic erosion, and the current coverage of collecting activities, in situ and ex situ conservation, germplasm characterization, evaluation and enhancement, and breeding and seed production programmes;

iii) review national and regional technical capabilities for the conservation and utilization of plant genetic resources, in terms both of human resources and institutional structures;

iv) consider the appropriateness of various technologies for the needs of developing countries, and the current patterns of technology transfer;

v) identify major constraints to plant genetic resources conservation, utilization and exchange, and

vi) propose measures which will further enhance the effectiveness of the Global system of Plant Genetic Resources.

3. **OTHER MATTERS**

3.1 Regional Cooperation

47. Collaborative efforts for regional cooperation on plant genetic resources at intergovernmental level, are underway or are developing in several regions. The intergovernmental Action Committee on Latin American Cooperation and Consultation on Plant Genetic Resources (CARFIT) was established, in 1987, with the assistance of FAO. The European Cooperative Programme on Plant Genetic Resources was initiated, through FAO, in 1980 and its implementation has long been facilitated by FAO and IBPGR. Similar regional committees or programmes have been established by the Regional Committee for South East Asia (RECSEA), the South Asian Association for Regional Cooperation (SAARC), and the Southern African Development Coordination Conference (SADCC). Other collaborative efforts for cooperation on plant genetic resources are under way in other parts of the world. The Commission may wish to consider appropriate ways to promote and strengthen regional cooperation generally.

3.2 The Situation in Eastern Europe

48. Following a Technical Committee Meeting of Genetic Resource Programmes of Eastern European countries, held in Sadavo, Bulgaria, in September 1990, the Secretariat has been informed, by a joint communiqué of the Chief of Delegations of participating countries, of possible difficulties in ensuring the adequate conservation of plant genetic resources in Eastern Europe. It was further requested that the situation be brought to the notice of this Session of the Commission. For more than twenty years, Bulgaria, Hungary, the German Democratic Republic (as it then was), Poland, Czechoslovakia, the Union of Soviet Socialist Republics and Mongolia have effectively collaborated in the collection, preservation and utilization of plant genetic resources. At present, Bulgaria conserves 40,000 accessions, Hungary 44,500, Poland 59,500, the Union of Soviet Socialist Republic 360,000 and Czechoslovakia 43,800. Programmes to study the Region's cultivated plants and their wild relatives are underway, and extensive breeding has been undertaken.

49. With the rapid social and economic changes in all these countries in the recent past, the national structures for plant genetic resources conservation are facing increasing difficulties. This has also made it difficult for the countries involved to continue joint activities, and may put at risk the germplasm that is being stored.

50. In line with Article 7 of the International Undertaking, which provides for "prompt international action to safeguard the material maintained by a centre", the Commission may wish to recommend an urgent study of the situation, in cooperation with the countries involved, with the aim of identifying ways of overcoming the problem. The study might result in recommendations for support to regional activities and institutes

affected, as well as the possible duplication of samples for safety reasons, and their storage in genebanks, preferably those that have offered space to FAO to store truly international collections, including the proposed permafrost storage facilities in Svalbard.

4. MATTERS FOR DISCUSSION BY THE COMMISSION

51. The various institutional elements of the Global System are now in place. Many of the legal and political difficulties that existed in the field of plant genetic resources have been overcome through the work of the Commission. The time is now right for the Commission to exercise its coordinating and monitoring role at world level, in order, as stated in its Terms of Reference, as established by the Eighty-fifth Session of the FAO Council, "to recommend measures that are necessary or desirable in order to ensure the comprehensiveness and efficiency of the Global System and the efficiency of its operation". This will allow the best use of the limited available resources and those expected to become available in the near future. Sections 2.2.4 to 2.2.7 of this paper outline a possible scenario which the Commission may wish to discuss, so that it may give guidance for the finalization of these proposals and their implementation. The various elements of the scenario are linked, and are intended to form a harmonic and balanced whole. The Commission may wish:

(i) to discuss and make recommendations on the nature and role of the International Fund for Plant Genetic Resources, within the context of the development of the Global System (see paras. 37-42 and 32). In its discussions, the Commission should take into account the deliberations of the Fifth Session of the Working Group;

(ii) to give its guidance on the convening, by FAO, of the Fourth International Technical Conference, with extra-budgetary funds, including arrangements for the preparation of the first "State of the World's Plant Genetic Resources" (see para. 29), and Plan of Action (see para. 36), as proposed by the Fifth Session of the Working Group. (See paragraphs 43-46);

(iii) to consider modalities for the provision of the extra-budgetary funds required. Countries interested in contributing to the funding of this Conference may wish to indicate their intention during this Session of the Commission, to allow early and effective arrangements to be made;

(iv) to make recommendations to promote regional cooperation (see para. 47). In view of the possible difficulties regarding the safe conservation of plant genetic resources in genebanks in Eastern Europe, the Commission may wish to endorse the suggestion in paragraphs 48 to 50, that an urgent analysis be undertaken to identify any possible danger to the stored. germplasm, and propose solutions.

APPENDIX I

COUNTRIES WHICH ARE MEMBERS OF THE FAO COMMISSION ON PLANT GENETIC RESOURCES, AND COUNTRIES THAT HAVE ADHERED TO THE INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES, OR TAKEN BOTH STEPS.

AFRICA

BENIN 1/2/
BOTSWANA 1/
BURKINA FASO 1/2/
CAMEROON 1/2/
CAPE VERDE 1/2/
CENTRAL AFRICAN REP. 1/2/
CHAD 1/2/
CONGO 1/2/
COTE D'IVOIRE 2/
EQUATORIAL GUINEA 1/2/
ETHIOPIA 1/2/
GABON 2/
GAMBIA 1/
GHANA 1/2/
GUINEA 1/2/
GUINEA-BISSAU 1/
KENYA 1/2/
LIBERIA 1/2/
MADAGASCAR 1/2/
MALAWI 2/
MALI 1/2/
MAURITANIA 1/2/
MAURITIUS 1/2/
MOROCCO 1/
MOZAMBIQUE 2/
NIGER 1/2/
RWANDA 1/2/
SENEGAL 1/2/
SIERRA LEONE 1/2/
SUDAN 1/2/
TOGO 1/2/
UGANDA 1/
ZAMBIA 1/2/
ZAIRE 1/
ZIMBABWE 1/2/

ASIA AND THE SOUTH WEST PACIFIC

AUSTRALIA 1/
BANGLADESH 1/2/
KOREA DPR 1/2/
FIJI 2/
INDIA 1/2/
INDONESIA 1/
JAPAN 1/
KOREA, REP. 1/2/
MYANMAR 1/
NEPAL 2/
NEW ZEALAND 2/
PHILIPPINES 1/2/
SAMOA 1/2/
SOLOMON ISLANDS 2/
SRI LANKA 1/2/
THAILAND 1/
TONGA 2/
VANUATU 1/

EUROPE

AUSTRIA 1/2/
BELGIUM 1/2/
BULGARIA. 1/2/
CYPRUS 1/2
CZECHOSLOVAKIA 1/
DENMARK 1/2/
FINLAND 1/2/
FRANCE 1/2/
GERMANY 1/2/
GREECE 1/2/
HUNGARY 1/2/
ICELAND 1/2/
IRELAND 1/2/
ISRAEL 1/2/
ITALY 1/2/
LIECHTENSTEIN 2/
NETHERLANDS 1/2/
NORWAY 1/2/
POLAND 1/2/
PORTUGAL 1/2/
SPAIN 1/2/
SWEDEN 1/2/
SWITZERLAND 1/2/
TURKEY 1/2/
UNITED KINGDOM 1/2/
YUGOSLAVIA 1/2/

LATIN AMERICA AND THE CARIBBEAN

ANTIGUA AND BARBUDA 2/
ARGENTINA 1/2/
BARBADOS 1/2/
BELIZE 1/2
BOLIVIA 1/2/
BRAZIL 1/
CHILE 1/2/
COLOMBIA 1/2/
COSTA RICA 1/2/
CUBA 1/2/
DOMINICA 1/2/
DOMINICAN REP. 1/2/
ECUADOR 1/2/
EL SALVADOR 1/2/
GRENADA 1/2/
GUATEMALA 1/
GUYANA 1/
HAITI 1/2/
HONDURAS 1/2/
JAMAICA 2/
MEXICO 1/2/
NICARAGUA 1/2/
PANAMA 1/2/
PARAGUAY 2/
PERU 1/2/
SAINT CHRISTOPHER AND NEVIS 1/
SAINT LUCIA 1/
SAINT VINCENT AND THE GRENADINES 1/
SURINAME 1/
URUGUAY 1/
VENEZUELA 1/2/

NEAR EAST

AFGHANISTAN 1/
BAHRAIN 2/
EGYPT 1/2/
IRAN, ISLAMIC REPUBLIC OF 1/2/
IRAQ 1/2/
KUWAIT 2/
JORDAN 1/
LEBANON 2/
LIBYA 1/2/
OMAN 2/
TUNISIA 1/2/
SYRIA 1/2/
YEMEN 1/2/

NORTH AMERICA

CANADA 1/
UNITED STATES OF AMERICA 1/

1/ Members of the Commission; 2/Countries which have adhered to the Undertaking

The above totals 127 countries which have become members of the Commission (110) or which have adhered to the Undertaking (101), or taken both steps.

Figure 1: FUNCTION OF THE GLOBAL SYSTEM

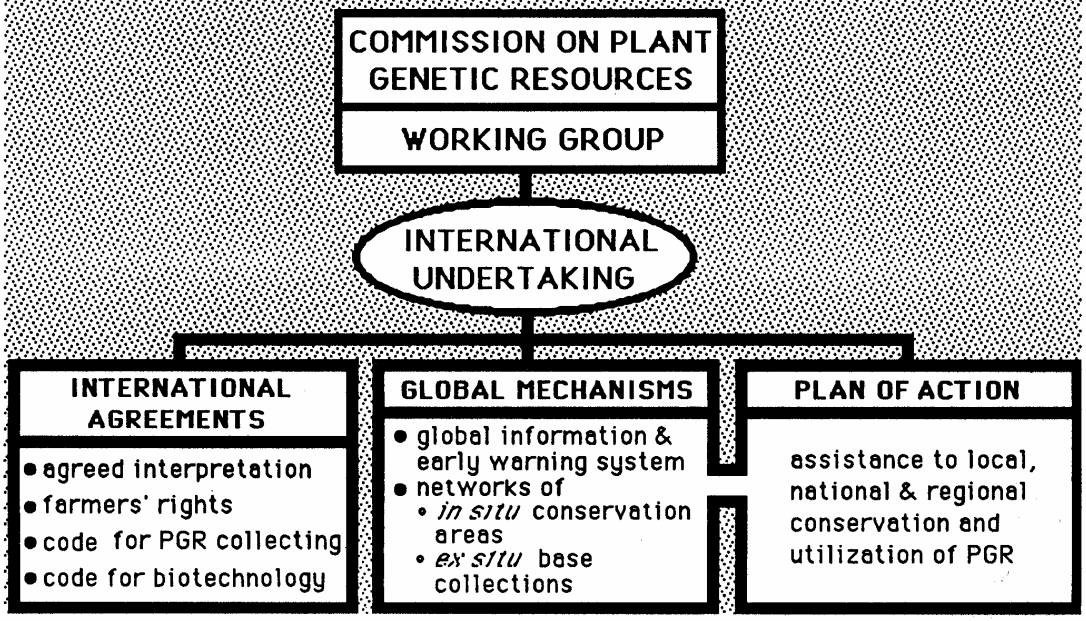

Figure 2: STRUCTURE OF THE GLOBAL SYSTEM