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CGIAR 1981/83 G-12 IBPGR VOL. III



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Consultative Group on International Agricultural Research [CGIAR] - G-12 - International Board for Plant Genetic Resources [IBPGR] - 1981 / 1983 Correspondence - Volume 3 FORM NO. 635 (9-86)

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This file is closed as of <u>December</u> 31, correspondence, please see 1984/86 For further correspondence, please see

#### INFORMATION CENTERS SECTION

This file contains material from:

to

December 30, 1983

Dr. Ramon dela Vina Valmayor Executive Director Philippine Council for Agriculture and Resources Research and Development (PCARRD) P.O. Box 425 Los Banos, Laguna, Philippines

Dear Dr. Valmayor:

I am writing on behalf of the Consultative Group on International Agricultural Research (CGIAR) to welcome you to the Board of Trustees of the International Board for Plant Genetic Resources (IBPCR) in Rome, Italy. Dr. Lennart Kahre, Chairman of that Board, will be writing to describe the terms of the appointment and your duties as a Trustee of the IBPCR Board.

You are already aware of the activities of the IBPGR, but in case you are not fully familiar with the activities of the CGIAR as a whole, and of the other centers, I am asking the CG Secretariat to send you some current information. I feel sure you will find the material of interest, particularly where it gives some idea of the interrelationships among the various elements constituting the system. This unique international effort to develop the technology to help developing countries to increase food production has already demonstrated its effectiveness. Sound and imaginative governance by the Boards of Trustees of the international centers is crucial to the continued effectiveness of the CGIAR system. Your help in this very worthwhile endeavor will be much appreciated.

May I take this opportunity to mention that all the members of Boards of Trustees of the centers serve in their individual capacities and not as representatives of any country, interest group or organization. This applies as well to those members who, like you, are selected by the Consultative Group itself. Consequently, you will not be expected to report to, or receive instructions from, the Group or any of its members. Members completing their first term of service are eligible for appointment by the Group for a second term, but reappointment depends on the Group's view of the needs of the center and the system at the time.

OFFICIAL FILE COP

I am sending a copy of this letter to Dr. Kahre and to Dr. Williams, Director General of IEPGR.

Yours sincerely,

Warren C. Baum Chairman

cc: Dr. L. Kahre, IBPGR Chairman Dr. J.T. Williams, IBPGR Director General Mr. C. Farrar, CGIAR Executive Secretary DCalvo:lar/File G-12/IBPGR Board Book/Disk 80

6-12

December 30, 1983

6-12

Dr. Ramon dela Vina Valmayor
Executive Director
Philippine Council for Agriculture and Resources Research and Development (PCARRD)
P.O. Box 425
Los Banos, Laguna, Philippines

Dear Dr. Valmayor:

I would like to join Mr. Baum, Chairman of the CGIAR, in welcoming you to the CGIAR system and to congratulate you on your appointment to the International Board for Plant Genetic Resources (IBPGR).

With reference to Mr. Baum's letter of December 30, I am enclosing a set of documents on the CGIAR. They should provide you with a general background on the system, which comprises thirteen international agricultural research centers.

In addition to the descriptive brochures, I am sending you a copy of the most recent review of the CG system as a whole -- the Report of the Second Review Committee dated November 1981, as well as a copy of this year's Integrative Report, a recent commentary by the CG Secretariat on the IBPGR's 1984-1985 Program and Budget, and a copy of an IDRC/CIDA publication - 'The Fragile Web', which describes the CGIAR system.

If the CGIAR Secretariat can be of any assistance to you now or in the future, please do not hesitate to let us know.

OFFICIAL FILE COPY

Yours sincerely,

Curtis Farrar Executive Secretary

#### Enclosures

cc: Dr. L. Kahre, IBPGR Chairman Dr. J.T. Williams, IBPGR Director General

DCalvo:lrp/File G-12/IBPGR Board Book/Disk 80

# CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

1818 H St., N.W. Washington, D.C. 20433 U.S.A.
 Telephone (Area Code 202) 477-3592
 Cable Address - INTBAFRAD

From: The Secretariat

December 29, 1983

--12

### International Board for Plant Genetic Resources \* \* \* Candidates for Board of Trustees

1. In a memorandum dated October 19, 1983, the Secretariat requested the Consultative Group's approval of the IBPGR Board's recommendation that:

- Drs. Bishop, Cooper, Jain and Scarascia-Mugnozza be reappointed for a second three-year term; and
- Dr. Ramon Valmayor be elected as a new member, replacing Dr. Chomchalow.

These terms would run from January 1, 1984 to December 31, 1986.

2. The Group has now approved these proposals. Drs. Bishop, Cooper, Jain, Scarascia-Mugnozza and Valmayor, the Chairman of the Board, and the Executive Secretary of the IBPGR have been informed.

3. A current list of the IBPGR's Board of Trustees is attached.

Attachment

Distribution:

CGIAR Members TAC Chairman TAC Secretariat Chairman of IBPGR Board Director General of IBPGR

# INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES (IBPGR)

#### Board of Trustees

Dr. Lennart Kahre (Chairman) Director, Swedish Seed Testing and Certification Institute S-171 73 Solna, Sweden

Dr. Charles J. Bishop Research Branch Agriculture Canada Ottawa, Canada K1A 0C5

Dr. O. Brauer Director, AGP Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla Rome 00100, Italy

Dr. John Philip Cooper Welsh Plant Breeding Station Plas Gogerddan Nr. Aberystwyth United Kingdom

Dr. Edmond de Langhe Katholieke Universiteit Leuven Labo. Tropische Plantenteelt Kardinaal Mercierlaan 92 3030 Leuven, Belgium

Dr. Dalmo C. Giacometti National Genetic Resources Programme of Brazil CENARGEN/EMPRAPA Avenida W-5 Norte Parque Rural C.P. 10.2372 CEP 70.000 Brasilia D.F., Brazil

Dr. Muneo Iizuka Faculty of Agriculture Chiba University Matsudo-shi Chiba-ken, Japan 271 Dr. H.K. Jain Indian Agricultural Research Institute (IARI) New Delhi 110012, India

Dr. Quentin Jones BARC-West Science and Education Administration/Agricultural Research US Department of Agriculture Beltsville, MD 20705

Dr. Reuben Olembo Division of Environmental Management United Nations Environment Programme P.O. Box 30552 Nairobi, Kenya

Dr. William J. Peacock Division of Plant Industry, CSIRO P.O. Box 260 Canberra, ACT 2608, Australia

Dr. S.A. Qureshi Director General Agriculture Research Ayub Agricultural Research Institute Faisalabad, Pakistan

Dr. G.T. Scarascia-Mugnozza Agricultural Biology Department University of Tuscia Via Riello Olloo Viterbo, Italy

H.E. Dr. Djibril Sene Minister for Higher Education and Scientific Research Administrative Building Avenue Roume Dakar, Senegal

/Continued

## IBPGR Board of Trustees - Page 2

Dr. Ramon dela Vina Valmayor
Executive Director
Philippine Council for Agriculture and Resources Research and Development (PCARRD)
P.O. Box 425
Los Banos, Laguna, Philippines

Dr. J. Trevor Williams Plant Production and Protection Division Agriculture Department Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla Rome 00100, Italy

Dr. Xu Yuntian Deputy Director Institute of Crop Germplasm Resources Chinese Academy of Agricultural Sciences Beijing, China

December 1983

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CURTIS FARRAR, EXECUTIVE SECRETARY CGIAR

REF TEL 248423 WORLDBK. PLEASED TO ACCEPT APPOINTMENT TO SECOND THREE YEAR TERM IBPGR.

C.J. BISHOP RES BR, AGRICULTURE OTTAWA 053-3283 1229/1

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3	AGRICULTURE AND RESOURCES RESEA	RCH AND DEVELOPMENT (PCARRD),
4	P.O. BOX 425, LOS BANOS, LAGUNA	, PHILIPPINES
5	PLEASED TO INFORM YOU THAT MEMB	ERS OF THE CONSULTATIVE GROUP ON
6	INTERNATIONAL AGRICULTURAL RESE	ARCH HAVE APPROVED THE PROPOSAL BY
7	THE BOARD OF THE IBPGR THAT YOU	BE APPOINTED TO THAT BOARD FOR A
8	THREE-YEAR TERM BEGINNING JANUA	RY 1, 1984. THE CHAIRMAN OF THE
9	GROUP HAS ACCORDINGLY SO APPOIN	TED YOU. WE ARE ADVISING THE
10	CHAIRMAN OF THE BOARD AND THE E	XECUTIVE SECRETARY OF THE IBPGR
11	SIMULTANEOUSLY. PLEASE CONFIRM	YOUR WILLINGNESS TO SERVE BY
12	TELEX TO ME AT INTBAFRAD, WASHI	NGTON, D.C., TELEX NO. 440098
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3	INTERNATIONAL AGRICULTURAL RESEAU	RCH HAVE APPROVED THE PROPOSAL BY
4	THE BOARD OF THE IBPGR THAT YOU	BE APPOINTED TO A SECOND
5	THREE-YEAR TERM ON THAT BOARD FR	OM JANUARY 1, 1984 UNTIL DECEMBER
6	31, 1986. THE CHAIRMAN OF THE G	ROUP HAS ACCORDINGLY SO APPOINTED
7	YOU. WE ARE ADVISING THE CHAIRM	AN OF THE BOARD AND THE EXECUTIVE
8	SECRETARY OF THE IBPGR SIMULTANE	OUSLY. REGARDS, CURTIS FARRAR,
9	EXECUTIVE SECRETARY, CGIAR.	
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	2) LENNART KAHRE, DIRECTOR, S	WEDISH SEED TESTING AND
FR/RC	A CERTIFICATION INSTITUTE, S	-17173 SOLNA, SWEDEN
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5	COOPER, JAIN, AND SCARASCIA-MUGN	DZZA BE REAPPOINTED	FOR A SECOND
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7	VALMAYOR BE ELECTED AS A NEW MEMI	BER, REPLACING DR. C	HOMCHALOW.
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3	ROME, ITALY		
4	WE ARE STILL WORKING ON LETTERS	INFORMING EACH CENTER OF	ITS
5	FUNDING PROSPECTS IN 1984. ARE	STILL AWAITING CONFIRMATI	ON OF
6	ALLOCATION OF SOME MAJOR DONORS.	HOPEFULLY WE CAN SEND Y	OU THAT
7	INFORMATION IN THE EARLY DAYS OF	JANUARY. MEANWHILE THE	SWEDISH
8	AUTHORITIES HAVE INDICATED THAT	NE HALF OF THEIR 1984 CO	NTRI-
9	BUTION WHICH AMOUNTS IN TOTAL TO	SK 1,400,000 FOR IBPGR W	ILL BE
10	AVAILABLE FOR DISBURSEMENT IN JA	WARY UPON REQUEST OF THE	CENTER.
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INSTITUT DE RECHERCHES AGRONOMIQUES TROPICALES ET DES CULTURES VIVRIÈRES



Paris, le 21.12.83.

12-21-83

Mr. Curtis Farrar Executive Secretary CGIAR, World Bank 1818 H Street, N.W. Washington, D.C. 20433 U.S.A.

Dear Curt,

Please find herewith the paper that you requested me to write with regard to the meetings hold by WARDA in Bissau.

I insist once again that you feel free to amend this text. I do not exclude, for example, that you might consider it as going into too many details. Provided that you recognize the useful purpose of the last chapter, you may possibly wish to mention additional issues that you could think of special significance; or to cancel some that you could deem *d* nappropriate.

I believe that this paper should not be given any character of confidentiality. To my mind, not only it may, but even it must be sent to the Executive Secretary of WARDA, eventually along with a letter from you regarding specific issues that you may need to deal with.

I am sending to you by separate shipment the final reports of the Governing Council.

I am remaining at your disposal for possible clarifications that you might need.

With my best personal regards and good wishes for a happy New Year.

Yours sincerely Xallaeys Guy

110, RUE DE L'UNIVERSITÉ - 75340 PARIS CEDEX 07 - TÉL. 550-32-10 - ADRESSE YÉLÉGRAPHIQUE : IRATROP-PARIS

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.../...

TREIZIEMES SESSIONS ORDINAIRES DU COMITE SCIENTIFIQUE ET TECHNIQUE ET DU CONSEIL D'ADMINISTRATION DE L'ASSOCIATION POUR LE DEVELOPPEMENT DE LA RIZICULTURE EN AFRIQUE DE L'OUEST.

(Bissau, 28 novembre - 9 décembre 1983).

Le Comité Scientifique et Technique (CST) et le Conseil d'Administration (CA) de l'ADRAO ont tenu leur treizième session crdinaire à Bissau, respectivement du 28 novembre au 2 décembre et du 5 au 9 décembre 1983.

Une discussion des rapports provisoires des revues externes des programmes (EPR) et de la gestion (EMR) de l'ADRAO effectuées sous l'égide du CGIAR de juin à septembre 1983 était inscrite à l'ordre du jour de chacune de ces réunions. Les rapports des revues organisées en octobre 1982 par le Gouvernement Français et en septembre 1983 par l'USAID ont été discutés par la même occasion. La similitude des conclusions de ces différentes revues a permis de centrer les débats spécialement sur les recommandations formulées par les missions mises sur pied au nom du CGIAR.

Le rapport et les conclusions provisoires de l'EPR ont été exposés devant le CST et le CA par le Dr. Almiro Blumenschein, qui a présidé le panel chargé de cette revue, tandis que M. CurtisFarrar, Secrétaire Exécutif du CGIAR, présentait et commentait les recommandations de l'EMR au nom du Dr. Laurence Stifel, indisponible. Le signataire de la présente note assistait aux réunions de Bissau à titre d'observateur, représentant le CGIAR.

Le CST a décidé de tenir à huis clos sa séance consacrée à l'examen des rapports des revues. Les membres des panels des revues présents à Bissau (1) ont assité à cette séance et ont pu participer effectivement à la discussion. En revanche, le débat qui, au sein du CA, a succédé à la présentation des rapports des revues, s'est déroulé en présence des seuls Chefs de Délégation des Etats-membres, du Secrétaire Exécutif de l'ADRAO et du Président du CST (2).

- (1) Outre MM. Blumenschein et Farrar : MM. A. Von der Osten (Secrétaire Exécutif du TAC), R.Herdt (Expert, Secrétariat CGIAR),
  B. Wheeler (membre du panel EPR), ainsi que, au titre de la revue de l'USAID, MM. D. Mitchell (Chef de la mission d'évaluation),
  R. Gray et M. Smith.
- (2) M. Sidi Coulibaly, ancien Secrétaire Exécutif de l'ADRAO prit également part à ce débat.

Le présent document ne prétend pas rendre compte de l'ensemble des délibérations dont les différents points des ordres du jour des deux réunions tenues à Bissau ont fait l'objet. Son propos est essentiellement d'apporter une information sur l'accueil réservé par les organes dirigeants de l'ADRAO - Secrétaire Exécutif, CST,CA - aux recommandations formulées par les panels des deux revues organisées au titre du CGIAR.

Les positions adoptées par l'ADRAO à Bissau, ainsi que certaines mesures déjà décidées ou annoncées par le Secrétaire Exécutif de l'Association, seront commentées, à la lumière, le cas échéant, d'entretiens particuliers tenus en marge des réunions.

Finalement quelques considérations seront développées sur les principales difficultés auxquelles l'ADRAO semble devoir être confrontée dans le proche avenir, ainsi qu'à propos des conditions d'une mise en oeuvre efficace des mesures de redressement de la situation de l'Association.

#### 1 - Bref rappel des recommandations formulées par les panels des revues externes de l'ADRAO.

- 1.1. Le rapport provisoire de l'EPR conclut à la nécessité d'apporter deux changements majeurs aux programmes de l'ADRAO :
  - un renforcement des actions permettant d'aider plus directement les pays membres à augmenter leur production rizicole; à cet effet, un accroissement des activités du programme à éxécuter dans les pays-membres et une réduction numérique des effectifs de personnel basés à Monrovia;
  - l'orientation des travaux vers la mise au point de technologies appropriées aux différents écosystèmes rizicoles de la région, un accent particulier étant mis sur la riziculture pluviale.

Des recommandations spécifiques sont formulées en ce qui concerne :

- les quatre "projets spéciaux" et, parmi ceux-ci, en particulier le développement à Bouaké du programme relatif à la riziculture pluviale ;
- le programme d'essais coordonnés (notamment, rattachement aux projets spéciaux et prise en charge par les programmes nationaux);
- les activités et la structure des différentes unités chargées de la mise en oeuvre du programme de l'ADRAO dans les domaines de la recherche, du développement, de la communication,...

Parmi les recommandations de portée générale, il convient de mentionner celle qui souligne l'obligation d'intégrer les activités de l'ADRAO dans un programme cohérent, à court et à moyen terme, étendu à l'ensemble des pays-membres; et la nécessité qui en découle d'un important effort de programmation assorti de mesures internes de contrôle et de révision adéquates. 1.2. - Quatre recommandations ont été formulées par le panel de l'EMR qui les a présentées comme interdépendantes dans le cadre de l'effort nécessaire pour améliorer globalement le système de gestion de l'ADRAO.

Ces recommandations sont relatives :

- au Comité Scientifique et Technique, dont il s'agit de faire un instrument efficace d'appui au CA dans la définition de la politique globale de l'Association, et au Secrétaire Exécutif (SE), notamment dans l'accomplissement de ses tâches de planification.

Il est recommandé de procéder à :

- un élargissement numérique du CST qui serait désormais composé de 7 membres désignés sur proposition des Etats-membres de l'Association, de 7 membres choisis par le CGIAR au nom des donateurs, et du SE, membre ex-officio;
- une extension de son mandat par délégation de certaines responsabilités spécifiques de gestion (examen systèmatique et de manière intégrée du programme et de ses implications budgétaires et administratives; participation effective aux procédures de recrutement des cadres dirigeants et du staff supérieur de l'organisation);
- au poste de Secrétaire Exécutif Adjoint (SEA) : les modalités d'élection en vigueur apparaissant comme une des causes de la faiblesse du leadership dont souffre actuellement l'Association, il est recommandé de supprimer ce poste auquel devra être substituée une fonction d'Assistant au SE, choisi par celui-ci dans le cadre d'une procédure de recrutement international;
- à l'adoption de modalités de recrutement et de conditions de rémunération de nature à assurer un niveau élevé de qualification du personnel : établissement de normes de sélection; recrutement objectif et agressif, sur base internationale; barême de salaires attractif, harmonisé avec ceux d'autres organisations de la région; ajustement en fonction des performances;
- au système de gestion financière de l'Association :
  - recrutement d'un Responsable financier (Chief financial Officer) placé sous l'autorité directe du SE, chargé d'établir un système efficace de gestion financière et de vérification, et capable de procéder à l'intégration du budget et de la planification financière au programme de l'Association;
  - révision des modalités actuelles de vérification (auditing) interne et externe; sélection sur une base internationale d'un commissaire aux comptes (external auditor);
  - recherche urgente de solutions au problème actuel de liquidités : démarches auprès des bailleurs de fonds et des Gouvernements des pays-membres.

3.

## 2 - Positions adoptées par l'ADRAO à Bissau

- 2.1. On se souviendra des déclarations de M. Boakai, alors Président du CA de l'ADRAO, à la réunion d'information organisée à Washington, le 4 novembre 1983, en marge de la session du CGIAR :
  - accord sur la mise en oeuvre, dès après les réunions de Bissau, des recommandations de l'EPR et de l'EMR ayant un caractère technique, scientifique, administratif ou financier, et dont l'application dépend de l'autorité du SE;
  - certaines recommandations posent un problème politique et relèvent de la compétence du CA; leur application suppose un amendement des statuts de l'Association.

Parmi ces dernières, M. Boakai a mentionné celle qui concerne la composition et le mandat du CST - au principe de laquelle il s'est déclaré favorable - et celle qui a trait au poste de SEA et à la redéfinition de la fonction correspondante. A propos de celle-ci, M. Boakai a indiqué qu'il envisageait de soumettre deux options au CA :

- . l'une présentée comme une mesure de transition et consistant à procéder sur le champ, et pour une durée de trois ans, à l'élection du SEA parmi les candidatures déjà enregistrées, une nouvelle procédure de désignation pouvant être mise au point avant la fin de ce mandat;
- l'autre proposant l'ajournement de cette élection jusqu'à la mi-1984, et la mise en oeuvre alors de nouvelles modalités de désignation du collaborateur immédiat du SE.
- 2.2. Dans sa présentation de l'ADRAO à la Semaine des Centres à Washington, M. H. Leroux, Secrétaire Exécutif, avait fait état de son adhésion à l'ensemble des recommandations des deux revues externes du CGIAR.

Dans une note de commentaires (position paper) soumise à Bissau aux membres du CST, M. Leroux confirme et explicite ces déclarations; il demande au CST d'adopter intégralement les recommandations des revues du CGIAR et de proposer leur mise en oeuvre dans les meilleurs délais. Il assortit ces positions de propositions et de déclarations d'intentions relatives à diverses mesures concrètes :

- en ce qui concerne les recommandations d'ordre technique, et spécialement de l'élaboration d'un programme global intégré : création dès le début de 1984, d'une commission interne interdépartementale qui bénéficierait du concours d'un expert de haut niveau (identifié avec l'aide du Secrétariat du CGIAR) et dont les travaux seraient soumis à la proheaine session du CST, prévue pour juin 1984;

- création d'un échelon de coordination unique pour l'ensemble constitué actuellement par les Départements de la Recherche et du Développement;
- déploiement prochain (mars 1984) de personnels basés au quartier-général, et ce au bénéfice, en priorité, du programme de recherche sur la riziculture pluviale à Bouaké; examen à Bouaké, dès avril 1984, des propositions concernant ce programme et ses articulations avec les activités des autres institutions travaillant dans la région;
- fusion en un service unique, des Divisions de la Documentation et de la Communication.

Tout en se déclarant favorable aux quatre recommandations de l'EMR, le Secrétaire Exécutif préconise :

- la dissolution et la réorganisation immédiate du CST,
- le choix de la deuxième option évoquée à Washington par le Président de l'ADRAO, en ce qui concerne la fonction de SEA,
- la scission du Département de l'Administration et des Finances en deux unités distinctes, placées l'une et l'autre sous l'autorité directe du SE.

Le Secrétaire Exécutif a en outre informé le CST de son intention de mettre un terme aux fonctions du Chef du Département de la Recherche dont les points de vue et le style de direction ne lui paraissent pas compatibles avec les intérêts , de l'Association.

Dans son rapport au CA, le Secrétaire Exécutif a redit de la manière la plus claire son souhait de voir adopter et mettre immédiatement en application les recommandations dans leur totalité. M. Leroux n'a hésité ni à mettre les Etats-membres devant leurs responsabilités dans la marche de l'organisation, en particulier en ce qui concerne leurs obligations financieres, ni à mettre en évidence le caractère impopulaire de certaines mesures exigées par la situation. Il a sollicité du CA des pouvoirs accrus.

2.3. Les discussions consacrées par le Comité Scientifique et Technique aux rapports des revues se sont référées à la note de commentaires (position paper) du SE.

Le rapport de la session du CST souligne la qualité des analyses auxquelles ont procédé les panels des revues et la pertinence des solutions proposées. Dans une recommandation finale, le CST invite le CA a adopter, s'il y a lieu sous leur forme amendée, les propositions de restructuration formulées par les revues.

Ce rapport fait spécifiquement mention, en les approuvant :

 des mesures suggérées par le SE pour la mise en oeuvre de la recommandation de l'EPR relative à la programmation des activités de l'ADRAO; - du rattachement de la Recherche et du Développement, sous forme de Divisions, à un Département unique;

- de l'élargissement du mandat et de la restructuration de la composition du CST, tels que les a recommandés l'EMR; des indications sont données sur les modalités concrètes de mise en oeuvre de cette recommandation.

Le CST suggère au CA de procéder à l'élection du nouveau SEA selon les prévisions initiales. Toutefois, il souligne la nécessité d'être attentif aux qualifications des candidats, et l'importance d'une claire définition de la place et des responsabilités attribuées à ce poste dans le système de direction de l'Association. Il recommande l'implication du SE et du CSI dans les procédures de sélection du personnel supérieur, et indique son intention de participer à l'établissement de normes pour le recrutement et la rémunération de ce personnel. Il invite le CA à réaffirmer l'autorité du SE sur toute la structure de l'ADRAD.

Enfin, le rapport du CST évoque expressément, pour les appuyer fortement, les recommandations n° 3 et 4 de l'EMR relatives respectivement aux conditions de rémunération du personnel et au renforcement du système de gestion financière, ainsi qu'aux graves difficultés actuelles de trésorie de l'ADRAO.

2.4. Au cours de la session du Conseil d'Administration, la situation financière difficile de l'ADRAO et la nécessité urgente d'améliorer cette situation ont été soulignées dans les déclarations de plusieurs personnalités : le Chef de l'Etat Guinéen, dans son discours d'ouverture; le Président élu de l'ADRAO, M. Paulo Correia, Ministre du Développement Rural de la Guinée-Bissau; le Président sortant, M. Boakai, qui a invité le Conseil à accorder la plus grande attention aux conclusions et recommandations des revues.

Les discussions concernant les revues - qui se sont tenues à huis clos - se sont référées particulièrement au rapport du CST. Au cours de ces mêmes séances à huis clos, le Conseil a débattu de la situation financière de l'Association et procédé aux élections du Secrétaire Exécutif Adjoint et du nouveau titulaire d'un poste vacant au sein du CST. Ont été élus à ces fonctions respectivement M. Alieu Jagne et M. M. Sompo-Ceesay, tous deux de nationalité gambienne.

Deux documents rendent compte des réunions du Conseil : un rapport des séances tenues à huis clos et le rapport proprement dit de la session du CA.

Le premier de ces documents fait mention de la discussion à laquelle a donné lieu la décision du Secrétaire Exécutif de mettre fin aux fonctions du Directeur du Département de la Recherche. Cette décision a reçu l'approbation du Conseil, qui a admis qu'une telle mesure relève bien de la responsabilité du SE.

Ce même document constate l'adoption par le Conseil des propositions du CST, moyennant cependant, en ce qui concerne la restructuration du CST, une position différente :

- 7 -

- le Conseilratifie la proposition d'élargissement numérique du CST, par désignation de sept membres choisis par le CGIAR au nom des donateurs;
- tout en rappelant le rôle consultatif du CST, le Conseil charge le SE de recueillir les avis des Gouvernements des Etats-membres sur l'opportunité d'une extension du mandat de ce Comité ; la question sera réexaminée lors de la prochaine session du CA, en fin 1984, à la lumière du résultat de cette consultation.

Le rapport final de la session du Conseil d'Administration comporte une série de résolutions parmi lesquelles les quatre suivantes ont trait aux préoccupation faisant l'objet de la présente note :

- par sa résolution N° 2, le Conseil donne mandat à son Président d'entreprendre des visites auprès des Chefs d'Etat et de Gouvernement des pays-membres afin d'attirer leur attention sur la situation financière très préoccupante de l'Association et sur la nécessité impérieuse de s'acquitter de leurs obligations financières;
- la résolution Nº 4 reconnaît la valeur des revues dont l'ADRAO vient de faire l'objet ; le Conseil déclare accepter les recommandations des revues telles qu'elles ont été présentées, sous réserve des amendements qui y ont été apportés ;
- la résolution N° 6 constitue un appel pressant adressé aux membres de l'Association pour qu'ils s'acquittent dans les meilleurs délais de leurs arriérés de contributions et de leurs contributions ;
- la résolution N°8 évoque précisément les effets néfastes des crises d'autorité dont souffre l'ADRAO et se réfère aux recommandations des revues, reprises par le CST, à ce sujet ; l'autorité du Secrétaire Exécutif sur l'ensemble du personnel, et en particulier sur le SEA, est réaffirmée; et confirmée la responsabilité qui lui incombe de nommer, diriger et mettre fin aux fonctions du personnel du Secrétariat Exécutif.

3- Appréciation de la situation découlant de ces positions.

- 3.1. Compte tenu des positions prises en dernier ressort par le CA, l'attitude de l'ADRAO vis à vis des conclusions des revues du CGIAR peut se résumer comme suit :
  - Adoption de l'ensemble des recommandations de l'EPR; le SE a le pouvoir d'appliquer celles-ci; dès à présent, la mise

.../ ..

en oeuvre de plusieurs mesures concrètes qui sont dans la ligne de ces recommandations est annoncée pour le très proche avenir.

Il importe toutefois de noter qu'aucune mention n'est faite de la recommandation relative à la prise en charge des essais coordonnés par les programmes nationaux. Le mutisme des documents à ce sujet doit-il être considéré comme valant agrément ? Une prise de position explicite des délégations sur cette question aurait été souhaitable.

- Si les recommandations N° 3 et 4 de l'EMR ont été retenues, la recommandation N° 1, relative à la composition et au fonctionnement du CST, n'a été adoptée que partiellement. La recommandation N° 2 n'a pas été suivie : un SEA a été élu selon les procédures anciennes, sans que soit nulle part indiquée une quelconque intention de réviser ultérieurement les modalités de désignation du titulaire de cette fonction.

Il faut donc constater - et regretter - que les mesures jugées par les panels des revues (et particulièrement par celui de l'EMR) comme indispensables au redressement de la situation de l'ADRAO n'ont pas été retenues dans leur intégralité . Cette sélectivité peut tenir à divers motifs ou attitudes d'esprit : volonté de manifester à la communauté des donateurs un attachement à une certaine liberté de choix; désir d'affirmer, ou refus de laisser entamer, une souveraineté liée au statut d'organisation inter-gouvernementale qui est celui de l'ADRAO; crainte d'un empiétement sur les prérogatives du Secrétaire Exécutif,...

- 3.2. Le souci de l'autorité du Secrétaire Exécutif, qui a prévalu au cours des étapes successives de la réflexion des différents organes de l'ADRAO, semble devoir être interprété comme constituant de la part de ceux-ci, le correctif nécessaire de leur position partiellement restrictive vis à vis des recommandations formulées par les panels des revues. La réaffirmation formelle de cette autorité a en fait la signification d'un renforcement de celle-ci. A cet égard, l'attitude du Conseil d'Administration à propos de la décision du SEd'interrompre les fonctions du Directeur actuel du Département de la Recherche peut être considérée comme ayant valeur d'un test positif.
- 3.3. L'ajournement de la désignation du Secrétaire Exécutif Adjoint (ou du titulaire de la fonction, éventuellement modifiée) aurait été le témoignage d'une volonté de dépolitisation des procédures pratiquées par l'Association. Ni le CST, ni le CA n'ont malheureusement voulu - ou pu - franchir ce pas. Notre suggestion de faire précéder l'élection proprement dite par l'intervention d'un comité de nomination, constitué au sein du CA et dont le SE aurait fait partie, n'a pas été retenue.

En revanche, le SE et le Président du CST ont procédé à un remaniement de la description des tâches du SEA.

Le texte révisé de cette description met clairement en évidence la relation de subordination du poste au SE et le pouvoir que celui-ci détient de définir et de délimiter précisément les domaines d'activité du SEA. Ce texte a été soumis au CA qui, considérant que la question relevait de la compétence du SE, a estimé ne pas devoir prendre de position spécifique à ce sujet.

S'agissant des perspectives découlant, en pratique, de l'élection à laquelle il a été procédé, il convient de noter l'impression favorable faite sur le CST et le SE par la personnalité du nouveau SEA. M. Leroux se déclare satisfait de la désignation de son nouveau collaborateur, avec lequel il se dit convaincu de pouvoir travailler efficacement.

3.4. Que les responsabilités du CST n'aient pas été, dès maintenant, formellement étendues apparait sans doute comme une altération plus sérieuse des mesures préconisées par l'EMR, considérées comme un tout, que la méconnaissance de la recommandation relative à la fonction de SEA.

Un certain nombre d'éléments sont toutefois de nature à corriger ou à atténuer les conséquences de cette omission volontaire, et d'abord le fait que, de manière tout aussi délibérée, le CA n'a pas exclu la possibilité d'un élargissement du mandat du CST. La mission de consultation confiée au SE laisse, sur une telle évolution, une cuverture qu'il importe d'apprécier à la lumière, notamment, des positions affichées par le CST, dans sa composition actuelle, autant que par le SE lui-même, à propos de cette question. M. Leroux fait clairement état de son intention de s'appuyer largement sur un CST dont la composition doit être fondamentalement modifiée au cours des prochains mois et qui doit tenir sa première réunion dans sa nouvelle formation en juin 1984; et d'entretenir des relations suivies avec le Président du Comité. Il ne dépendra que du SE et du CST luimême que ce dernier puisse avoir à traiter, dès juin 1984 et dans l'esprit des conclusions de l'EMR, de problèmes relevant de ce qu'aurait été son mandat élargi, et notamment des procédures de recrutement et de rémunération du personnel.

3.5.

Il nous semble objectivement possible de dégager de l'analyse qui précède les conclusions suivantes.

Bien que l'ADRAO n'ait pas dès a présent souscrit à la totalité des recommandations résultant des revues du CGIAR, on peut considérer comme globalement réalisées les conditions d'une mise en oeuvre rapide de la très grande majorité des mesures préconisées par les panels des revues

en vue d'assurer le renforcement de l'Association et lui permettre de fonctionner avec l'efficacité nécessaire. Des dispositions sont d'ores et déjà prises pour l'application très prochaine de plusieur de ces mesures.

Les déclarations faites et les propos tenus à Bissau dénotent, de la part des différents échelons dirigeants de l'organisation, une prise de conscience réelle de l'importance des problèmes que les revues ont permis d'identifier, et une très large adhésion aux solutions proposées.

La capacité de l'Association à réformer ses structures, et à améliorer concrètement son dispositif et ses méthodes de travail, repose de manière prépondérante sur les aptitudes et les performances effectives de son Secrétaire Exécutif. A cet égard, répétons-le, l'insistance avec laquelle a été soulignée l'autorité dont est investie sa fonction, doit être considérée comme un élément positif. D'autre part, la détermination et le courage dont le Secrétaire Exécutif en titre a su faire preuve en quelques circonstances ou à propos de certains problèmes, au cours de ces dernières semaines, sont de bon augure.

Le Secrétaire Exécutif sait naturellement que la communauté des donateurs suivra attentivement les accomplissements de l'Association dans les directions jugées de commun accord, à la suite des revues du CGIAR, comme étant les plus appropriées. Attentifs, les donateurs ne manqueront pas en effet de l'être à la manière dont l'organisation, la gestion et les activités de l'ADRAO s'inspireront de l'esprit - sinon éventuellement de la lettre - des recommandations formulées par les revues. Il ne faut pas exclure que l'ADRAO puisse par elle-même apporter la démonstration que son statut d'organisation intergouvernementale n'est nullement incompatible avec l'application de procédures pratiquées efficacement par les Centres Internationaux appartenant au système du CGAIR.

4- Problèmes et préoccupations pour le court terme.

Parmi les questions qu'il appartiendra à l'ADRAO de traiter en priorité, éventuellement avec certains concours extérieurs et notamment l'assistance du Secrétariat du CGIAR, les plus importantes sont évoquées ci-après. Ces divers sujets de préoccupation et les actions qui doivent leur correspondre découlent normalement des mesures dont le principe a été approuvé.

par les organes directeurs de l'Association. Quelquesuns sont des problèmes annexes identifiés à l'occasion des réunions de Bissau. Toutes ces questions ont fait l'objet de plusieurs conversations avec le Secrétaire Exécutif, qui en apprécie très lucidement la portée.

#### 4.1.Situation financière

Il n'est pas nécessaire de revenir ici sur les données de cette situation et sur l'analyse de ses causes. M. Leroux a conscience de la nécessité, d'une part, de restreindre au siège les dépenses administratives de l'Association, d'autre part d'adopter une attitude agressive vis à vis des contributeurs actuellement en situation de débiteurs : les Etats-membres et certains donateurs.

Dès avant les réunions de Bissau, le Président et le Secrétaire Exécutif de l'ADRAO avaient entrepris auprès des Autorités des Etats-membres une campagne de sensibilisation visant à obtenir que ceux-ci respectent leurs engagements financiers. Ce grave problème a été traité à Bissau avec l'attention nécessaire. Sans qu'aucune délégation ait toutefois pu y notifier officiellement le versement effectif d'arriérés de contribution, plusieurs ont fait état de la mise en marche des procédures de déblocage de fonds, destines, soit du budget administratif, soit du fonds spécial, soit des deux. Le Président de l'ADRAO a reçu mandat d'effectuer dans les capitales des pays-membres les démarches nécessaires pour que se concrétise ce mouvement (1).

C'est l'intention du Président de se rendre prioritairement au Nigéria, en compagnie du Secrétaire Exécutif. Cette visite est d'autant plus nécessaire que ce pays n'a pas envoyé de délégation à Bissau, en dépit des intentions contraires exprimées récemment à un représentant du Secrétaire Exécutif de passage à Lagos, par une personnalité gouvernementale de haut rang. Outre les considérations relatives à la contribution financière de ce membre important de l' ADRAO, cette prise de contact devrait permettre un examen approfondi des relations entre le Gouvernement Nigérian et l'Association.

Le Secrétaire Exécutif prendra, avec les donateurs de l'ADRAO, les contacts nécessaires pour obtenir : le cas échéant, le respect des engagements existant ou l'accélération des procédures internes de déblocage des fonds (le Secrétariat du CGIAR pourra l'appuyer dans ces démarches); la prise en considération de nouveaux engagements; et, à mesure que progressera le travail de programmation, l'harmonisation de ces engagements avec le futur programme intégré de l'Association.

(1) Et pour obtenir, au Libéria, l'aplanissement d'un contentieux révélé à Bissau et relatif à la prise en charge par le pays-hôte de certaines dépenses de siège.

.../...

Des dispositions ont été prises à Bissau entre les représentants du Secrétariat du CGIAR et le Secrétaire Exécutif de l'ADRAO pour que s'accomplisse dans les meilleurs délais et conditions le recrutement du futur titulaire du poste de Responsable financier (Chief financial Officer) dont la création a été décidée. Une procédure de recrutement et un calendrier ont été mis au point. Le Secrétariat du CGIAR assistera l'ADRAO dans leur mise en oeuvre. On notera que ce recrutement s'effectuera sur une base internationale.

#### 4.3. Elaboration d'un programme intégré

Des dispositions ont, de même, été prises en ce qui concerne la mise en oeuvre du schéma proposé par M. Leroux pour l'élaboration du programme intégré de l'Association. Il appartient à celle-ci de préciser d'urgence le profil etles termes de référence du consultant de haut niveau qu'elle demande au Secrétariat du CGIAR d'identifier pour son compte. Ce consultant devra en principe être disponible pour s'associer de mi-mars à mi-mai 1984 aux travaux du Comité interne de programmation qui sera instauré dès le début de l'année, et pour participer à la réunion au cours de laquelle, en juin 1984, le projet de programme sera soumis au CST élargi.

#### 4.4. Direction de la Division de la Recherche

La prochaine vacance du poste de responsable de la recherche va intervenir au moment ou s'accomplira le travail de programmation dont il est question ci-dessus. La réunion sous une autorité unique des actuels Départements de la Recherche et du Développement, avec désormais le rang de Divisions, doit s'effectuer dans le même temps.

Quelles que soient la compétence et les qualités de la personnalité qui sera appelée à diriger le futur Département de la Recherche et du Développement, il semble souhaitable que le poste de Chef de la Division de la Recherche soit pourvu rapidement. Le Secrétaire Exécutif jugera certes lui-même, en fonction des impératifs et des contraintes dont il doit tenir compte, du moment auquel il pourra s'acquitter de cette obligation. Quoi qu'il en soit, il importe qu'il s'inspire de l'esprit des recommandations des revues en procédant à ce recrutement sur une base très large, sans exclure éventuellement le choix de candidats non originaires de la région.

#### 4.5. Restructuration du Comité Scientifique et Technique

Dans sa nouvelle composition, le CST doit comprendre sept membres désignés parmi les candidatures proposées par les Etats-membres de l'ADRAO et sept membres choisis par le CGIAR et siégeant au Comité au nom des donateurs.

Il est convenu que le Secrétariat du CGAIR entame dès à présent les consultations nécessaires au choix de ces derniers, lesquels devraient en principe participer à la réunion du Comité prévue pour le mois de juin 1984. Il sera tenu compte autant que possible de la recommandation formulée par le CST à Bissau en ce qui concerne le maintien de la participation aux activités du Comité des organisations coopérant dans le domaine rizicole : IITA, IRRI, IRAT.

Les membres actuels du CST, ressortissants des pays-membres de l'ADRAO, demeureront en place jusqu'à la fin de leur mandat, c'est à dire jusqu'à fin 1984. Le mandat de trois d'entre eux sera alors renouvelable (parmi ceux-ci, le nouveau membre désigné à Bissau n'a été élu que pour un mandat d'une année).

Le CST aura en principe à procéder, au cours de sa session de décembre 1984, à l'élection d'un nouveau Président qui conduira les travaux du Comité dès cette même session et pendant deux années.

Ce sera, à sa réunion de juin 1984, une des préoccupations du CST de définir, en liaison avec le Secrétaire Exécutif, les modalités de la désignation des nouveaux membres ressortissants des pays de la région, appelés à siéger au Comité à compter de 1985. Il conviendra, ici encore, de s'inspirer de l'esprit des recommandations des revues du CGIAR et de créer les conditions d'un choix de membres hautement qualifiés. Les durées des mandats des nouveaux membres (et des membres réélus pour un deuxième terme) ne manqueront pas d'être fixées de façon à assurer le nécessaire échelonnement dans le temps des renouvellements ultérieurs.

Rappelons que le Secrétaire aura, au cours de 1984, la tâche importante de consulter les Gouvernements des pays-membres sur l'élargissement des responsabilités du CST.

#### 4.6. Préparation des sessions du CST et du CA

Quels que doivent être les résultats des consultations évoquées ci-dessus, il est certain que les méthodes de travail et le style des débats du CST gagneraient à subir une transformation que justifie à lui seul l'élargissement numérique du Comité. Il est en effet souhaitable que les réunions du CST perdent le caractère quelque peu formel et solennel de réunions internationales de nature politique et acquièrent d'avantage celui de séances de travail entre experts. Le Comité sera amené à créer en son sein des sous-comités spécialisés chargés de traiter de questions spécifiques ou d'approfondir l'étude de tel ou tel sujet particulier.

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Il ne s'agit évidemment pas d'envisager une modification du style des travaux du Conseil d'Administration de l'ADRAO, lequel correspond bien au statut et aux responsabilités des délégations nationales qui le composent. Un effort semble en revanche nécessaire pour assurer une préparation plus efficace de ces travaux. Il importe notamment que les questions relevant de la compétence du Conseil et appelant une prise de position de celui-ci soient clairement identifiées en fonction de leur importance; et que les éléments destinés à éclairer les décisions du Conseil soient effectivement à la disposition de ses membres. Il va de soi que cette préparation est l'affaire du Secrétaire Exécutif.

#### 4.7. Statut du programme d'essais multilocaux coordonnés.

Les consultations que le Secrétaire Exécutif a reçu mandat d'entreprendre au cours de l'année 1984 à propos de l'extension des responsabilités du CST seront pour lui l'occasion d'examiner avec ses interlocuteurs des différents pays-membres les conditions dans lesquelles les essais multilocaux coordonnés pourront être désormais pris en charge par les programmes nationaux.

## 4.8. <u>Notification des réactions de l'ADRAO aux rapports</u> provisoiresdes revues du CGIAR.

Son Conseil d'Administration ayant eu connaissance des rapports de ces revues et ayant délibéré de leur contenu, il revient maintenant à l'ADRAO, selon la procédure en vigueur au sein du système du CGIAR, de faire connaître les réactions que ces rapports auront suscités de sa part.

Le Secrétaire Exécutif se propose d'adresser prochainement aux Secrétariats du Groupe et de son Comité Technique Consultatif (TAC) une note précisant les positions adoptées à Bissau, et exposant les mesures concrètes d'application correspondantes.

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Les mesures décidées ou annoncées à l'occasion des réunions de Bissau sont prometteuses et fant bien augurer pour l'avenir de l'ADRAO. Il n'en reste pas moins que, pour réussir dans leur tâche, l'Association et son Secrétaire Exécutif auront besoin d'encouragement, d'assistance et de suivi. Il conviendrait que le Secrétaire Exécutif du CGIAR et le Président du TAC réfléchissent ensemble aux modalités selon lesquelles ces différentes formes d'appui pourront s'organiser.

Le 17 décembre 1983

Guy Vallaeys

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TREIZIEMES SESSIONS ORDINAIRES DU COMITE SCIENTIFIQUE ET TECHNIQUE ET DU CONSEIL D'ADMINISTRATION DE L'ASSOCIATION POUR LE DEVELOPPEMENT DE LA RIZICULTURE EN AFRIQUE DE L'OUEST.

(Bissau, 28 novembre - 9 décembre 1983).

12-17-83

Le Comité Scientifique et Technique (CST) et le Conseil d'Administration (CA) de l'ADRAO ont tenu leur treizième session crdinaire à Bissau, respectivement du 28 novembre au 2 décembre et du 5 au 9 décembre 1983.

Une discussion des rapports provisoires des revues externes des programmes (EPR) et de la gestion (EMR) de l'ADRAO effectuées sous l'égide du CGIAR de juin à septembre 1983 était inscrite à l'ordre du jour de chacune de ces réunions. Les rapports des revues organisées en octobre 1982 par le Gouvernement Français et en septembre 1983 par l'USAID ont été discutés par la même occasion. La similitude des conclusions de ces différentes revues a permis de centrer les débats spécialement sur les recommandations formulées par les missions mises sur pied au nom du CGIAR.

Le rapport et les conclusions provisoires de l'EPR ont été exposés devant le CST et le CA par le Dr. Almiro Blumenschein, qui a présidé le panel chargé de cette revue, tandis que M. CurtisFarrar, Secrétaire Exécutif du CGIAR, présentait et commentait les recommandations de l'EMR au nom du Dr. Laurence Stifel, indisponible. Le signataire de la présente note assistait aux réunions de Bissau à titre d'observateur, représentant le CGIAR.

Le CST a décidé de tenir à huis clos sa séance consacrée à l'examen des rapports des revues. Les membres des panels des revues présents à Bissau (1) ont assité à cette séance et ont pu participer effectivement à la discussion. En revanche, le débat qui, au sein du CA, a succédé à la présentation des rapports des revues, s'est déroulé en présence des seuls Chefs de Délégation des Etats-membres, du Secrétaire Exécutif de l'ADRAO et du Président du CST (2).

- (1) Outre MM. Blumenschein et Farrar : MM. A. Von der Osten (Secrétaire Exécutif du TAC), R.Herdt (Expert, Secrétariat CGIAR),
  B. Wheeler (membre du panel EPR), ainsi que, au titre de la revue de l'USAID, MM. D. Mitchell (Chef de la mission d'évaluation),
  R. Gray et M. Smith.
- (2) M. Sidi Coulibaly, ancien Secrétaire Exécutif de l'ADRAC prit également part à ce débat.
Le présent document ne prétend pas rendre compte de l'ensemble des délibérations dont les différents points des ordres du jour des deux réunions tenues à Bissau ont fait l'objet. Son propos est essentiellement d'apporter une information sur l'accueil réservé par les organes dirigeants de l'ADRAO - Secrétaire Exécutif, CST,CA - aux recommandations formulées par les panels des deux revues organisées au titre du CGIAR.

Les positions adoptées par l'ADRAD à Bissau, ainsi que certaines mesures déjà décidées ou annoncées par le Secrétaire Exécutif de l'Association, seront commentées, à la lumière, le cas échéant, d'entretiens particuliers tenus en marge des réunions.

Finalement quelques considérations seront développées sur les principales difficultés auxquelles l'ADRAO semble devoir être confrontée dans le proche avenir, ainsi qu'à propos des conditions d'une mise en oeuvre efficace des mesures de redressement de la situation de l'Association.

#### 1 - Bref rappel des recommandations formulées par les panels des revues externes de l'ADRAO.

- 1.1. Le rapport provisoire de l'EPR conclut à la nécessité d'apporter deux changements majeurs aux programmes de l'ADRAO :
  - un renforcement des actions permettant d'aider plus directement les pays membres à augmenter leur production rizicole; à cet effet, un accroissement des activités du programme à éxécuter dans les pays-membres et une réduction numérique des effectifs de personnel basés à Monrovia;
  - l'orientation des travaux vers la mise au point de technologies appropriées aux différents écosystèmes rizicoles de la région, un accent particulier étant mis sur la riziculture pluviale.

Des recommandations spécifiques sont formulées en ce qui concerne :

- les quatre "projets spéciaux" et, parmi ceux-ci, en particulier le développement à Bouaké du programme relatif à la riziculture pluviale ;
- le programme d'essais coordonnés (notamment, rattachement aux projets spéciaux et prise en charge par les programmes nationaux);
- les activités et la structure des différentes unités chargées de la mise en oeuvre du programme de l'ADRAO dans les domaines de la recherche, du développement, de la communication,...

Parmi les recommandations de portée générale, il convient de mentionner celle qui souligne l'obligation d'intégrer les activités de l'ADRAO dans un programme cohérent, à court et à moyen terme, étendu à l'ensemble des pays-membres; et la nécessité qui en découle d'un important effort de programmation assorti de mesures internes de contrôle et de révision adéquates.

#### Ces recommandations sont relatives :

 au Comité Scientifique et Technique, dont il s'agit de faire un instrument efficace d'appui au CA dans la définition de la politique globale de l'Association, et au Secrétaire Exécutif (SE), notamment dans l'accomplissement de ses tâches de planification.

Il est recommandé de procéder à :

1.2.

- un élargissement numérique du CST qui serait désormais composé de 7 membres désignés sur proposition des Etats-membres de l'Association, de 7 membres choisis par le CGIAR au nom des donateurs, et du SE, membre ex-officio;
- une extension de son mandat par délégation de certaines responsabilités spécifiques de gestion (examen systèmatique et de manière intégrée du programme et de ses implications budgétaires et administratives; participation effective aux procédures de recrutement des cadres dirigeants et du staff supérieur de l'organisation);
- au poste de Secrétaire Exécutif Adjoint (SEA) : les modalités d'élection en vigueur apparaissant comme une des causes de la faiblesse du leadership dont souffre actuellement l'Association, il est recommandé de supprimer ce poste auquel devra être substituée une fonction d'Assistant au SE, choisi par celui-ci dans le cadre d'une procédure de recrutement international;
- à l'adoption de modalités de recrutement et de conditions de rémunération de nature à assurer un niveau élevé de qualification du personnel : établissement de normes de sélection; recrutement objectif et agressif, sur base internationale; barême de salaires attractif, harmonisé avec ceux d'autres organisations de la région; ajustement en fonction des performances;

# - au système de gestion financière de l'Association :

- recrutement d'un Responsable financier (Chief financial Officer) placé sous l'autorité directe du SE, chargé d'établir un système efficace de gestion financière et de vérification, et capable de procéder à l'intégration du budget et de la planification financière au programme de l'Association;
- révision des modalités actuelles de vérification (auditing) interne et externe; sélection sur une base internationale d'un commissaire aux comptes (external auditor);
- recherche urgente de solutions au problème actuel de liquidités : démarches auprès des bailleurs de fonds et des Gouvernements des pays-membres.

3.

# 2 - Positions adoptées par l'ADRAO à Bissau

- 2.1. On se souviendra des déclarations de M. Boakai, alors Président du CA de l'ADRAO, à la réunion d'information organisée à Washington, le 4 novembre 1983, en marge de la session du CGIAR :
  - accord sur la mise en oeuvre, dès après les réunions de Bissau, des recommandations de l'EPR et de l'EMR ayant un caractère technique, scientifique, administratif ou financier, et dont l'application dépend de l'autorité du SE;
  - certaines recommandations posent un problème politique et relèvent de la compétence du CA; leur application suppose un amendement des statuts de l'Association.

Parmi ces dernières, M. Boakai a mentionné celle qui concerne la composition et le mandat du CSI - au principe de laquelle il s'est déclaré favorable - et celle qui a trait au poste de SEA et à la redéfinition de la fonction correspondante. A propos de celle-ci, M. Boakai a indiqué qu'il envisageait de soumettre deux options au CA :

- I'une présentée comme une mesure de transition et consistant à procéder sur le champ, et pour une durée de trois ans, à l'élection du SEA parmi les candidatures déjà enregistrées, une nouvelle procédure de désignation pouvant être mise au point avant la fin de ce mandat;
- l'autre proposant l'ajournement de cette élection jusqu'à la mi-1984, et la mise en oeuvre alors de nouvelles modalités de désignation du collaborateur immédiat du SE.
- 2.2. Dans sa présentation de l'ADRAO à la Semaine des Centres à Washington, M. H. Leroux, Secrétaire Exécutif, avait fait état de son adhésion à l'ensemble des recommandations des deux revues externes du CGIAR.

Dans une note de commentaires (position paper) soumise à Bissau aux membres du CST, M. Leroux confirme et explicite ces déclarations; il demande au CST d'adopter intégralement les recommandations des revues du CGIAR et de proposer leur mise en oeuvre dans les meilleurs délais. Il assortit ces positions de propositions et de déclarations d'intentions relatives à diverses mesures concrètes :

- en ce qui concerne les recommandations d'ordre technique, et spécialement de l'élaboration d'un programme global intégré : création dès le début de 1984, d'une commission interne interdépartementale qui bénéficierait du concours d'un expert de haut niveau (identifié avec l'aide du Secrétariat du CGIAR) et dont les travaux seraient soumis à la proheaine session du CSI, prévue pour juin 1984;

4.

- création d'un échelon de coordination unique pour l'ensemble constitué actuellement par les Départements de la Recherche et du Développement;
- déploiement prochain (mars 1984) de personnels basés au quartier-général, et ce au bénéfice, en priorité, du programme de recherche sur la riziculture pluviale à Bouaké; examen à Bouaké, dès avril 1984, des propositions concernant ce programme et ses articulations avec les activités des autres institutions travaillant dans la région;
- fusion en un service unique, des Divisions de la Documentation et de la Communication.

Tout en se déclarant favorable aux quatre recommandations de l'EMR, le Secrétaire Exécutif préconise :

- la dissolution et la réorganisation immédiate du CST,
- le choix de la deuxième option évoquée à Washington par le Président de l'ADRAO, en ce qui concerne la fonction de SEA,
- la scission du Département de l'Administration et des Finances en deux unités distinctes, placées l'une et l'autre sous l'autorité directe du SE.

Le Secrétaire Exécutif a en outre informé le CST de son intention de mettre un terme aux fonctions du Chef du Département de la Recherche dont les points de vue et le style de direction ne lui paraissent pas compatibles avec les intérêts de l'Association.

Dans son rapport au CA, le Secrétaire Exécutif a redit de la manière la plus claire son souhait de voir adopter et mettre immédiatement en application les recommandations dans leur totalité. M. Leroux n'a hésité ni à mettre les Etats-membres devant leurs responsabilités dans la marche de l'organisation, en particulier en ce qui concerne leurs obligations financieres, ni à mettre en évidence le caractère impopulaire de certaines mesures exigées par la situation. Il a sollicité du CA des pouvoirs accrus.

2.3. Les discussions consacrées par le Comité Scientifique et Technique aux rapports des revues se sont référées à la note de commentaires (position paper) du SE.

Le rapport de la session du CST souligne la qualité des analyses auxquelles ont procédé les panels des revues et la pertinence des solutions proposées. Dans une recommandation finale, le CST invite le CA a adopter, s'il y a lieu sous leur forme amendée, les propositions de restructuration formulées par les revues.

Ce rapport fait spécifiquement mention, en les approuvant :

- des mesures suggérées par le SE pour la mise en oeuvre de la recommandation de l'EPR relative à la programmation des activités de l'ADRAO;

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- du rattachement de la Recherche et du Développement, sous forme de Divisions, à un Département unique;
- de l'élargissement du mandat et de la restructuration de la composition du CST, tels que les a recommandés l'EMR; des indications sont données sur les modalités concrètes de mise en oeuvre de cette recommandation.

Le CST suggère au CA de procéder à l'élection du nouveau SEA selon les prévisions initiales. Toutefois, il souligne la nécessité d'être attentif aux qualifications des candidats, et l'importance d'une claire définition de la place et des responsabilités attribuées à ce poste dans le système de direction de l'Association. Il recommande l'implication du SE et du CST dans les procédures de sélection du personnel supérieur, et indique son intention de participer à l'établissement de normes pour le recrutement et la rémunération de ce personnel. Il invite le CA à réaffirmer l'autorité du SE sur toute la structure de l'ADRAD.

Enfin, le rapport du CST évoque expressément, pour les appuyer fortement, les recommandations n° 3 et 4 de l'EMR relatives respectivement aux conditions de rémunération du personnel et au renforcement du système de gestion financière, ainsi qu'aux graves difficultés actuelles de trésorie de l'ADRAO.

2.4.

Au cours de la session du Conseil d'Administration, la situation financière difficile de l'ADRAD et la nécessité urgente d'améliorer cette situation ont été soulignées dans les déclarations de plusieurs personnalités : le Chef de l'Etat Guinéen, dans son discours d'ouverture; le Président élu de l'ADRAD, M. Paulo Correia, Ministre du Développement Rural de la Guinée-Bissau; le Président sortant, M. Boakai, qui a invité le Conseil à accorder la plus grande attention aux conclusions et recommandations des revues.

Les discussions concernant les revues - qui se sont tenues à huis clos - se sont référées particulièrement au rapport du CST. Au cours de ces mêmes séances à huis clos, le Conseil a débattu de la situation financière de l'Association et procédé aux élections du Secrétaire Exécutif Adjoint et du nouveau titulaire d'un poste vacant au sein du CST. Ont été élus à ces fonctions respectivement M. Alieu Jagne et M. M. Sompo-Ceesay, tous deux de nationalité gambienne.

Deux documents rendent compte des réunions du Conseil : un rapport des séances tenues à huis clos et le rapport proprement dit de la session du CA.

Le premier de ces documents fait mention de la discussion à laquelle a donné lieu la décision du Secrétaire Exécutif de mettre fin aux fonctions du Directeur du Département de la Recherche. Cette décision a reçu l'approbation du Conseil, qui a admis qu'une telle mesure relève bien de la responsabilité du SE.

Ce même document constate l'adoption par le Conseil des propositions du CST, moyennant cependant, en ce qui concerne la restructuration du CST, une position différente :

- le Conseil ratifie la proposition d'élargissement numérique du CST, par désignation de sept membres choisis par le CGIAR au nom des donateurs;
- tout en rappelant le rôle consultatif du CST, le Conseil charge le SE de recueillir les avis des Gouvernements des Etats-membres sur l'opportunité d'une extension du mandat de ce Comité ; la question sera réexaminée lors de la prochaine session du CA, en fin 1984, à la lumière du résultat de cette consultation.

Le rapport final de la session du Conseil d'Administration comporte une série de résolutions parmi lesquelles les quatre suivantes ont trait aux préoccupation faisant l'objet de la présente note :

- par sa résolution N° 2, le Conseil donne mandat à son Président d'entreprendre des visites auprès des Chefs d'Etat et de Gouvernement des pays-membres afin d'attirer leur attention sur la situation financière très préoccupante de l'Association et sur la nécessité impérieuse de s'acquitter de leurs obligations financières;
- la résolution N° 4 reconnaît la valeur des revues dont l'ADRAO vient de faire l'objet ; le Conseil déclare accepter les recommandations des revues telles qu'elles ont été présentées, sous réserve des amendements qui y ont été apportés ;
- la résolution N° 6 constitue un appel pressant adressé aux membres de l'Association pour qu'ils s'acquittent dans les meilleurs délais de leurs arriérés de contributions et de leurs contributions ;
- la résolution N°8 évoque précisément les effets néfastes des crises d'autorité dont souffre l'ADRAO et se réfère aux recommandations des revues, reprises par le CST, à ce sujet ; l'autorité du Secrétaire Exécutif sur l'ensemble du personnel, et en particulier sur le SEA, est réaffirmée; et confirmée la responsabilité qui lui incombe de nommer, diriger et mettre fin aux fonctions du personnel du Secrétariat Exécutif.

3- Appréciation de la situation découlant de ces positions.

- 3.1. Compte tenu des positions prises en dernier ressort par le CA, l'attitude de l'ADRAD vis à vis des conclusions des revues du CGIAR peut se résumer comme suit :
  - Adoption de l'ensemble des recommandations de l'EPR; le SE a le pouvoir d'appliquer celles-ci; dès à présent, la mise

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en oeuvre de plusieurs mesures concrètes qui sont dans la ligne de ces recommandations est annoncée pour le très proche avenir.

Il importe toutefois de noter qu'aucune mention n'est faite de la recommandation relative à la prise en charge des essais coordonnés par les programmes nationaux. Le mutisme des documents à ce sujet doit-il être considéré comme valant agrément ? Une prise de position explicite des délégations sur cette question aurait été souhaitable.

- Si les recommandations N° 3 et 4 de l'EMR ont été retenues, la recommandation N° 1, relative à la composition et au fonctionnement du CST, n'a été adoptée que partiellement. La recommandation N° 2 n'a pas été suivie : un SEA a été élu selon les procédures anciennes, sans que soit nulle part indiquée une quelconque intention de réviser ultérieurement les modalités de désignation du titulaire de cette fonction.

Il faut donc constater - et regretter - que les mesures jugées par les panels des revues (et particulièrement par celui de l'EMR) comme indispensables au redressement de la situation de l'ADRAO n'ont pas été retenues dans leur intégralité . Cette sélectivité peut tenir à divers motifs ou attitudes d'esprit : volonté de manifester à la communauté des donateurs un attachement à une certaine liberté de choix; désir d'affirmer, ou refus de laisser entamer, une souveraineté liée au statut d'organisation inter-gouvernementale qui est celui de l'ADRAO; crainte d'un empiétement sur les prérogatives du Secrétaire Exécutif,...

- 3.2. Le souci de l'autorité du Secrétaire Exécutif, qui a prévalu au cours des étapes successives de la réflexion des différents organes de l'ADRAO, semble devoir être interprété comme constituant de la part de ceux-ci, le correctif nécessaire de leur position partiellement restrictive vis à vis des recommandations formulées par les panels des revues. La réaffirmation formelle de cette autorité a en fait la signification d'un renforcement de celle-ci. A cet égard, l'attitude du Conseil d'Administration à propos de la décision du SEd'interrompre les fonctions du Directeur actuel du Département de la Recherche peut être considérée comme ayant valeur d'un test positif.
- 3.3. L'ajournement de la désignation du Secrétaire Exécutif Adjoint (ou du titulaire de la fonction, éventuellement modifiée) aurait été le témoignage d'une volonté de dépolitisation des procédures pratiquées par l'Association. Ni le CST, ni le CA n'ont malheureusement voulu - ou pu - franchir ce pas. Notre suggestion de faire précéder l'élection proprement dite par l'intervention d'un comité de nomination, constitué au sein du CA et dont le SE aurait fait partie, n'a pas été retenue.

En revanche, le SE et le Président du CST ont procédé à un remaniement de la description des tâches du SEA.

Le texte révisé de cette description met clairement en évidence la relation de subordination du poste au SE et le pouvoir que celui-ci détient de définir et de délimiter précisément les domaines d'activité du SEA. Ce texte a été soumis au CA qui, considérant que la question relevait de la compétence du SE, a estimé ne pas devoir prendre de position spécifique à ce sujet.

S'agissant des perspectives découlant, en pratique. de l'élection à laquelle il a été procédé, il convient de noter l'impression favorable faite sur le CST et le SE par la personnalité du nouveau SEA. M. Leroux se déclare satisfait de la désignation de son nouveau collaborateur, avec lequel il se dit convaincu de pouvoir travailler efficacement.

3.4. Que les responsabilités du CST n'aient pas été, dès maintenant, formellement étendues apparait sans doute comme une altération plus sérieuse des mesures préconisées par l'EMR, considérées comme un tout, que la méconnaissance de la recommandation relative à la fonction de SEA.

Un certain nombre d'éléments sont toutefois de nature à corriger ou à atténuer les conséquences de cette omission volontaire, et d'abord le fait que, de manière tout aussi délibérée, le CA n'a pas exclu la possibilité d'un élargissement du mandat du CST. La mission de consultation confiée au SE laisse, sur une telle évolution, une cuverture qu'il importe d'apprécier à la lumière, notamment, des positions affichées par le CST, dans sa composition actuelle, autant que par le SE lui-même, à propos de cette question. M. Leroux fait clairement état de son intention de s'appuyer largement sur un CST dont la composition doit être fondamentalement modifiée au cours des prochains mois et qui doit tenir sa première réunion dans sa nouvelle formation en juin 1984; et d'entretenir des relations suivies avec le Président du Comité. Il ne dépendra que du SE et du CST luimême que ce dernier puisse avoir à traiter, dès juin 1984 et dans l'esprit des conclusions de l'EMR, de problèmes relevant de ce qu'aurait été son mandat élargi, et notamment des procédures de recrutement et de rémunération du personnel.

3.5.

Il nous semble objectivement possible de dégager de l'analyse qui précède les conclusions suivantes.

Bien que l'ADRAO n'ait pas dès a présent souscrit à la totalité des recommandations résultant des revues du CGIAR, on peut considérer comme globalement réalisées les conditions d'une mise en oeuvre rapide de la très grande majorité des mesures préconisées par les panels des revues

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en vue d'assurer le renforcement de l'Association et lui permettre de fonctionner avec l'efficacité nécessaire. Des dispositions sont d'ores et déjà prises pour l'application très prochaine de plusieur de ces mesures.

Les déclarations faites et les propos tenus à Bissau dénotent, de la part des différents échelons dirigeants de l'organisation, une prise de conscience réelle de l'importance des problèmes que les revues ont permis d'identifier, et une très large adhésion aux solutions proposées.

La capacité de l'Association à réformer ses structures, et à améliorer concrètement son dispositif et ses méthodes de travail, repose de manière prépondérante sur les aptitudes et les performances effectives de son Secrétaire Exécutif. A cet égard, répétons-le, l'insistance avec laquelle a été soulignéel'autorité dont est investie sa fonction, doit être considérée comme un élément positif. D'autre part, la détermination et le courage dont le Secrétaire Exécutif en titre a su faire preuve en quelques circonstances ou à propos de certains problèmes, au cours de ces dernières semaines, sont de bon augure.

Le Secrétaire Exécutif sait naturellement que la communauté des donateurs suivra attentivement les accomplissements de l'Association dans les directions jugées de commun accord, à la suite des revues du CGIAR, comme étant les plus appropriées. Attentifs, les donateurs ne manqueront pas en effet de l'être à la manière dont l'organisation, la gestion et les activités de l'ADRAO s'inspireront de l'esprit - sinon éventuellement de la lettre - des recommandations formulées par les revues. Il ne faut pas exclure que l'ADRAO puisse par elle-même apporter la démonstration que son statut d'organisation intergouvernementale n'est nullement incompatible avec l'application de procédures pratiquées efficacement par les Centres Internationaux appartenant au système du CGAIR.

#### 4- Problèmes et préoccupations pour le court terme.

Parmi les questions qu'il appartiendra à l'ADRAO de traiter en priorité, éventuellement avec certains concours extérieurs et notamment l'assistance du Secrétariat du CGIAR, les plus importantes sont évoquées ci-après. Ces divers sujets de préoccupation et les actions qui doivent leur correspondre découlent normalement des mesures dont le principe a été approuvé.

par les organes directeurs de l'Association. Quelquesuns sont des problèmes annexes identifiés à l'occasion des réunions de Bissau. Toutes ces questions ont fait l'objet de plusieurs conversations avec le Secrétaire Exécutif, qui en apprécie très lucidement la portée.

#### 4.1.Situation financière

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Il n'est pas nécessaire de revenir ici sur les données de cette situation et sur l'analyse de ses causes. M. Leroux a conscience de la nécessité, d'une part, de restreindre au siège les dépenses administratives de l'Association, d'autre part d'adopter une attitude agressive vis à vis des contributeurs actuellement en situation de débiteurs : les Etats-membres et certains donateurs.

Dès avant les réunions de Bissau, le Président et le Secrétaire Exécutif de l'ADRAO avaient entrepris auprès des Autorités des Etats-membres une campagne de sensibilisation visant à obtenir que ceux-ci respectent leurs engagements financiers. Ce grave problème a été traité à Bissau avec l'attention nécessaire. Sans qu'aucune délégation ait toutefois pu y notifier officiellement le versement effectif d'arriérés de contribution, plusieurs ont fait état de la mise en marche des procédures de déblocage de fonds, eu titre, soit du budget administratif, soit du fonds spécial, soit des deux. Le Président de l'ADRAO a reçu mandat d'effectuer dans les capitales des pays-membres les démarches nécessaires pour que se concrétise ce mouvement (1).

C'est l'intention du Président de se rendre prioritairement au Nigéria, en compagnie du Secrétaire Exécutif. Cette visite est d'autant plus nécessaire que ce pays n'a pas envoyé de délégation à Bissau, en dépit des intentions contraires exprimées récemment à un représentant du Secrétaire Exécutif de passage à Lagos, par une personnalité gouvernementale de haut rang. Outre les considérations relatives à la contribution financière de ce membre important de l' ADRAO, cette prise de contact devrait permettre un examen approfondi des relations entre le Gouvernement Nigérian et l'Association.

Le Secrétaire Exécutif prendra, avec les donateurs de l'ADRAO, les contacts nécessaires pour obtenir : le cas échéant, le respect des engagements existant ou l'accélération des procédures internes de déblocage des fonds (le Secrétariat du CGIAR pourra l'appuyer dans ces démarches); la prise en considération de nouveaux engagements; et, à mesure que progressera le travail de programmation, l'harmonisation de ces engagements avec le futur programme intégré de l'Association.

(1) Et pour obtenir, au Libéria, l'aplanissement d'un contentieux révélé à Bissau et relatif à la prise en charge par le pays-hôte de certaines dépenses de siège.

#### 4.2. Gestion financière

Des dispositions ont été prises à Bissau entre les représentants du Secrétariat du CGIAR et le Secrétaire Exécutif de l'ADRAO pour que s'accomplisse dans les meilleurs délais et conditions le recrutement du futur titulaire du poste de Responsable financier (Chief financial Officer) dont la création a été décidée. Une procédure de recrutement et un calendrier ont été mis au point. Le Secrétariat du CGIAR assistera l'ADRAO dans leur mise en oeuvre. On notera que ce recrutement s'effectuera sur une base internationale.

# 4.3. Elaboration d'un programme intégré

Des dispositions ont, de même, été prises en ce qui concerne la mise en oeuvre du schéma proposé par M. Leroux pour l'élaboration du programme intégré de l'Association. Il appartient à celle-ci de préciser d'urgence le profil etles termes de référence du consultant de haut niveau qu'elle demande au Secrétariat du CGIAR d'identifier pour son compte. Ce consultant devra en principe être disponible pour s'associer de mi-mars à mi-mai 1984 aux travaux du Comité interne de programmation qui sera instauré dès le début de l'année, et pour participer à la réunion au cours de laquelle, en juin 1984, le projet de programme sera soumis au CST élargi.

# 4.4. Direction de la Division de la Recherche

La prochaine vacance du poste de responsable de la recherche va intervenir au moment ou s'accomplira le travail de programmation dont il est question ci-dessus. La réunion sous une autorité unique des actuels Départements de la Recherche et du Développement, avec désormais le rang de Divisions, doit s'effectuer dans le même temps.

Quelles que soient la compétence et les qualités de la personnalité qui sera appelée à diriger le futur Département de la Recherche et du Développement, il semble souhaitable que le poste de Chef de la Division de la Recherche soit pourvu rapidement. Le Secrétaire Exécutif jugera certes lui-même, en fonction des impératifs et des contraintes dont il doit tenir compte, du moment auquel il pourra s'acquitter de cette obligation. Quoi qu'il en soit, il importe qu'il s'inspire de l'esprit des recommandations des revues en procédant à ce recrutement sur une base très large, sans exclure éventuellement le choix de candidats non originaires de la région.

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# 4.5. Restructuration du Comité Scientifique et Technique

Dans sa nouvelle composition, le CST doit comprendre sept membres désignés parmi les candidatures proposées par les Etats-membres de l'ADRAO et sept membres choisis par le CGIAR et siégeant au Comité au nom des donateurs.

Il est convenu que le Secrétariat du CGAIR entame dès à présent les consultations nécessaires au choix de ces derniers, lesquels devraient en principe participer à la réunion du Comité prévue pour le mois de juin 1984. Il sera tenu compte autant que possible de la recommandation formulée par le CST à Bissau en ce qui concerne le maintien de la participation aux activités du Comité des organisations coopérant dans le domaine rizicole : IITA, IRRI, IRAT.

Les membres actuels du CST, ressortissants des pays-membres de l'ADRAO, demeureront en place jusqu'à la fin de leur mandat, c'est à dire jusqu'à fin 1984. Le mandat de trois d'entre eux sera alors renouvelable (parmi ceux-ci, le nouveau membre désigné à Bissau n'a été élu que pour un mandat d'une année).

Le CST aura en principe à procéder, au cours de sa session de décembre 1984, à l'élection d'un nouveau Président qui conduira les travaux du Comité dès cette même session et pendant deux années.

Ce sera, à sa réunion de juin 1984, une des préoccupations du CST de définir, en liaison avec le Secrétaire Exécutif, les modalités de la désignation des nouveaux membres ressortissants des pays de la région, appelés à siéger au Comité à compter de 1985. Il conviendra, ici encore, de s'inspirer de l'esprit des recommandations des revues du CGIAR et de créer les conditions d'un choix de membres hautement qualifiés. Les durées des mandats des nouveaux membres (et des membres réélus pour un deuxième terme) ne manqueront pas d'être fixées de façon à assurer le nécessaire échelonnement dans le temps des renouvellements ultérieurs.

Rappelons que le Secrétaire aura, au cours de 1984, la tâche importante de consulter les Gouvernements des pays-membres sur l'élargissement des responsabilités du CST.

# 4.6. Préparation des sessions du CST et du CA

Quels que doivent être les résultats des consultations évoquées ci-dessus, il est certain que les méthodes de travail et le style des débats du CST gagneraient à subir une transformation que justifie à lui seul l'élargissement numérique du Comité. Il est en effet souhaitable que les réunions du CST perdent le caractère quelque peu formel et solennel de réunions internationales de nature politique et acquièrent d'avantage celui de séances de travail entre experts. Le Comité sera amené à créer en son sein des sous-comités spécialisés chargés de traiter de questions spécifiques ou d'approfondir l'étude de tel ou tel sujet particulier.

Il ne s'agit évidemment pas d'envisager une modification du style des travaux du Conseil d'Administration de l'ADRAO, lequel correspond bien au statut et aux responsabilités des délégations nationales qui le composent. Un effort semble en revanche nécessaire pour assurer une préparation plus efficace de ces travaux. Il importe notamment que les questions relevant de la compétence du Conseil et appelant une prise de position de celui-ci soient clairement identifiées en fonction de leur importance; et que les éléments destinés à éclairer les décisions du Conseil soient effectivement à la disposition de ses membres. Il va de soi que cette préparation est l'affaire du Secrétaire Exécutif.

#### 4.7. Statut du programme d'essais multilocaux coordonnés.

Les consultations que le Secrétaire Exécutif a reçu mandat d'entreprendre au cours de l'année 1984 à propos de l'extension des responsabilités du CST seront pour lui l'occasion d'examiner avec ses interlocuteurs des différents pays-membres les conditions dans lesquelles les essais multilocaux coordonnés pourront être désormais pris en charge par les programmes nationaux.

# 4.8. Notification des réactions de l'ADRAO aux rapports provisoiresdes revues du CGIAR.

Son Conseil d'Administration ayant eu connaissance des rapports de ces revues et ayant délibéré de leur contenu, il revient maintenant à l'ADRAO, selon la procédure en vigueur au sein du système du CGIAR, de faire connaître les réactions que ces rapports auront suscités de sa part.

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Les mesures décidées ou annoncées à l'occasion des réunions de Bissau sont prometteuses et fant bien augurer pour l'avenir de l'ADRAO. Il n'en reste pas moins que, pour réussir dans leur tâche, l'Association et son Secrétaire Exécutif auront besoin d'encouragement, d'assistance et de suivi. Il conviendrait que le Secrétaire Exécutif du CGIAR et le Président du TAC réfléchissent ensemble aux modalités selon lesquelles ces différentes formes d'appui pourront s'organiser.

Le 17 décembre 1983

Guy Vallaeys

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December 9, 1983

6-12

Dr. J. Trevor Williams Executive Secretary, IBPGR Crop Ecology and Genetic Resources Unit Plant Production and Protection Division Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla Rome 00100, Italy

Dear Dr. Williams:

Don Plucknett mentioned to me that you were interested in trying to locate an economist who might be willing to undertake research on the cost-benefit aspects of germplasm work. I have contacted the following people in the USA who might be able and interested to undertake such work, and given them your name. You may have heard from one or more of them already.

1. Dr. Ted Granm-Tomsai: a staff member of the Department of Agricultural and Applied Economics, University of Hinnesota, St. Paul, Minnesota; he has some ideas on the subject and may have a proposal under preparation. He has access to Vernon Ruttan and others at Hinnesota who might be helpful in understanding the larger issues.

2. Dr. Robert Evenson, Department of Economics, Yale University, New Naven, Connecticut; he or one of his students might be interested in the topic as it is a natural extension of the work that he has been doing for a number of years. A first rate economist and a good empirical worker.

3. Dr. Randolph Barker, Department of Agricultural Economics, Cornell University, Ithaca, New York; as in the case of Evenson, Barker may have a graduate student who may be interested, I doubt whether he would have time himself; one of the more original thinkers, very familiar with the work of the system because of his 13 years at IRRI.

4. Dr. Max Langham, Department of Agricultural Economics, University of Florida, Gainsville, Florida; has a continuing interest in tropical agriculture in a University which has a growing interest and commitment to the subject.

I have talked with each of these people and suggested that they might contact you if they have an interest in the subject. Ny judgment is that Grahm-Tomsai may be the best possibility. I hope this helps with your needs.

Sincerely yours,

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# STATEMENT BY THE CHAIRMAN OF THE IBPGR received: 11-30-23 AT THE CONCLUSION OF THE IBPGR'S PRESENTATION AT INTERNATIONAL CENTERS' WEEK

6-12

Since the Centers Week last year the world attention has been directed even more than before on the role of plant genetic resources. The free exchange of material, the safe, long-term preservation of base collections and the related legal aspects have been discussed more than ever. All this has increased the awareness of the global needs in this respect for both our and future generations.

Dr. Williams' presentation demonstrates, I believe, that the IBPGR has been effective in discharging the responsibilities entrusted to it by the Consultative Group, especially in expanding and strengthening its international network of genebanks. The network is an essential basis for the conservation and ultimate utilization of the world's plant genetic resources.

However, there is now a question on which the Board needs the guidance of this Group. I refer to the proposal for an international convention for plant genetic resources which the Director General of FAO has formally presented for consideration by the FAO Conference in November.

The draft convention contains many provisions which reflect important principles already formulated and being implemented by the IBPGR. But, the proposed convention goes further. It would place the global program on plant genetic resources under the overall control of FAO. To this end, the Director General has proposed that an intergovernmental body be established within the FAO which would identify the institutions to be included in the network, as well as the responsibilities of each such institution; would periodically review the activities of the network; and generally would coordinate related activities.

As we read this draft convention, the proposed new intergovernmental body would have responsibilities duplicating to a very large extent the functions of the IBPGR except that, instead of operating under the aegis of the Consultative Group, it would operate as part of FAO. This proposal for a transfer of responsibility for genetic resources activities from the CGIAR to the FAO raises several questions, especially against the background of the achievements of the IBPGR.

# For example:

1. IBPGR has assured free access to the materials held in the network by obtaining contractual commitments to that effect from each of the governments and for institutions involved.

2. Germplasm is now moving across national boundaries more freely than ever before, except for necessary quarantine restrictions.

3. Despite a request addressed by FAO to its member governments to specify any constraint they have experienced in obtaining germplasm held within the present network, the Director General's proposal points to no specific case.

The IBPGR feels strongly that the CGIAR has provided an operational matrix particularly well suited for accomplishing the Board's objectives around the world. Continued funding and operational flexibility are the principal ingredients of the CGIAR system. The Board does not wish to change that favorable environment.

The Board feels that provided its agreements are enforceable, as our legal counsel has assured they are, the Board should not be overly concerned about its precise legal status, for this is not the most important factor which determines the present character of its activities and achievements. Yet it is this factor which is given in the Director General's proposal as the reason why a change is needed.

Within a short period of time IBPGR has been an instrument to create a worldwide consciousness about the nature of genetic resources and the need to collect and conserve them for mankind as a whole irrespective of political and other non-scientific considerations and with the goodwill and active participation of a large body of scientists and agricultural administrators across the world, who have appreciated the Board's scientific approach to this subject.

This question involves not only the work of IBPGR but has wider implications for the Consultative Group itself. The strength of the Group lies in its informal character and the flexibility which it provides to the scientists of the International Agricultural Centres in decision-making in the course of their research programmes.

I hope that nothing will be done to detract attention from this informal nature of the Consultative Group. The Group continues to provide a unique and successful model of international cooperation and development.

The Board, of course, recognizes that ensignment of responsibility within the international community for the conservation of plant genetic resources is a matter for governments and not for the experts who comprise the IBPGR. However, available funds are limited and unnecessary duplication of functions and work must be avoided. Moreover, if adopted, the FAO proposal would place the IBPGR in a position of reporting to two different authorities: FAO and the CGIAR. Similarly, the proposal recommends that the Board's Secretariat should also serve as the Secretariat for the new intergovernmental body as well as for IBPGR.

As many members of this Group will recall, the Board's Terms of Reference specifically provide that the IBPGR will operate "under the aegis of the CGIAR" and that it shall exercise its responsibilities "under the authority of the CGIAR" but "in close collaboration with, and with the help and advice of FAO." The Board has faithfully -- and I believe effectively -- carried out this mandate. It has both earnestly sought FAO's help in formulating and executing its programme and has given FAO full credit for its contributions to the Board's work. Accordingly, the Board has asked me to pose three issues to you in connection with the Director General's proposal:

- (i) Have we properly understood the intention of the CGIAR to establish the Board as an autonomous entity under the overall supervision of the Consultative Group, closely affiliated with, but independent of, FAO?
- (ii) If so, is it the desire and decision of the CGIAR to maintain the present situation?
- (iii) Alternatively, is it the desire and decision of the CGIAR that the Board should operate under the control of FAO?

I would ask, on behalf of the Board, that the members of the Consultative Group give their views on these issues either in response to our presentation today or in connection with their indications later in the week of their continued financial support for the Board.

#### Statement for 33rd. Meeting of TAC

# Resolutions 8/83 and 9/82 adopted by the 22nd FAO Conference on Plant Genetic Resources and their relation to the work of IARCs and the IBPGR

1-12

The deliberations on Plant Genetic Resources by the 22nd FAO Conference in November 1983 were concluded with the adoption of two resolutions.

Resolution 8/83 adopts the International Undertaking on Plant Genetic Resources. This resolution has been transmitted by the Director-General, as requested by the Conference, to Member Nations of FAO, to non-Member Nations which are members of the United Nations, to its Specialized Agencies and the International Atomic Energy Agency and to those autonomous International Agricultural Research Centres having responsibilities with respect to plant genetic resources. All the recipients are invited to inform the Director-General whether or not they are interested in adhering to the Undertaking and to what extent they are in a position to give effect to the principles contained in the Undertaking. Replies are requested by 1 July 1984.

The text of Resolution 8/83 and of the eleven Articles of the International Undertaking on Plant Genetic Resources has been provided to TAC Members for information. I can therefore limit myself to the most salient features.

The objectives of the Undertaking are broad and aim at ensuring that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes. The Undertaking is based on the universally accepted principle that plant genetic resources are a heritage of mankind and consequently should be available without restriction.

In its definition and scope and its operational paragraphs, the Undertaking provides an umbrella for national and international action and arrangements related to the objectives. It therefore does not propose any basically new activity but intends to reinforce ongoing ones and proposes to complement them where necessary and feasible. Its main feature is to establish a commitment, primarily by governments, to carry out genetic resources activities on their national territories and in international collaboration. The form of an International Undertaking was chosen rather than a more formal convention or other agreement which would be more time consuming for adoption and more difficult to be accepted. The International Undertaking will have a strong moral force rather than a legally binding character.

In its Articles 3 to 5, the Undertaking calls primarily on governments to take appropriate action in relation to the exploration, preservation, evaluation and documentation and the unrestricted availability of plant genetic resources.

In Article 6 it calls, in a general way, for international cooperation directed toward the strengthening of national capabilities of developing countries with respect to plant genetic resources activities, including plant breeding and seed industries and to the intensification of international activities in those areas, including those supported by the CGIAR.

Article 7 on 'International Arrangements' stands at the core of the Undertaking. These arrangements do not change or weaken presently existing ones but on the contrary call for their further development with particular reference to the Institutions supported by the CGIAR and especially the IBPGR. For the latter, a sub-paragraph states that it will pursue and develop its present activities, within its terms of reference, in liaison with FAO.

The 'International Arrangements' of Article 7, are meant to complement already existing arrangements in order to develop a global system on plant genetic resources.

Firstly, they foresee the development of an internationally coordinated network of national, regional and international centres having assumed responsibility to hold, for the benefit of the international community, base collections or active collections of plant genetic resources. The number of such centres will increase progressively in coverage giving due account to the need for duplication, for safeguarding and for scientific standards.

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This network will be based primarily on the network of base collections nearing completion under the scientific leadership of the IPBR and the network of active collections presently being considered. Governments or institutions that are responsible for such centres will notify the Director-General of FAO if they wish that the base collections they hold should be recognized as part of the international network under the auspices of FAO. The recognition will depend primarily on the advice of the IPBGR and the application of scientific standards developed by it.

The recognition of a centre as part of the international network will be done through an agreement between the government or institution concerned and the Director-General. The intention is clearly not to replace the promotional activities that the IBPGF is pursuing under present arrangements or will develop in the future. The international network under the auspices of FAO will complement these scientific activities through the provision of an international legal framework. FAO will count on the full collaboration of the IBPGR in all scientific and technical aspects in establishing and coordinating this network.

TAC may wish to take particular note, for its guidance to the CGIAR, of sub-paragraph 7.1 d, which states that "sufficient support in funds and facilities will be provided, at the national and international levels, to enable the centres to carry out their taks".

The second main aspect of the Undertaking relates to the development of a global information system on plant genetic resources under the coordination of FAO. This system should be linked to already established systems at national, sub-regional and regional levels. IBPGR has pursued the development of genetic resources information at various levels. The measures that the FAO Conference had requested the Director-General to initiate, envisage in the first place a feasibility study to take stock of the present stage of development and to propose various alternatives for implementation of a global information system. In order to make full use of the experiences gained so far in this complex area by the IBPGR, the study will be undertaken in close collaboration with it.



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A third aspect of the Undertaking relates to the early warning to be given to FAO, or any institution designated by FAO, when prompt international action is required to safeguard material maintained in centres participating in the international network. Adhering governments and interested financial agencies are requested to explore the possibility of establishing a mechanism which would guarantee the availability of funds that could be immediately mobilized to meet such emergency situations.

Actions to be initiated in the case of emergencies would again have to count on close collaboration with the IBPGR.

The Undertaking finally foresees that FAO keeps under continuous review the international situation concerning the various aspects of plant genetic resources. For this purpose the 22nd FAO Conference has requested that an intergovernmental body be set up. Subsequently, the FAO Council formally established the FAO Commission on Plant Genetic Resources. This Commission will meet every two years in conjunction with FAO's Committee on Agriculture. Its first meeting is scheduled for 13 to 15 March 1985.

The membership of the Commission is open to all FAO Member Nations and its associate members. But steps will be taken to enable also non-Member Nations that are interested in plant genetic resources to participate.

The Commission will monitor the international arrangements of the Undertaking, will recommend measures that are necessary or desirable to ensure the comprehensiveness of the global system and review all matters relating to the policy, programmes and activities of FAO in the field of plant genetic resources.

The Commission is therefore primarily concerned with policies and programmes. In its monitoring role, it will have to take a wider look at developments that are important for plant genetic resources and may wish to seek information from a wide range of bodies and organizations concerned with plant genetic resources,

- 4 -

reaching from specific work on priority crops as pursued by the IBPGR, to plant genetic resources issues in the context of natural conservation, as pursued by the International Union on the Conservation of Nature (IUCN). Moreover, its considerations might reach from genetic resources <u>sinu strictu</u> to legislative questions protecting plant breeders rights or variety release.

The Commission will contine to review FAO's programme on plant genetic resources as done in the past by the Committee on Agriculture, which has always included the activities of the IBPGR as implemented in liaison with FAO. While the servicing of the Commission is done by FAO, it will extensively draw on information generated by IBPGR and also others. As in other Commissions of FAO, interested organizations will be invited to participate as observers. It is therefore also envisaged to invite the IBPGR to the meetings of the FAO Commission on Plant Genetic Resources .

The adoption of the two resolutions on plant genetic resources by the 22nd FAO Conference are an important step in establishing international awareness and commitments to plant genetic resources. The implementation of the Undertaking and the work of the Commission will strengthen the related activities as supported by the CGIAR.

I hope, Mr. Chairman, that this information will assist TAC in its deliberations and its advice to the CGIAR. It should also answer a number of questions raised by the IBPGR in a communication provided by you. There should be no danger of overlap if the IBPGR will continue to work in close collaboration with FAO. This should also ensure the most effective channel of communication. This channel is established through the <u>ex officio</u> representation of FAO in the IBPGR by the Director of the Plant Production and Protection Division, who reports to the Assistant Director-General of the Agriculture Department. Both are responsible to the Director-General for relationships with the IBPGR as well as for the International Undertaking and for the service to the new FAO Commission on Plant Genetic Resources.

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Mr J T Williams Executive Secretary International Board for Plant Genetic RER 81/008 Resources, Food and Agriculture Organisation of the United Nations CSA 670 Via Delle Terme Di Caracalla 00100 ROME, ITALY (& November 1983

6-12

Dear Mr Williams

PG

I ank you for your letter to Mr Jenkins of 28 October 1983 enclosing a draft of the Letter of Agreement relating to the European Cooperative Programme for the Conservation and Exchnage of Crop Genetic Resources Phase II. I have signed the document on behalf of the UK and return it herewith. We are not in a position to pay the total sum due but I have arranged payment of the 1983 contribution of \$4.650 to be made to CGIAR, World Bank, washington. Title

PRINCIPAL ACCOUNTABILITIES:

4



TWENTY-SECOND SESSION OF THE FAO CONFERENCE

Rome, 5-23 November 1983

#### Resolution 8/83

#### INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES 1/ 2/

5-12

THE CONFERENCE,

Recalling its Resolution 6/81 on plant genetic resources,

# Recognizing that:

(a) plant genetic resources are a heritage of mankind to be preserved, and to be freely available for use, for the benefit of present and future generations;

(b) full advantage can be derived from plant genetic resources through an effective programme of plant breeding, and that, while most such resources in the form of wild plants and old land races are to be found in developing countries, training and facilities for plant survey and identification and plant breeding are insufficient or even not available in many of those countries;

(c) plant genetic resources are indispensable for the genetic improvement of cultivated plants, but have been insufficiently explored and are in danger of erosion and loss;

#### Considering that:

Q7118/c

(a) the international community should adopt a concrete set of principles designed to promote the exploration, preservation, documentation, availability and full use of relevant plant genetic resources essential to agricultural development;

(b) it is the responsibility of governments to undertake such activities as are needed to ensure the exploration, collection, conservation, maintenance, evaluation, documentation and exchange of plant genetic resources in the interest of all mankind; to provide financial and technological support to institutions engaged in such activities; and to ensure the equitable and unrestricted distribution of the benefits of plant breeding;

(c) progress in plant breeding is essential to the present and future development of agriculture; and the establishment or strengthening of plant breeding and seed production capabilities, at the national, sub-regional and regional levels, is a prerequisite to making efficient use of international cooperation in the exploration, collection, conservation, maintenance, evaluation, documentation and exchange of plant genetic resources;

1. Adopts the International Undertaking on Plant Genetic Resources attached hereto;

2. <u>Requests</u> the Director-General to transmit this Resolution and the attached International Undertaking to Member Nations of FAO, to non-Member Nations which are members of the United Nations, any of its Specialized Agencies or the International Atomic Energy Agency, and to autonomous international institutions having responsibilities with respect to plant genetic resources, and to invite them to inform him whether or not they are interested in the Undertaking and to what extent they are in a position to give effect to the principles contained in the Undertaking;

2/ The delegations of Canada, France, Germany (Federal Republic of), Japan, Switzerland, United Kingdom and the United States of America reserved their positions with respect to the Resolution and the International Undertaking on Plant Genetic Resources.

<sup>1/</sup> The delegation of New Zealand reserved its position on the text of the International Undertaking on Plant Genetic Resources because there was no provision which took account of plant breeders' rights.

3. <u>Urges</u> Governments and the aforesaid institutions to give effect to the principles of the Undertaking and to support and participate in the international arrangements outlined therein;

4. <u>Endorses</u> the Director-General's proposal for the establishment as soon as possible, within the framework of FAO, of an intergovernmental committee or other body on plant genetic resources open to all States interested in the Undertaking.

(Adopted 23 November 1983)

#### Annex to Resolution 8/83

#### INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

#### I. GENERAL

#### Article 1 - Objective

1. The objective of this Undertaking is to ensure that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes. This Undertaking is based on the universally accepted principle that plant genetic resources are a heritage of mankind and consequently should be avilable without restriction.

#### Article 2 - Definitions and Scope

2.1 In this Undertaking:

- (a) "plant genetic resources" means the reproductive or vegetative propagating material of the following categories of plants:
  - (i) cultivated varieties (cultivars) in current use and newly developed varieties;
  - (ii) obsolete cultivars;
  - (iii) primitive cultivars (land races);
  - (iv) wild and weed species, near relatives of cultivated varieties;
  - (v) special genetic stocks (including elite and current breeders' lines and mutants);
- (b) "base collection of plant genetic resources" means a collection of seed stock or vegetative propagating material (ranging from tissue cultures to whole plants) held for long-term security in order to preserve the genetic variation for scientific purposes and as a basis for plant breeding;
- (c) "active collection" means a collection which complements a base collection, and is a collection from which seed samples are drawn for distribution, exchange and other purposes such as multiplication and evaluation;
- (d) "institution" means an entity established at the international or national level, with or without legal personality, for purposes related to the exploration, collection, conservation, maintenance, evaluation or exchange of plant genetic resources;
- (e) "centre" means an institution holding a base or active collection of plant genetic resources, as described in Article 7.

2.2 This Undertaking relates to the plant genetic resources described in para. 2.1(a), of all species of economic and/or social interest, particularly for agriculture at present or in the future, and has particular reference to food crops.

# Article 3 - Exploration of Plant Genetic Resources

3.1 Governments adhering to this Undertaking will organize or arrange for missions of exploration, conducted in accordance with recognized scientific standards, to identify potentially valuable plant genetic resources that are in danger of becoming extinct in the country concerned, as well as other plant genetic resources in the country which may be useful for development but whose existence or essential characteristics are at present unknown, in particular:

- (a) known land races or cultivars in danger of becoming extinct due to their abandonment in favour of the cultivation of new cultivars;
- (b) the wild relatives of cultivated plants in areas identified as centres of genetic diversity or natural distribution;
- (c) species which are not actually cultivated but may be used for the benefit of mankind as a source of food or raw materials (such as fibres, chemical compounds, medicine or timber).

3.2 Special efforts will be made, in the context of Article 3.1, where the danger of extinction of plant species is certain, or is likely, having regard to circumstances such as the clearance of vegetation from tropical rain forests and semi-arid lands with a view to the expansion of cultivated areas.

# Article 4 - Preservation, Evaluation and Documentation of Plant Genetic Resources

4.1 Appropriate legislative and other measures will be maintained and, where necessary, developed and adopted to protect and preserve the plant genetic resources of plants growing in areas of their natural habitat in the major centres of genetic diversity.

4.2 Measures will be taken, if necessary through international cooperation, to ensure the scientific collection and safeguarding of material in areas where important plant genetic resources are in danger of becoming extinct on account of agricultural or other development.

4.3 Appropriate measures will also be taken with respect to plant genetic resources held, outside their natural habitats, in gene banks or living collections of plants. Governments and institutions adhering to this Undertaking will, in particular, ensure that the said resources are conserved and maintained in such a way as to preserve their valuable characteristics for use in scientific research and plant breeding, and are also evaluated and fully documented.

# Article 5 - Availability of Plant Genetic Resources

5. It will be the policy of adhering Governments and institutions having plant genetic resources under their control to allow access to samples of such resources, and to permit their export, where the resources have been requested for the purposes of scientific research, plant breeding or genetic resource conservation. The samples will be made available free of charge, on the basis of mutual exchange or on mutually agreed terms.

# II. INTERNATIONAL COOPERATION

# Article 6 - General

- 6. International cooperation will, in particular, be directed to:
- (a) establishing or strengthening the capabilities of developing countries, where appropriate on a national or sub-regional basis, with respect to plant genetic resources activities, including plant survey and identification, plant breeding and seed multiplication and distribution, with the aim of enabling all countries to make full use of plant genetic resources for the benefit of their agricultural development;

- (b) intensifying international activities in preservation, evaluation, documentation, exchange of plant genetic resources, plant breeding, germ plasm maintenance, and seed multiplication. This would include activities carried out by FAO and other concerned agencies in the UN System; it would also include activities of other institutions, including those supported by the CGIAR. The aim would be to progressively cover all plant species that are important for agriculture and other sectors of the economy, in the present and for the future;
- supporting the arrangements outlined in Article 7, including the participation in such arrangements of governments and institutions, where appropriate and feasible;
- (d) considering measures, such as the strengthening or establishment of funding mechanisms, to finance activities relating to plant genetic resources.

# Article 7 - International Arrangements

7.1 The present international arrangements, being carried out under the auspices of FAO and other organizations in the United Nations System, by national and regional institutions and institutions supported by the CGIAR, in particular the IBPGR, for the exploration, collection, conservation, maintenance, evaluation, documentation, exchange and use of plant genetic resources will be further developed and, where necessary, complemented in order to develop a global system so as to ensure that:

- (a) there develops an internationally coordinated network of national, regional and international centres, including an international network of base collections in gene banks, under the auspices or the jurisdiction of FAO, that have assumed the responsibility to hold, for the benefit of the international community and on the principle of unrestricted exchange, base or active collections of the plant genetic resources of particular plant species;
- (b) the number of such centres will be progressively increased so as to achieve as complete a coverage as necessary, in terms of species and geographical distribution, account also being taken of the need for duplication, of the resources to be safeguarded and preserved;
- (c) the activities of the centres that are related to the exploration, collection, conservation, maintenance, rejuvenation, evaluation and exchange of plant genetic resources will be carried out with due account being taken of scientific standards;
- (d) sufficient support in funds and facilities will be provided, at the national and international levels, to enable the centres to carry out their tasks;
- (e) a global information system, under the coordination of FAO, relating to plant genetic resources maintained in the aforementioned collections, and linked to systems established at the national, sub-regional and regional levels, will be developed on the basis of relevant arrangements that already exist;
- (f) early warning will be given to FAO, or to any institution designated by FAO, of any hazards that threaten the efficient maintenance and operation of a centre, with a view to prompt international action to safeguard the material maintained by the centre;
- (g) the IBPGR pursues and develops its present activities, within its terms of reference, in liaison with FAO;
- (h) (i) the general expansion and improvement of related professional and institutional capability within developing countries, including training within appropriate institutions in both developed and developing countries, is adequately funded; and (ii) the overall activity within the Undertaking ultimately ensures a significant improvement in the capacity of developing countries for the production and distribution of improved crop varieties, as required to support major increases in agricultural production, especially in developing countries.

7.2 Within the context of the global system any Governments or institutions that agree to participate in the Undertaking, may, furthermore, notify the Director-General of FAO that they wish the base collection or collections for which they are responsible to be recognized as part of the international network of base collections in gene banks, under the auspices or the jurisdiction of FAO. The centre concerned will, whenever requested by FAO, make material in the base collection available to participants in the Undertaking, for purposes of scientific research, plant breeding or genetic resource conservation, free of charge, on the basis of mutual exchange or on mutually agreed terms.

#### Article 8 - Financial Security

8.1 Adhering Governments, and financing agencies, will, individually and collectively, consider adopting measures that would place activities relevant to the objective of this Undertaking on a firmer financial basis, with special consideration for the need of developing countries to strengthen their capabilities in genetic resource activities, plant breeding and seed multiplication.

8.2 Adhering Governments, and financing agencies, will, in particular, explore the possibility of establishing mechanisms which would guarantee the availability of funds that could be immediately mobilized to meet situations of the kind referred to in Article 7.1(f).

8.3 Adhering Governments and institutions, and financing agencies, will give special consideration to requests from FAO for extra-budgetary funds, equipment or services needed to meet situations of the kind referred to in Article 7.1(f).

8.4 The funding of the establishment and operation of the international network, insofar as it imposes additional costs on FAO, in the main will be funded from extra-budgetary resources.

# Article 9 - Monitoring of Activities and Related Action by FAO

9.1 FAO will keep under continuous review the international situation concerning the exploration, collection, conservation, documentation, exchange and use of plant genetic resources.

9.2 FAO will, in particular, establish an intergovernmental body to monitor the operation of the arrangements referred to in Article 7, and to take or recommend measures that are necessary or desirable in order to ensure the comprehensiveness of the global system and the efficiency of its operations in line with the Undertaking.

9.3 In the performance of its responsibilities outlined in Part II of this Undertaking, FAO will act in consultation with those Governments that have indicated to FAO their intention to support the arrangements referred to in Article 7.

#### III. OTHER PROVISIONS

# Article 10 - Phytosanitary Measures

10. This Undertaking is without prejudice to any measures taken by Governments - in line with the provisions of the International Plant Protection Convention, adopted in Rome on 6 December 1951 - to regulate the entry of plant genetic resources with the aim of preventing the introduction or spread of plant pests.

# Article 11 - Information on the Implementation of this Undertaking

11. At the time of adhering, Governments and institutions will advise the Director-General of FAO of the extent to which they are in a position to give effect to the principles contained in the Undertaking. At yearly intervals, they will provide the Director-General of FAO with information on the measures that they have taken or propose to take to achieve the objective of this Undertaking.

#### Resolution 9/83

# ESTABLISHMENT OF A COMMISSION ON PLANT GENETIC RESOURCES 1/

#### THE CONFERENCE,

Having <u>adopted</u> Resolution 8/83 "International Undertaking on Plant Genetic Resources" which includes the text of the International Undertaking on Plant Genetic Resources (hereinafter referred to as "the Undertaking") as an Annex to that Resolution, and

Having <u>noted</u> that Article 9.2 of "the Undertaking" states that FAO will establish an intergovernmental body to monitor the operation of the arrangements referred to in Article 7 of "the Undertaking" and take or recommend measures that are necessary or desirable to ensure the comprehensiveness of the global system and the efficiency of its operations in line with "the Undertaking",

<u>Requests</u> the Council to establish at its next session a Commission on Plant Genetic Resources in accordance with Article VI, paragraph 1, of the Constitution, open to all Member Nations and Associate Members, which would meet at the same time as the regular sessions of the Committee on Agriculture. The Terms of Reference of the Commission shall be as follows:

(a) to monitor the operation of the arrangements referred to in Article 7 of "the Undertaking",

(b) to recommend measures that are necessary or desirable in order to ensure the comprehensiveness of the global system and the efficiency of its operation in line with "the Undertaking", and in particular,

(c) to review all matters relating to the policy, programmes and activities of FAO in the field of plant genetic resources, and to give advice to the Committee on Agriculture or, where appropriate, to the Committee on Forestry.

(Adopted 23 November 1983)

<sup>1/</sup> The delegations of Canada, France, Germany (Federal Republic of), Japan, Netherlands, Switzerland, United Kingdom and the United States of America reserved their positions with respect to this Resolution.

# conference

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E

# FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS ROME

#### Twenty-second Session

Rome, 5-24 November 1983

# PLANT GENETIC RESOURCES

#### Report of the Director-General

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#### I. INTRODUCTION

- 1 -

1. At its Twenty-first Session, in November 1981, the FAO Conference adopted the following Resolution:

#### Resolution 6/81

#### PLANT GENETIC RESOURCES

THE CONFERENCE,

<u>Recognizing</u> that plant genetic resources are indispensable for the genetic improvement of cultivated plants, and that they are in danger of erosion and loss,

<u>Recalling</u> that work on plant genetic resources was begun in FAO as the result of a recommendation made by the First Session of the Advisory Committee on Agriculture in 1946.

<u>Recalling further</u> that in 1974 with the support of the Consultative Group on International Agricultural Research, the International Board for Plant Genetic Resources (IBPGR) was set up for which FAO provides the Secretariat,

Noting that a joint FAO/IBPGR programme is promoting the international collaboration of national, regional and international plant genetic centres in which plant genetic resources are collected, maintained, evaluated, exchanged and distributed,

Considering that there is no international agreement for ensuring the conservation, maintenance and free exchange of the genetic resources of agricultural interest contained in existing germplasm banks,

Convinced of the need for such an agreement,

<u>Recalling</u> the proposal made by some members during the Seventy-ninth Session of the Council in June 1981 that consideration be given to the establishment of an international bank of plant genetic resources under the auspices of FAO to ensure the free exchange of plant genetic resources between countries,

1. <u>Requests</u> the Director-General to examine and prepare the elements of a draft international convention, including legal provisions designed to ensure that global plant genetic resources of agricultural interest will be conserved and used for the benefit of all human beings, of this and future generations, without restrictive practices that limit their availability or exchange, whatever the source of such practices.

2. <u>Requests</u> the Director-General to prepare a study on the establishment of an international bank of plant genetic resources of agricultural interest under the auspices of FAO, taking into account the provisions of the proposed international convention as well as ongoing national, regional and international efforts in this field in particular those of the IBPGR.

3. <u>Requests</u> the Director-General to present proposals based on the studies mentioned to the Committee on Agriculture for consideration at its Seventh Session in 1983, which shall report thereon to the Council with a view to consideration by the Twentysecond Session of the FAO Conference.

2. In accordance with the Resolution, the Director-General submitted to the Committee on Agriculture, in March 1983, a Proposal for the establishment of an international gene bank and the preparation of a draft international convention for plant genetic resources. This Proposal was contained in document COAG/83/10, which has, for convenience, been reissued as document C 83/LIM/2. 3. The Committee on Agriculture was not able to reach a consensus on the Proposal. It made certain suggestions concerning a further study of aspects of the Proposal, with a view to enabling governments to reach a consensus on the matter, and concluded that the Director-General should be assisted by a working party of Member Nations to help him prepare his report to the Council so that the latter could elaborate the proposals to be submitted to the Twenty-second Session of the Conference. The relevant part of the Committee's Report is set out in paragraphs 219 to 238 of document CL 83/9.

4. The Report was considered by the Council at its Eighty-third Session in June 1983, shortly after the first meeting of the Working Party, which the Director-General had established in accordance with the recommendation of COAG. The Council welcomed the establishment of the Working Party and made various suggestions for the preparation of the Director-General's Report (see document CL 83/REP, paras. 107 to 109).

5. The Working Party met in June 1983 and again in July. It consisted of Representatives of Australia, Cameroon, Cyprus, El Salvador, India, Kenya, Libya, Malaysia, Mexico, Spain, Sweden, the United Kingdom and the United States of America. As a result of the general discussion of the Working Party at its first meeting, the Director-General prepared a draft outline of the present Report, as well as draft provisions of an international agreement on plant genetic resources. At the second meeting of the Working Party, the main aspects of both drafts were the subject of detailed suggestions and comments.

6. Since some members of the Committee on Agriculture had considered that various points had not been sufficiently covered in the Director-General's Proposal, the Director-General, at the beginning of this year, had requested Member Nations to provide him with information relating to such points, as well as to difficulties in obtaining plant genetic resources and gaps in the present system for the conservation of such resources. This request was repeated to the members of the Council and of the Working Party. Information and suggestions were subsequently received from seven Member Nations and a number of international institutions.

7. The present Report takes account as far as possible of the underrange of differing suggestions that have been made since the Twenty-first Session of the Conference, but represents the Director-General's judgement and is submitted on his sole responsibility.

8. The following Sections of this Report start (Section II) by setting out the context of Resolution 6/81 and seeking to identify the basic principles and concerns underlying it. Section II then develops those principles into a proposed international system relating to plant genetic resources. Section III and Appendix A suggest a text for an international agreement that would form the legal basis of the system proposed. Section IV examines, both from a scientific and technical and a legal and institutional point of view, the present international arrangements relating to plant genetic resource activities. The main purpose is to ascertain how far the present arrangements correspond to the principles developed in Section II. Section V discusses the various measures that could be taken, in the light of the present arrangements, to satisfy the principles and concerns underlying Resolution 6/81. Finally, Section VI sets out proposals for specific measures on which, in the Director-General's opinion, a consensus of governments could be reached.

# II. PRINCIPLES AND OBJECTIVES RELEVANT TO PLANT GENETIC RESOURCES

#### Basic Considerations

9. The first paragraph of the Preamble to Resolution 6/81 recognizes the importance of plant genetic resources and refers to the danger of their erosion and loss. They are indispensable to plant breeding, on which the development of agriculture depends. The danger to the irreplaceable diversity of plant genetic resources is essentially presented by modern agro-technology, urbanization and changes in land use.

10. Restrictions on the availability of plant genetic resources, and inadequate measures to protect the diversity of those resources, would not merely prejudice further progress in plant breeding; it could also render plant breeding incapable of responding to serious threats to the production of food or other agricultural goods.

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# The nature and significance of plant genetic resources

11. The whole plant kingdom as developed through evolution on earth, on which human life depends, can be considered to represent plant genetic resources in the widest sense. However, man has used only a fraction of all the plant species, with an increasing concentration on a reduced number of particularly promising species that were suitable for domestication and cultivation. Today, the main food supply of mankind is determined by only twenty crop species, and only eight forest species provide most of the world's wood and timber. A much larger variety of plant species are used, in addition, for food, such as oil, vegetables, fruit and animal feed, and for other purposes, such as spices, beverages, pharmaceuticals and ornamentals and for various industrial processes. Many plants known to earlier generations have been lost or are no longer used, and a large part of the plant kingdom is in need of exploration (on the basis of earlier knowledge, where it exists) with a view to discovering possible future uses. The protection of important natural habitats of the world's flora is a precondition to such exploration if mankind is not to be deprived on one of the most precious resources that it depends on. A decision adopted in May 1983 by the Governing Council of the United Nations Environment Programme refers to this in situ conservation of genetic resources.

- 3 -

12. The plant species that are now cultivated have developed - in a large number of cases, since prehistoric times - as a result of selection by man to take advantage of specific useful characteristics, and also by reason of the environment in which they have been cultivated. They originated either from a single wild species or from natural crosses of the species, the discovery of which forms part of the scientific advances in crop plant evolution. Plant breeding, and particularly its use of the rapid scientific progress in genetics, has considerably accelerated the process of evolution of crop plants in modern times, constantly increasing their adaptation to various human needs in yield, harvest index and quality.

13. Plant breeders in modern times soon recognized that the development of crop varieties with specific characteristics, particularly high yields, called for uniformity in each variety, and that this tended to narrow the genetic base of cultivated crops. They became increasingly aware of the importance of the wide genetic variability existing in the material of land races and even in the ancestors of crop plants. They thus realized the need for systematic measures to explore, collect and preserve such material, which is of interest particularly as a source of gene combinations resulting in adaptability to adverse environmental conditions, valuable quality characteristics or resistance to pests and diseases. Systematic efforts in exploring and collecting the wide variety of crop plants dates as far back as the 1920s and 1930s; this partly explains the concentration today of some of the large collections in certain countries.

14. Since then, advances in genetics, such as the inducement of mutations, polyploidization and, recently, genetic engineering, have opened up new avenues to an increase in genetic variability. Nevertheless, the variability that has arrived from the evolutionary and selective process by natural and human forces must still be considered as the prime source for crop plant breeding at present and in the future; therefore, it is the central object of plant genetic resource activities today, especially after the United Nations Conference on the Human Environment held at Stockholm in 1972.

#### Micro-organisms

15. While genetic resources of the (higher) plants used for crop production are in the foreground of this Report, attention should also be given, in parallel, to the genetic resources of micro-organisms associated with crops, which may have beneficial effects or be a source of important diseases. In breeding programmes relating to leguminous plants, the variability of Rhyzobium-bacteria needs to be considered in conjunction with the genetic variability of the host legume. The same applies to the screening and evaluation of disease resistance of crop genotypes, for which a whole range of identified genetic variability in the respective disease organisms should be available. Parallel efforts should therefore be envisaged for the exploration, collection, documentation and preservation of micro-organisms of major importance to crop plants. 16. In isolation from the concept of plant breeding, the term "plant genetic resources" is practically meaningless. In the absence of capability in plant breeding and plant genetics, such resources can, at the most, only be of limited use to any given country. The strength of a plant breeding programme, in terms of its human and physical assets, determines the level of importance that genetic resources can receive.

#### Documentation and evaluation

17. The use of plant genetic resources in plant breeding depends, in addition, on the information available concerning each sample, identifying its nature, its characteristics and ideally its genetic composition. This task of evaluation, and the related documentation work, are a formidable undertaking that remains to be performed for a large part of the genetic resources that have now been collected, let alone those that have still to be explored and collected.

#### Centres of genetic diversity

18. Twelve geographical areas have been recognized as primary centres of genetic diversity for individual crop plants. These centres are situated in five continents, mainly in developing countries. There are other areas that have been recognized as secondary centres of genetic diversity for various crops which have developed, through natural adaptation and subsequent selection work, in environments different from that in which they originated. A list of the regions of diversity of major crop plants and their wild relatives is contained in Appendix 8 of document COAG/83/10.

#### Categories of plant genetic resources

19. There are various kinds of plant genetic resources of importance for the breeding of new crop cultivars. The following categories have been recognized:

- (a) Cultivated varieties (cultivars) in current use. These are varieties that are often released under a particular government scheme as varieties of recognized value and performance. Successful cultivars are widely used in plant production in a given country or in several countries having similar cropping conditions. Uniformity of characteristics is a feature of this category.
- (b) Obsolete cultivars. These are varieties that were cultivated in the past, but have now been replaced by the cultivars referred to in (a). Uniformity is also, to a certain degree, a feature of this category.
- (c) Primitive cultivars or land races. These are varieties that have been used for centuries in traditional agricultural systems. They were the product of selection by man, but have not undergone modern improvements by way of plant breeding. Variability in characteristics as observed in the field is a feature of this category.
- (d) Wild species and weedy species closely related to cultivated varieties. These ancestors of cultivars are species of crop plants that have not been cultivated, but possess characteristics that might be usefully transferred to cultivated varieties through plant breeding. This category also covers species of direct economic value, such as forest trees.
- (e) Wild species of potential value to man. These are species which are not cultivated and whose importance has not yet been assessed, but may be identified through exploration.
- (f) Special genetic stocks. This is material that has normally been developed by man and is or has been used in ongoing breeding programmes. It includes mutants, "breeders' lines" and lines with identified genes or gene combinations. Material of this type is particularly useful because of the identification of special characteristics or even of genes.

20. All of the above categories of the resources of higher plant species are or may be useful, depending on the particular crop and the aims of the breeding programme concerned. Moreover, as mentioned above, other genetic resources, particularly those of micro-organisms, should also receive consideration, in parallel to those of crop plants.

#### The need to preserve plant genetic resources

21. Plant genetic resources are in serious danger of being lost in a rapidly developing world. Land races and primitive cultivars are condemned to replacement by higher yielding varieties that meet better the pressing need for higher outputs from agriculture. Weed control measures in support of crop production may eliminate important ancestors of crop plants. Forest clearings opening up new lands for settlement are endangering the centres of genetic diversity of important tree crops or may destroy the habitat of potentially new crops. Valuable breeding lines, mutants or other genetic stocks resulting from active plant breeding programmes may be discarded because their maintenance is a burden to plant breeding institutions occupied by the development of new varieties.

22. The aim of future plant breeding must be to preserve the genetic variability, inherited from nature and from human endeavour, of plants actually or potentially useful for mankind. A clear idea of the magnitude of this task cannot be given, nor is it possible to assess, for any given species, the number of samples that would represent the existing genetic variability. So far only estimates could be made; the estimate for rice is approximately 120 000 samples. Only further scientific work in genetics and plant exploration will provide a clearer picture of the size and form of the gene pools for each crop species which should be maintained as basic genetic resources.

23. In the case of a large number of seed propagated crops, controlled storage conditions have been developed to maintain full viability of seeds without genetic change for long periods of time, thus enabling the preservation of the genetic resources of those species. For some other species, long-term seed preservation is not possible, and vegetatively propagated crops can be preserved only as growing plants or, in more recent times, as tissue culture under controlled conditions. However, as will be seen in paragraph 46 below, both these methods of preservation present difficulties. For plant species requiring vegetative propagation or having seeds which cannot be stored, <u>in situ</u> preservation of genetic diversity in their natural habitats is therefore an important parallel task in plant genetic resource management.

#### Concluding remarks

24. The above general considerations provide the context of the statement, in the Report of the Seventh Session of the Committee on Agriculture (document CL 83/9, para. 221), that plant genetic resources are a heritage of mankind and that they should be freely exchanged between countries and their respective institutions for scientific purposes and use in crop-breeding programmes.

25. Successful plant breeding will increasingly depend on access to the full range of variability in plant genetic resources existing and developing in all countries of the world; from the resources of plants in their natural habitat to those that have undergone or are undergoing changes and selections by man. The full availability and exchange of plant genetic resources should therefore be ensured and increasing emphasis should be given to exploring and evaluating them, to safeguarding them against indiscriminate losses and to placing all nations, particularly developing countries, in a position to make full use of them through plant breeding for their agricultural development.

# Frinciples underlying Resolution 6/81

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26. In Resolution 6/81, the Conference requested the Director-General to "prepare the elements of a draft international convention, including legal provisions designed to ensure that global plant genetic resources of agricultural interest will be conserved and used for the benefit of all human beings, of this and future generations, without restrictive practices that limit their availability or exchange...". The Conference also requested the Director-General "to prepare a study on the establishment of an international bank of plant genetic resources of agricultural interest under the auspices of FAO, taking into account... ongoing national, regional and international efforts in this field in particular those of the IBPGR".

27. The general principle underlying the Conference's request, particularly as seen in the light of the discussions of COAG (see para. 3 above), is that plant genetic resources are a common heritage of mankind and should be freely available, and that such availability should be the object of a firm commitment by the international community and individual governments.

28. In the context of the principle of free exchange of plant genetic resources, the study in document COAG/83/10 noted (see paras. 22 to 32) certain cases of restrictions of a legal nature. Such restrictions did not appear significantly to affect the availability of resources, particularly those of food crops. In response to a request by FAO to governments for details of specific cases in which a government or institution has been unable to obtain material on account of restrictive practices relating to exchange, information was received from one government. The latter referred to difficulties in obtaining, for research purposes, samples of modern varieties covered by plant breeders' legislation in other countries, particularly those of horticultural species, but also field crop cultivars.

29. In the discussions during the follow-up to Resolution 6/81, a number of governments stated that they would not be able to commit themselves to providing material in violation of their national legislation on plant breeders' rights. This legislation confers on a breeder exclusive rights limited in time and related to the commercialization of cultivars originating from his breeding programmes and meeting specific conditions. The legislation does not restrict the exchange and use of samples of a cultivar for which legal protection has been granted, if they are to be used as a genetic source in other breeding programmes, even in the countries of protection (the rights conferred do not in any event extend to other countries). Such samples can, in addition, be purchased on the market.

30. The problem of availability may be greater with respect to material that is not in itself eligible for legal protection, but from which one or more plant varieties that are eligible could be developed with comparative ease: for example, advanced breeders' lines produced in active breeding programmes or the inbred parent lines used in hybrid breeding. Material of this kind may considerably facilitate the breeding work in developing countries with agro-ecological conditions similar to those of the country where the material was developed, particularly as the former countries do not generally have sufficient technology and facilities to breed the material from its original parent lines. However, enterprises run for commercial purposes may be reluctant to release the material, which they may have developed and tested at considerable cost, for fear that it would reach the hands of competitors.

31. It should be noted, however, that advanced breeding lines are often exchanged among breeders, and are made available in cooperative breeding programmes, particularly those of the international agricultural research centres (IARCs) and the countries wishing to join the programme concerned. The exchange covers both the material developed by the IARCs and that developed by the participating countries. However, outside the context of programmes of this kind, it may be difficult to obtain general acceptance of the principle of free availability of advanced breeding material.

32. Whether or not restrictions on the availability of plant genetic resources are more widespread than has so far become apparent, the fact remains that there has been no general commitment on the part of governments or relevant institutions to apply the principle of free exchange and to ensure that this principle is adequately reflected in basic legal texts.

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33. Similarly, the Conference in Resolution 6/81 noted both the ongoing activities with respect to plant genetic resources, and the absence of any international commitment in this context. It requested studies on the elements of a convention and on the establishment of a bank for such resources, considering "that there is no international agreement for ensuring the conservation, maintenance and free exchange of the genetic resources of agricultural interest contained in existing germplasm banks".

34. With respect to the international bank for plant genetic resources, the Committee on Agriculture (para. 231 of document CL 83/9) suggested that the bank "should be considered as an international concept and not a single physical entity; it could be formed of a network of storage facilities." COAG also considered (para. 227) that account should be taken of ongoing activities. In addition, emphasis was placed (para. 233) on the predominant need to strengthen the national capabilities of developing countries in plant genetic resources, plant breeding and seed multiplication.

35. In the light of the discussions of the Committee on Agriculture, the remaining paragraphs of this Section outline an international system which would reflect the principles and meet the requirements underlying the Conference's Resolution. They essentially indicate the specific activities that should be carried out, the way in which those activities could be coordinated and the commitments that would be necessary to guarantee the effective operation of the system.

#### Activities relating to Plant Genetic Resources

#### Priority for exploration and collection

36. In the face of the magnitude of the task of exploring and making available all valuable or potentially valuable plant genetic resources, the approach can only be progressive, and depends on worldwide scientific collaboration in many disciplines. An international system relating to those resources has therefore to be based on priorities by plant species and geographical areas taking into account the achievements made so far. The IBPGR, in collaboration with FAO, has developed such priorities for international action, which will need to be updated in the course of future developments. The need for major fcod crops, the threat to genetic resources in particular geographical areas and the size of the genetic base of present plant breeding are among the important criteria used.

37. The world expertise of scientific knowledge has to be mobilized, on a crop-by-crop basis supported by cytogenetics, phytogeography and taxonomy, to orient and update prioritics for plant genetic exploration and collection. Further eco-geographical surveys will be needed in some major centres of crop diversity so that more activities can be planned. Scientifically established priorities should be subject to periodical intergovernmental review to ensure government acceptance and commitment.

#### The conservation of plant genetic resources

38. There are basically two ways of conserving plant genetic resources: one is by leaving them in their natural habitat (in situ conservation). This allows a natural evolution of the plants without any intervention from man. The other way is by the (ex situ) conservation of plants or parts of plants (for example, seeds, seedlings, trees, tissues or organs) outside their natural habitat.

39. For in situ conservation, the establishment of nature reserves is of utmost importance. Within an international system the development of such reserves in relation to plant genetic resources should be pursued in close collaboration with UNEP and the International Union for the Conservation of Nature (IUCN).

40. Ex situ conservation takes the form of living collections of plants, or gene banks holding tissue cultures of vegetatively reproduced plants or seed of many categories of sexually reproduced plants. A gene bank, depending on its purpose, comprises "base collections" or "active collections", or preferably both. 41. Base collections hold samples of plant genetic resources for long-term storage. In the case of seed, the samples must be kept at a temperature of approximately  $20^{\circ}$ C below zero in air-tight containers that are normally only opened when tests of the continued viability of the seed are necessary (at an average of about ten-yearly intervals, depending upon the type of plant). A reliable continuous supply of electricity is an essential requirement for guaranteeing the quality of the samples.

42. Many food crops can only be vegetatively propagated. They include root and tuber crops, such as cassava, potato, sweet potato, taro, yam and cocoyam, and also the herbaceous and woody perennials such as banana, cocoa, date palm and breadfruit. They are often important sources of food and are widely grown in developing countries. The techniques for conserving such material, for example through tissue cultures and low temperature storage, are relatively new and are demanding in resources (especially skilled labour).

43. International action should concentrate primarily on base collections: In those collections, the treasure of genetic variability of many crop plants should be maintained for the future in cases where <u>in situ</u> conservation is not possible. The deterioration or destruction of base collections would mean the extinction of invaluable genetic resources, which could never be recovered in many cases. Moreover, for both seed and vegetatively propagated plants, international recognition of base collections should be restricted to those containing the most comprehensive collections of one or several crops, and are thus capable of replacing any material that is lost or is no longer maintained in active collections.

# The maintenance of plant genetic resources

44. The maintenance of plant genetic resources requires careful handling to avoid losses in viability, genetic shifts or changes, reduction of a given sample below a minimum size and contamination or even loss through pests and diseases. In the case of seed conservation, the minimization of seed moisture is a prerequisite to maintaining viability. Another requirement is constant storage conditions.

45. A particularly demanding task for base collections is the rejuvenation of the samples. This is determined by their physiological characteristics, by the need for periodic checking, or by the reduction of the samples to the minimum amount needed, as a result of requests for the material where it cannot readily be obtained elsewhere.

46. The maintenance of vegetatively propagated material is even more demanding. Material which has to be grown in the field is subject to the vagaries of weather conditions and, even more important, to infection or infestation. There are many ways of minimizing these risks, but there is always a danger of failure. Tissue culture propagation and maintenance, where possible, reduces the risks as there is the possibility of cleaning infected plants or even putting their storage under completely controlled conditions. However, the maintenance of base collections in the form of tissue culture requires well-designed special laboratories and well-developed logistics. For medium-term storage, shoots might need to be transferred to fresh culture media only once a year. For long-term storage, cryopreservation is necessary. This method has so far been developed only for a few plant species. Cryopreservation can be applied for the long-term storage of cell cultures, which will become of increasing importance to genetic resources with the progress made in genetic engineering.

#### The documentation and evaluation of plant genetic resources

47. An essential component of conservation activities (without which efforts would be almost purposeless) is the preparation and dissemination of information enabling the retrieval of material kept in a collection. For all plant genetic resources, information starts with the observations made at the point of collection and the taxonomic identification of the material. But only the further evaluation of the material for cytogenetic, agronomic and breeding characteristics, for resistance to particular diseases and for quality characteristics will provide the information which is of essential interest to plant breeders. Ideally a genetic "passport" is established, containing information on particular genes and gene combinations. 49. The systematic collection of such information requires internationally agreed systems of "descriptors" in order to facilitate information exchange and retrieval.

50. Each base collection should be the focal point for the systematic collection of information on the plant genetic resources for which it is responsible, and for the constant updating and accumulation of information, received from various sources, that results from the evaluation of material, where this takes place.

#### Security precautions

51. The introduction of plant genetic resources into gene banks presents a risk of plant pests and diseases. This is especially true where, in the various exploration missions, material is collected from the field and taken for storage, and also where material is transferred from one ecological zone to another. Stringent quarantine rules (including the periodic checking of material in storage) must therefore be followed to prevent contamination and the creation of a breeding ground for diseases and pests. A sufficiently equipped seed pathology laboratory for the inspection and treatment of plant material is a minimum requirement for a gene bank, in addition to its active cooperation with the plant quarantine authorities of the country of its location.

52. Account must also be taken of the possible loss of material through natural or manmade disasters. The material in base collections should therefore be duplicated or, if possible, triplicated in base collections located elsewhere.

#### The use of plant genetic resources

53. The maintenance of gene banks responding to the requirements set out above will ensure that plant genetic resources are preserved and are available for use. However, unless a country has well-qualified plant breeders, the great potential of the material conserved will be wasted. It is therefore vital that national capabilities in plant breeding be developed hand in hand with other activities relating to plant genetic resources, so as to ensure that a country may derive the maximum benefit from the resources available on its territory and elsewhere.

#### International Network of Base Collections

#### The conservation of material

54. A central component of a global system for the collection, preservation and exchange of plant genetic resources would be an internationally coordinated network of base collections. Each collection should be responsible for the maintenance of particular crops, account being taken of the need for some duplication (see para. 52 above). The activities of the network should be carried out in accordance with internationally agreed scientific and technical standards. The network should evolve in line with priorities accepted at the international level. The priorities relating to major food crops should be considered first.

55. Each base collection should be linked with an active collection, which would arrange for the exchange of material and organize the rejuvenation (see para. 45 above) of the material for which the base collection is responsible.

# The coordination and distribution of information

56. As the exchange and utilization of plant genetic resources depends to a large extent on the availability of information concerning their characteristics (see para. 47 above), this information should be collected and distributed by each base collection in the network. The base collections should also be the focal point for the accumulation and dissemination of information generated in the evaluation of the resources. The information available to the base collections should be linked to a global information system operated at the international level.

57. Other sources of information and information systems on plant genetic resources established at the national or international level, outside the ambit of the base collections, should be interlinked with the global system, where feasible.

#### Legal and institutional requirements

58. The various activities of the network - the designation of its components, the operations of the latter and agreement on international standards and priorities - would need to be carried out within a firm legal and institutional framework.

59. In the first place, a State or institution which agrees to participate in the international network should enter into binding commitments. Such a legal guarantee is necessary since the base collection operated by the State or institution would be a component of a structure on which the international community would rely for the fulfillment of the present and future needs with respect to plant genetic resources.

60. The State or institution should agree to maintain the base collection, in accordance with internationally agreed standards. It should also agree that, while the base collection would continue to serve the purposes for which it was established, its activities would also be oriented to the fulfillment of the needs of the international community, including the supply of samples for the purpose of plant breeding or scientific research. Finally, the State or institution should guarantee that it will maintain the base collection on a permanent basis, providing the necessary funds and facilities or, if at any time it finds it is unable to do so, that it will give the international community sufficient notice to enable the material in the base collection to be transferred elsewhere.

61. The preservation of plant genetic resources, for the present and the future. would depend upon a constant source of funding. There should be a mechanism for a guarantee in this respect if the international community is to have any security concerning the permanence of the network and the material kept in it.

62. The international network would also require procedures for coordinating the activities of the various components, for establishing the standards and priorities and for reaching agreement on the specific crops that would be covered by each base collection. Procedures would be needed to enable the operations of the network to be monitored and for recommendations to be made to its components. There should also be an international forum in which the coordination of the system and its progress, including problems encountered, could be discussed.

63. A fundamental principle of the network would be that the material in the base collections, if it is not readily obtainable elsewhere, should be made freely available for use in plant breeding or scientific or technical research. Ideally, such material should be held, by the State or institution concerned, at the disposal of the international community. This would give full application to the principle that plant genetic resources are the common heritage of mankind.

#### International Cooperation

64. An international system covering the various activities outlined above, based on the principle of the full availability of plant genetic resources, and having as a central component a network of base collections, would require the interacting cooperation of the scientific community and the community of nations. In addition, the emphasis of international cooperation should be on ensuring that all nations are in a position to exploit the benefits of plant genetic resources.

#### Scientific cooperation

65. As indicated above a comprehensive system for plant genetic resource activities would need to evolve on many fronts: exploration and collection, conservation and maintenance, evaluation and documentation, security precautions and, finally, the full utilization of the resources in plant breeding programmes. As many of the activities are of a scientific nature, their success depends upon the work and guidance of scientists and scientific institutions.

66. Reliance must therefore be placed on the scientific community, at the national and international levels, to recommend priorities and organize exploration and collection missions, to develop scientific and technical standards, including those for documentation, and to provide the necessary advice concerning the designation of the components of the network of base collections, and on the activities and development of the network. There should be strong links between the base collections and the scientific networks engaged in the evaluation of plant genetic resources, so that in time the required information to characterize the resources in base collections will be available for utilization by plant breeders.

#### Intergovernmental cooperation

67. As has been seen above, an international system for the collection, conservation, maintenance and free availability of plant genetic resources would cover a whole range of activities, demanding substantial inputs. If any government is to adopt a policy under which it will use the financial and other resources available to take part in such a system, in the interest of the international community as a whole, it would be realistic for it to require a guarantee that other governments and prepared to assume the same responsibilities. A similar guarantee might be required in return for the free availability of the plant genetic resources under a government's jurisdiction or control.

68. A country with scarce financial resources assuming responsibilities with respect to plant genetic resources, for the benefit of the international community, would also expect some guarantee of support from that community in funds, technology and equipment.

69. The basis of international cooperation should therefore be a commitment, reflected in a legal instrument or instruments, by each State or relevant international institution to participate in, or support, the international network, and the various other activities carried out at the international level, within the limits of its capabilities.

70. At the same time, this commitment should be matched by the involvement of governments in the general operation of the network and the coordination of the other activities. It should be noted that international cooperation would, to a large extent, particularly in the case of developing countries, depend upon activities carried out by governments and on the financial and other resources that they are prepared to make available for that purpose. Governments should be placed in the position of full participants in an international system for the exploration, preservation and exchange of plant genetic resources.

71. There should therefore be an intergovernmental forum through which governments could collectively exercise their responsibilities with respect to plant genetic resources, including the review of scientific and technical progress, the final approval of the standards and priorities developed on scientific and technical considerations, and the mobilization of financial and other support for plant genetic resource activities.

# Strengthening of national capabilities concerning plant genetic resources

72. As has been seen, most of the land races and wild relatives of cultivated crop species are found in the less developed countries where agricultural progress has been slow. These countries should, if they receive the necessary assistance, play an important role in the international network outlined above. They are, moreover, generally countries that are in serious need of expertise and equipment in order to enable them to exploit the broad range of genetic variations that exist on their territory and those that are available elsewhere.

73. Intergovernmental cooperation and support from intergovernmental organizations and financing agencies should ensure increased assistance to developing countries, to strengthen or establish their plant breeding and seed production capabilities, their expertise in exploration and evaluation work, with the related training, and the establishment of gene banks for their plant breeding programmes, in the first instance, and for their participation in the network of base collections.

# III. DRAFT INTERNATIONAL AGREEMENT

# Purpose of the Agreement

74. The agreement would essentially be the legal basis of the international system, outlined in paragraphs 54 to 73 of the preceding Section. It would develop the general principle that plant genetic resources are the heritage of mankind and that they should be preserved and made available without restriction, into a set of more specific principles covering the commitments and role of governments and relevant institutions with respect to plant genetic resources.

75. It should be noted that there are already multilateral and bilateral agreements that are relevant to plant genetic resources. Many of them have been concluded under the auspices of the United Nations, or organizations in the UN system, in particular UNEP and Unesco. In this connection, mention might be made of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973, the African Convention on the Conservation of Nature and Natural Resources, 1968, the Convention on the Conservation of Nature in the South Pacific, 1976, the Treaty for Amazonian Co-operation, 1978, and - with respect to plant genetic resources in marine areas - the recent Protocol concerning Mediterranean Specially Protected Areas, 1982, to the Convention for the Protection of the Mediterranean Sea against Pollution.

76. However, the scope of these agreements is essentially restricted to the aspect of preservation as far as plant genetic resources are concerned. The draft agreement proposed in this Report would cover all aspects, and its emphasis would be on the essential objective of plant genetic resources, namely plant breeding.

# Form of the Agreement

77. At its Seventh Session, the Committee on Agriculture agreed (para. 227 of its Report document CL 83/9) that "in the spirit of Conference Resolution 6/81 further discussions on the question of a proposed convention must relate to the drafting of elements which would meet and respect the concerns of the majority of governments both members and non-members of FAO, so that the convention would be truly universal". The consensus of the discussions was that further study should be given to a convention or other form of international agreement.

78. In considering the form of the instrument that would embody the principles in the agreement, account has been taken of the need for the wide acceptability and rapid entry into effect of the principles and, at the same time, for an instrument that would establish specific commitments. The basic alternatives in this respect are outlined below.

In the first place, the principles could be incorporated in an international convention or agreement in the strict sense. The essential advantage of this solution is that, after its entry into force, the instrument would be legally binding on the States that had accepted it. One of the main disadvantages is the time that would be needed to bring the instrument into force for a significant number of States. The first step would be the adoption of the instrument: this could take the form of approval of the text by the FAO Conference, if the instrument was to be adopted within the framework of FAO in accordance with Article XIV of the Constitution; or the instrument could be adopted by a plenipotentiary conference consisting of interested governments. After adoption, the instrument would be transmitted to States for their consideration with a view to acceptance. This acceptance normally takes the form of ratification (by governments that have signed the instrument) or accession. The process of acceptance may take a long time especially as, in many countries, the approval of the national Parliaments would be required. The convention or agreement would not enter into force until the number of States specified in its provisions had deposited instruments of ratification or accession, and it would not be binding on any State which did not deposit such an instrument.

80. Another factor to be considered is that the convention or agreement would lay down binding obligations for the parties. This could be a disadvantage if the instrument is to achieve the widest possible acceptability. States may have difficulties in joining in a consensus on the text of a legally binding instrument and in committing themselves to - . : -

81. Another alternative would be an instrument on the lines of the International Undertaking on World Food Security, adopted by the FAO governing bodies in 1974. Such an instrument would have a strong moral force, rather than a legally binding character. It could be adopted in a resolution of the FAO Conference, which could invite governments to notify FAO of their agreement with its provisions. Apart from the fact that the procedures involved would be considerably quicker, this solution has, to a lesser degree, the advantages and disadvantages of a convention or agreement. States, especially those which had notified their agreement to the Undertaking, would be making commitments similar to those of a convention, the main difference being that they would not be bound by those commitments as a matter of law.

82. Finally, the principles could be incorporated in a more general instrument, such as a Code of Conduct, which again could form part of a Conference resolution. The Code of Conduct would reflect an international consensus on the principles. Moreover, governments could be invited in the Code to report to FAO on the measures that they have taken or intend to take to give effect to its provisions.

83. The alternative of a draft International Undertaking on Plant Genetic Resources would appear to be the most appropriate solution. Unlike a convention, it could be adhered to by relevant international institutions, in addition to governments. It would represent a strong formal commitment (rather than a set of agreed principles in a Code of Conduct), without having the legally binding character of a convention, which could be an obstacle to acceptance and would certainly entail a delay in its entry into effect for a significant number of governments.

#### Content of the Agreement

84. The text of a draft resolution containing an International Undertaking, which would be open to adherence by governments, as well as by autonomous international institutions engaged in plant genetic resource activities, is set out in Appendix A hereto. The draft Undertaking begins with a general part (Part I), defining the coverage of the Undertaking and setting out the responsibilities of governments and institutions, essentially at the national level, with respect to the various plant genetic resource activities outlined in paragraphs 36 to 53 above.

85. Part II relates to international cooperation, and provides an outline of the arrangements for an international network of base collections, including an international information system, referred to in paragraphs 56 and 57 above. It would be built on the existing arrangements, in the manner that is proposed below in Section V. Within the network, there would be an international gene bank, under the auspices of FAO, consisting of the base collections that participating governments or institutions had agreed to place at FAO's disposal.

86. Fart III stresses the importance of phytosanitary measures in the context of plant genetic resources. It also contains provision for adhering governments and institutions to provide FAO with reports on progress in the implementation of the principles of the Undertaking.

87. It is believed that the general principles in the Undertaking would be largely acceptable to all governments and international institutions. There may, however, be details (such as the principle of availability of all categories of plant genetic resources - see para. 31 above) on which it may not be possible to achieve universal acceptance. For this reason, the second operative paragraph of the Resolution makes it clear that governments and institutions would be able to adhere to the Undertaking subject to any limitations that they may specify.

#### IV. REVIEW OF EXISTING ARRANGEMENTS

#### Historical Development

88. The major developments leading to the present arrangements for global plant genetic resource activities are summarized in paragraphs 3 to 7 of the document presented to the Committee on Agriculture (COAG/83/10).

#### Existing Collections of Plant Genetic Resources

89. Appendix 7 of document COAG/83/10 gives a list of the major collections of plant genetic resources, and indicates the crops covered by each of them. A vast number of collected plant genetic resources (referred to as "accessions") are distributed among 90 countries. Many of the collections are active collections, maintained by plant breeding institutions for use in current breeding programmes. The crops most frequently included in global programmes are cereals and food legumes (see document COAG/83/10, Appendices 4 and 7). This indicates the importance that has been given to these staple food crops, to the preservation of their variability and to the amount of breeding work for their improvement.

90. A total of more than 293 000 accessions of cereal crops are held in three countries: the Soviet Union (106 000 accessions covering wheat, barley, sorghum and millet); the United States of America (124 000 accessions covering wheat, maize, barley and rice); and the Philippines (with 63 000 accessions of rice). Various other institutions (in particular, in Australia, Canada, China, Iran, Israel and Italy) hold appreciable amounts of wheat and barley collections (more than 19 000 accessions each). Most of the major collections of food legumes (totalling about 125 000 accessions) are found in China, Colombia, India, the Soviet Union, Syria, and the United States of America.

91. These figures should, however, be treated as indicative only, for the following reasons: In the first place, there has been no full assessment of the genetic variation represented by the accessions. In addition, a small collection of well-evaluated samples may be more significant than a larger collection of an institution that has not yet fully documented and evaluated the material it holds (see para. 17 above). Furthermore, the information available shows, for example, that of some 30 000 lines of wheat held at the Germplasm Institutions. If one takes account of the extensive exchange of material between all the major institutions, one must conclude that duplication at the global level is far greater than that necessary for security (see para. 52 above).

92. Although global documentation is at present insufficient to give an accurate picture of the contents of the collections, it would seem, from an analysis carried out by the IBPGR, that land races make up the greater part of accessions in the global collections. The remaining part comprises breeders' material or plant varieties, and a few samples of wild species. There are also indications that the genetic variation in the collections is inadequate.

93. The conditions under which seed is stored in the various institutions are relatively good. There would, however, seem to be room for improvement with respect to the rejuvenation of material.

#### International Activities

94. International activities relating to all the various aspects of plant genetic resources are mainly carried out by the IBPGR (in collaboration with FAO), with respect to the resources of crops, and by FAO with respect to forest resources.

# Activities of the IBPGR

95. The basic function of the International Board for Plant Genetic Resources (IBPGR) is to promote and support the collection, conservation, documentation, evaluation, utilization and exchange of plant genetic resources, at the global level, in order to ensure the sustained supply of useful material for national and international breeding programmes. The 96. Priorities for action. The first few years of operation of the Board were mainly devoted to the rescue of threatened germ plasm, on the basis of well-defined criteria in relation to crops and geographical areas, that were drawn up having regard to the urgent needs as highlighted by FAO. For this purpose, expert advice was obtained from the Board's advisory committees and working groups and individual specialists, and a large IBPGR field programme was developed. Emphasis was placed on major staple food crops. Since 1980, action has been taken to cover other crops, including major vegetatively propagated plants. There are now 50 priority crops, with respect to collection and conservation, in the 14 regions into which countries are grouped for the purposes of the IBPGR system. The crops include staple food crops and other species of worldwide or regional economic importance.

97. <u>Collecting missions</u>. The Board carries out, crganizes or supports about 65 collecting missions each year. In general, the missions are headed by a scientist from the host country; samples of the material collected are always deposited with the host country, and local expertise is used. The missions are carried out in accordance with proposals to which the governments or government institutions concerned have previously agreed. More than 100 000 seed samples of priority species have been collected in the 250 missions carried out over the last few years. The cost of collecting one sample varies considerably: it may be as low as US\$10 or as high as US\$300. The IBPGR, which does not itself maintain collections, makes arrangements before the mission for the conservation of the collected material, under the most suitable scientific and technical conditions.

98. <u>Conservation</u>. The most important achievement of the IBPGR has been the promotion of a global network of base collections. This aspect is dealt with in more detail in paragraphs 101 to 104 below.

99. Documentation. The IBPGR has, in particular, prepared "descriptor lists", setting out the botanical characteristics of material, for 37 crops. Forty-five more lists are under preparation. It has a two-pronged approach to documentation: the preparation of directories providing information on existing collections and the establishment of data bases, and the mobilization of funds for documentation work. The directories for 1980 to 1983 cover rice, wheat, barley, sorghum, millet, maize, food legumes, root crops, some cash crops and vegetables. Information on fruit is at an advanced stage of preparation. The data will be kept under review and computerized. Detailed inventories on a crop-bycrop worldwide basis are being developed by specialized institutes and coordinated through the IBPGR. The emphasis of the data bases being developed by the IBPGR is on information enabling the comprehensiveness of existing collections to be assessed.

100. <u>Training</u>. Training under the auspices of the IBPGR is available on all major aspects of genetic resource activities. About 160 trainees have attended a one-year postgraduate course, initiated in 1969 at the suggestion of FAO, on the conservation and use of plant genetic resources, at the University of Birmingham in the United Kingdom. The courses have received financial support from the IBPGR and the United Nations Environment Programme, during the past eight years. Five hundred trainees from developing countries have attended short technical courses, at a number of agricultural research institutes, on various subjects, including exploration techniques and seed technology for gene banks. Study tours have been arranged for about 100 scientists from different parts of the world. In addition, the Board has organized or co-sponsored regional workshops and technical conferences.

#### The IBPGR conservation network

101. With the cooperation of the institutions maintaining collections of plant genetic resources, the IBPGR has promoted a network of base collections. It has at present designated 38 institutions in 29 countries to hold collections covering 33 crops (see document COAG/83/10, Appendix 4). The institutions bear the cost of operating the base collections, and release material to centres holding active collections, for the purpose of exchange. Repositories for the resources of vegetatively propagated crops have, since 1981, been designated by the IBPGR for certain crops.

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102. As has previously been explained, base collections are intended essentially for the long-term storage of resources, and thus for their preservation rather than their exchange, for plant breeding and similar purposes. It is planned to expand the IBPGR network to cover 100 centres, two thirds of which would hold active collections.

103. An examination of information concerning important crop resources held in collections, including those of the major staple cereals, legumes, vegetables, annual oil seeds, root crops, banana and plaintain, has shown that, in addition to the gene banks in the IBPGR conservation network, significant collections exist in 100 countries.

104. The centres holding these collections are distributed over seven regions: 26 in Europe, 23 in Africa, 19 in Latin America, 14 in Asia and the Far East, 12 in North Africa and the Near East, 3 in the Pacific, and 2 in North America. Seventy-seven are in developing countries, several of which (for example, Brazil, China, India and Peru) have a relatively large number of accessions covering various kinds of crops. However, 15 of the 100 countries do not yet have an adequate gene bank.

#### Activities relating to Forest Resources

105. For more than 15 years, FAO has been coordinating the activities of national institutes, supporting ongoing work relating to forest resources, and highlighting global, regional and national priorities. The seed and other propagating material collected by countries under this global seed programme is temporarily stored, if possible, in the country of collection. The centre holding the material then distributes it, in accordance with requests by FAO, for the purpose of evaluation, conservation and seed production or selection stands of species of value to the region, country or area concerned.

106. For conservation, the seed is rarely put into long-term storage; the emphasis has been on living collections in situ or ex situ. Genetic improvement work is always performed with respect to populations of plants that are specially created for that purpose, leaving the wild species with maximum variation. Collection, exploration and evaluation work is left to the countries themselves; this maximizes local interest and knowledge in the resources.

107. The programme benefits from advice provided by an FAO Panel of Experts on Forest Gene Resources (consisting of specialists acting in a personal capacity), established in 1968.

# Problems of a Scientific and Technical Nature

108. A major constraint on the establishment of collections of seed and other plant genetic resources in developing countries is their inadequate infrastructure for the maintenance and use of those resources. In many national gene banks, inadequate seed storage facilities and the lack of land and skilled labour place severe limitations on the number of samples in a collection and on the frequency of rejuvenation of the material conserved. Equipment for the maintenance of an acceptable level of hygiene is also lacking. Facilities for the collection of resources in remote areas (such as vehicles, camping equipment and field instruments) are not always available. Essential activities, such as the collection and multiplication of genetic resources, are often in jeopardy due to insufficient funds. Of these constraints, the inadequacy or lack of storage facilities would seem to be the most serious. The provision of such equipment involves large inputs in terms of installation and maintenance costs. The amount of material to be stored, its safety, and the frequency of rejuvenation and the flow of samples for evaluation and exchange are dependent on the quality and size of the storage facilities available. Equipment to maintain a miniature plant quarantine system is also needed, especially as, in many developing countries, the national quarantine programmes are not sufficiently developed.

109. The lack of funds and qualified plant breeders also place serious constraints on the creation of essential links between gene banks and breeding programmes. Breeders frequently do not make use of primitive material. The general tendency is to take advantage of modern cultivars, often with less potential for plant breeding, since primitive lines, which usually represent a major part of the collections of gene banks, have no immediate value as varieties and are difficult to use in breeding work.

110. Cooperative links of the kind referred to depend upon the adequate evaluation of the material in gene banks. Progress in the characterization and evaluation of material has been slow in many national gene banks. This is due to the much greater priority that is often given to collection and conservation activities, and to the lack of funds and quali-fied personnel. The present cost of growing out one sample for characterization varies from about US\$10 to 50, in the case of most food crops.

111. The non-availability of data, at least in a usable form, is a general problem. Whereas data are generated at all stages of genetic resource activities from collecting in the field to evaluation, their assembly and storage, and the retrieval procedures, are often insufficient to enable their use in the most efficient way. Moreover, especially in the case of the older existing gene banks the data may not have been properly gathered at the time of collection; material unaccompanied by data may have been obtained through exchange; and the greater part of the samples in the gene bank may not have been characterized and evaluated.

112. There also appear to be problems concerning the duplication of material in collections: there are indications not only of an excessive duplication, referred to in para. 91 above, but also of insufficient duplication of certain significant genetic resources.

113. Finally, a constraint on the achievement on maximum genetic variation is the tendency of many gene banks to restrict the material conserved to that which is of direct use to current breeding programmes.

#### Legal and Institutional Aspects of the IBPGR System

114. The following paragraphs of this Section examine how the present network, and the related activities, are coordinated, how far governments are involved in such activities at the international level; the extent to which those activities are the subject of a commitment; and how the activities are financed.

#### The components of the network

115. The IBPGR network consists, on the one hand, of national and regional institutions and, on the other, of the international agricultural research centres (IARCs) in the system of the Consultative Group on International Agricultural Research (CGIAR).

#### National and regional institutions

116. These institutions, or the governments responsible for them, have retained full autonomy with respect to plant genetic resource activities. Decisions as to the mandate of the institutions, including the crops that they will cover and their policy concerning the release of material, and to the standards to be observed in the performance of their mandate, thus rest with the governments or institutions concerned.

#### The CGIAR system

117. The CGIAR has been described (in the Report of the Second Review of the CGIAR, 1981, para. 3.10) as "an informal association of countries, international organizations and private institutions with a common understanding that they will consult and agree on ways in which they will support international agricultural research". It was initiated in 1971 under the co-sponsorship of FAO, the World Bank and the United Nations Development Programme (UNDP). Apart from the sponsors, the members are in two categories: the donors, and representatives of developing Member Nations of FAO elected biennially by the countries in the five FAO regions concerned. The CGIAR has no constitution, no legal personality and no rules of procedure. Decisions are taken by consensus. The basic objective of the CGIAR 1 is to support international agricultural research for the improvement of food production in developing countries. In addition to the Secretariat, provided by the World Bank, the CGIAR has a Technical Advisory Committee (TAC), which inter alia advises the CGIAR on the main gaps and priorities in agricultural research related to the problems of developing countries. TAC consists of a chairman and 12 members, appointed by the co-sponsors and serving in their personal capacity, half of whom are from developing countries. The Secretariat of TAC is provided by FAO.

118. The donor members of the CGIAR provide financial support to 13 international institutions, many of which have been established to carry out multidisciplinary agricultural research. For convenience, they are all (apart from the IBPGR - see below) referred to here as the International Agricultural Research Centres. Plant genetic resources is one of the aspects of the work of nine of the IARCs; six of them hold base collections of such resources and three are establishing them. The IARCs have legal personality, either as internationally-oriented institutions incorporated under a national law or (in one case) as an intergovernmental organization. The IARCs are autonomous, working (except in the case of the intergovernmental organization) under the overall direction and supervision of a Board of Trustees, whose members act in a personal capacity. In the case of many of the institutions, some of the members of the Boards are designated by the CGIAR.

119. The IBPGR is also an institution in the CGIAR system. It was established in 1974, on the recommendation of the CGIAR, as an autonomous international, philanthropic, nonprofit organization. The IBPGR does not have legal personality. The only legal instrument relevant to its establishment is a letter of agreement concluded between FAO and donor members of the CGIAR to set up a trust fund to finance the IBPGR's activities. The text of this agreement is reproduced in Appendix B hereto. The IBPGR is managed by its 15 members, serving in their personal capacity, of whom not less than half are to be nationals of developing countries. Thirteen members are elected by the CGIAR, on the recommendation of the IBPGR. FAO and the United Nations Environment Programme (UNEP) each appoint one ex-officio non-voting member. The Executive Secretary of IBPGR also acts as an ex-officio member. The Chairman of the IBPGR is elected by the Board in consultation with the Director-General of FAO. The IBPGR has an Executive Committee, with power to act on behalf of the Board, comprising the Chairman, Vice-Chairman and three other elected members. The member designated by FAO and the Executive Secretary (an FAO official) also participate. Two of the members are to be from developing countries. FAO provides the Executive Secretariat. The IBPGR has set up a number of advisory committees and working groups, whose members serve in a personal capacity.

120. The Board has, with the approval of the CGIAR, adopted terms of reference. The most recent version is reproduced in Appendix C hereto. However, the IBPGR's main function, described above, concerning the promotion of coordination of the international conservation network, is not immediately apparent from that version.

# The decision-making process with respect to IBPGR activities

121. In establishing its global priorities for action, including the choice of priority crops and geographical areas (see para. 36 above), the IBPGR seeks the opinions of experts of international repute. These priorities are regarded as flexible guidelines for action and are revised from time to time. For the establishment of priorities at the regional nd national levels, the IBPGR organizes international consultations, at which it invites the participants to report on progress with respect to plant genetic resource activities and to inform it of the needs of the countries concerned.

122. The proposed programmes of the IBPGR are presented annually to the TAC for analysis. They are then considered by the CGIAR, whose members may make comments or suggest changes and approve the budget for the IBPGR. Reports on the IBPGR's activities are received by FAO as a member of the CGIAR, and reports on regional activities are submitted to the governments concerned through FAO. Moreover, FAO's Sub-Programme 2.1.2.1. (Genetic Resources), which covers activities performed in the context of the IBPGR, is reviewed, with respect to its implementation and future planning, by the relevant FAO governing bodies - COAG, the Programme Committee, the Council and the Conference.

123. With respect to the funding of activities by the IBPGR, decisions are taken by the Board itself and, within the limit of US\$75 thousand, by its Executive Committee. The Executive Secretary may also take decisions on funding within the Programme approved by the Board up to an amount of US\$10 thousand.

# The involvement of governments in international activities .

124. As has been seen, the IBPGR is managed by experts acting in their personal capacity. Its programme is presented through TAC, whose members also act in their personal capacity, to the CGIAR, which is in essence an informal association, although representatives of States and intergovernmental organizations take part in its discussions. There is a further intergovernmental element in that FAO is represented in the IBPGR and provides the Secretariat of the IBPGR and the TAC. The day-to-day work of the IBPGR is therefore carried out by FAO officials. Because of the links between the activities of FAO and the IBPGR, the activities of the latter in effect come to some extent within the scope of the review by the FAO governing bodies.

125. At the regional and sub-regional levels, there has been an increasing governmental involvement in the coordination of plant genetic resource activities, which had previously been largely dependent on the initiatives of scientific institutions. In 1976, a Working Group, consisting of representatives of governments in the Southeast Asia Region and sponsored by the IBPGR, adopted a proposed organizational framework for a Regional Cooperative Programme for the exploration, conservation, evaluation and documentation of plant genetic resources of significance to the region. The Programme was to be administered, under the auspices of IBPGR, by a Regional Committee representative of the participating countries. The Regional Committee held its first meeting in 1978, and has been an important forum for presenting to the IBPGR the views and priorities of governments in the Southeast Asia Region.

126. In Europe, on the suggestion of FAO and some countries in the Region, and with financial assistance from UNDP, a European Cooperative Programme was established in order to support and strengthen the inter-institutional cooperation, relating to plant genetic resource activities, that had been promoted by some governments and private organizations, in particular the European Association for Research on Plant Breeding (EUCARPIA), and individual scientists. The Programme is coordinated by a Governing Board, consisting of government representatives, which receives advice from a Scientific Advisory Committee, composed of experts in their personal capacity. Each participating government appoints a national coordinator to facilitate the day-to-day implementation of the Programme at the national level. The first two objectives of the Programme are to further the activities of national and sub-regional institutions for plant genetic resources in Europe, by supplementing and strengthening cooperation through the establishment of intergovernmental links, and to constitute the European part of the global network in the IBPGR system. The other objectives cover a wide range of plant genetic resource activities, including the furtherance of the exchange of material, both within Europe and between Europe and other regions.

127. Of the sub-regional initiatives of a governmental nature in Europe, mention might be made of the Nordic Gene Bank, established in 1979, and the network of genetic resources established by the countries of the Council for Mutual Economic Assistance (CMEA).

128. An organizational framework of the kind established for Southeast Asia and Europe was proposed last year at a meeting of Liaison Officers for the IBPGR Mediterranean Programme, and also at an IBPGR sponsored regional meeting, of government representatives, on plant genetic resources in the Andean Region. It should be noted, with respect to the international consultations referred to in paragraph 121 above, that the IBPGR in most cases invites governments to designate two participants, one of whom is to be the spokesman of the government. The IBPGR has also invited governments to appoint liaison officers to provide a link with the Board, as well as national coordinators with respect to IBPGR activities.

129. A form of global forum for the general discussion of plant genetic resource activities is also provided to some extent by international conferences, sponsored by FAO and the International Biological Programme of the International Council of Scientific Unions, and, for the last such conference in 1981, by FAO, UNEP and the IBPGR. These conferences are held at about six-yearly intervals.

# Commitments relating to plant genetic resource activities

130. In Section III above, reference was made to conventions establishing national and collective commitments that are relevant to the subject matter of Resolution 6/81. The participation of States in the Southeast Asia and European Cooperative Programmes represents collective commitments corresponding to those envisaged in Resolution 6/81, but essentially do not entail individual commitments for the participating governments.

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131. With respect to the IBPGR conservation network, the question arises as to how far the governments and institutions participating in it have entered into a binding commitment of the kind recommended in Section II (paras. 59 and 60 above). The practice has been for the Executive Secretary of the IBPGR to write a letter to a potential cooperating institution inviting it to accept designation for maintaining a specified base collection or collections. The relevant extract from a typical letter is reproduced in Appendix D hereto. The general substance of the letter corresponds to a great extent to the requirements stated in para. 60 above.

132. The wording of the letter could be improved, since it merely states that "The Board's policy...is to require the following commitments:...", and adds that "On this basis, the IBPGR invites the (institution) to accept designation". Nevertheless, the acceptance of a designation would probably be construed also as an implied acceptance of the commitments. To have a firm legal basis, however, a commitment should be established in an agreement between two (or more) legal persons. The IBPGR and, perhaps in some cases, the cooperating institution do not have legal personality.

133. A formal commitment to carry out certain activities in the interest of the international community is clearly important in the case of national cooperating institutions. This may also be true, to a certain extent, with respect to international institutions: in the report of the TAC quinquennial review of the IBPGR, 1980, it is stated (page 26): "The IARCs are independent bodies, each having generally a strong interest in assembling the germ plasm it needs for its own work but with no necessary commitment to (genetic resource conservation) activity beyond those limits." However, in a recent statement to FAO (of 1 July 1983), the Directors of the IARCs participating in the network "pledge their total support to the conservation and effective utilization of crop genetic resources".

#### Funding of plant genetic resource activities

134. As stated above, the IBPGR conservation network comprises national and regional institutions, and IARCs holding base collections. The financing of the former institutions is largely a matter for the governments concerned. The IARCs and the IBPGR mainly depend for their financial support on the CGIAR system. The CGIAR itself does not provide contributions; it approves its programme and the budget levels of the activities it supports. Each donor member annually pledges a specific amount (one member contributes on a pro rata basis of 25 percent of total contributions) for activities selected by it within the system. No more permanent commitment is made by donors. However, there would appear (from the Report of the Second Review of the CGIAR, November 1981, para. 3.7) to be an understanding that, on becoming a member of the Group, donors accept a long-term - but unquantified responsibility in this respect.

135. In 1983, the CGIAR agreed to set up a stabilization mechanism in funding, for which, as a final step, the World Bank will make available the equivalent of 2.5 percent of total contributions by the CGIAR system. This would be in addition to the 10 percent of total contributions which the Bank is already providing and which can serve to fill any gaps in the support to the various IARCs.

136. As far as the planning of funding is concerned, the IARCs submit to the CGIAR through TAC an outline of their proposed budget for the two following years, as well as budget projections for an additional three years.

#### Conclusion

137. The essential characteristic of the present system for the coordination of international activities relating to plant genetic resources is its lack of institutionalization. It derives from the CGIAR, an association without legal personality or legal structure, though with intergovernmental participation. The coordination is promoted by the IBPGR, an entity without legal personality. The activities are performed by institutions which have retained the authority to decide on their programmes, although - in the case of the IARCs - an overall review is carried out by TAC and the CGIAR. Certain essential guarantees with respect to plant genetic resource activities in the IBPGR system are contained in a letter of commitment for which, however, there is no firm legal basis. Furthermore, the IARCs depend, for their financial support, to a large extent on voluntary contributions from CGIAR donors, which do not make longer-term commitments in this respect.

138. The orientation of the activities is largely influenced by the advice of experts, who - while they are nationals of a broad range of countries - do not in most cases represent their governments. Although the IBPGR has encouraged links with governments, in the appointment of liaison officers, for example, as well as intergovernmental links, in the form of the regional organizational frameworks, those links cannot be considered part of a general institutional structure, particularly as there is no institutional apex.

139. Furthermore, there is no established mechanism for the global coordination of plant genetic resource activities. While the IBPGR's work in the promotion of coordination is of considerable value, the IBPGR has limited resources (about US\$4 million annually) and many other responsibilities.

140. However, the informal and scientific approach of the IBPGR ensures that the orientation of activities, which mainly depends upon scientific considerations, is carried out with scientific professionalism. Moreover, the voluntary donations of the members of the CGIAR, and the decentralization of the various activities, have resulted in the mobilization of substantial financial support (the contribution in 1983 for plant genetic resource conservation amounted to about US\$14.5 million) and in an expanding network of gene banks.

141. At the same time, the responsibility for ensuring that the needs relating to plant genetic resources are satisfied ultimately rests on governments, individually and collectively. This does not necessarily mean that all activities must be carried out under their direction and control. For the fulfillment of their responsibility, they can rely on initiatives outside their direct control provided that they are satisfied that the activities fully respond to present and future needs. However, reliance cannot reasonably be placed on a system, however effective, if it offers no firm guarantee of permanence. At present, there is no such guarantee, either on the part of the CGIAR system as a whole or on the part of its individual components.

142. In addition, the IBPGR system has been criticized by some countries as working unfairly with respect to developing countries: reference has been made to a significant concentration of plant genetic resources in the gene banks of industrialized countries; to an orientation of activities to resources of cultivars valuable to the agriculture and industry of industrialized countries, to the detriment of resources of great importance to developing countries, such as breeders' lines; and to a lack of guarantee concerning the free availability of resources.

143. While other countries hold an opposing view, the fact that such criticism has been made at least highlights an important lacuna in the present situation: namely, the absence - apart from some indirect influence that can be exerted through FAO - of an established mechanism, at least at the global level, through which States can collectively monitor plant genetic resource activities, and express their views and concerns.

> V. MEASURES THAT COULD BE ADOPTED IN THE LIGHT OF THE BASIC PRINCIPLES, OBJECTIVES AND REQUIREMENTS

#### International Bank for Plant Genetic Resources

144. In line with Resolution 6/81, the starting point in the examination of possible measures to improve the present arrangements relating to plant genetic resources was a study of the feasibility of establishing an international bank for plant genetic resources of agricultural interest under the auspices of FAO. This study is contained in paragraphs 61 to 119 of the Proposal presented to the Committee on Agriculture (document COAG/83/10).

145. It was noted, however, that, for the establishment of such a bank, considered as a single physical entity, a number of difficult problems would have to be faced and that the cost involved in the construction and in the operation and (permanent) maintenance of the bank would be large, even if the capacity of the bank were reduced to a minimum. Indeed,

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there was a consensus in the Committee on Agriculture that the indicative figures, given in the study with respect to the costs, were in all probability underestimated (see document CL 83/9, para. 229).

146. In the light of the above, a government has suggested that consideration could be given to the establishment of a pioneer gene bank under the auspices of FAO, which would make use of facilities and material that some governments would be prepared to offer. While it is not possible to estimate the cost involved for FAO in the absence of detailed information on the support and facilities that might be available from governments, solutions of this kind should be borne in mind, especially if it does not prove possible to realize the concept of the international gene bank, as suggested by the Committee on Agriculture.

147. As stated in paragraph 34 above, the suggestion of the Committee on Agriculture was that the international gene bank should be considered as an international concept, rather than as a single physical entity, and that account should be taken of relevant ongoing activities.

148. Paragraphs 54 to 63 of Section II have described an international network of base collections that could be established in line with Resolution 6/81. Section IV has examined the existing conservation network. It has been suggested by some governments that, in view of the discussions of COAG, an international network of base collections, founded on the present network, could be considered as constituting in practice an international gene bank. Further scientific and technical aspects of such a gene bank are discussed immediately below. The additional element in the Conference's Resolution - namely, an international gene bank that would operate under the auspices of FAO - is the subject of the subsequent paragraphs relating to legal and institutional aspects.

149. In view of the present state of development with respect to the exploration and conservation of plant genetic resources, the concept of the network should be an evolving one, starting from a realistic base and envisaging a minimum comprehensive coverage by a certain date.

150. The network would, subject to the agreement of the governments and institutions concerned, comprise the base collections that have already been designated by the IBPGR for 32 crops, or groups of crops, in 38 institutions situated in 29 countries. Additional collections are planned, account being taken of priorities developed by the IBPGR. These priorities would be reviewed and further developed, with the participation of governments, with the aim of establishing a comprehensive system for major crops, which would, in time, satisfy the main needs relating to plant breeding, conservation and geographical coverage.

151. Within the legal framework outlined below, the IBPGR would advise and be consulted on the further expansion of the network, through the designation of existing national or international institutions as base collections. As the coverage of the network evolved, it might be necessary to establish completely new facilities for base collections of particular crops. The national, regional or international authority that would be responsible for the administration of such collections would be decided by the participating governments.

152. The material in the base collections of the network, and the availability of that material, would in principle cover all categories of plant genetic resources. However, subject to the agreement of FAO in particular cases (see para. 167 below), qualifications of that principle would be possible.

153. As base collections must function as long-term depositories of world genetic resources, they should, as explained in paragraph 55 above, be linked with active collections. Most of the exchange of genetic resources would take place between the numerous active collections and plant breeding and other scientific institutions. Requests for material from the

base collections would be made only where active collections were not able to supply samples of it.

154. The financial implications of an international gene bank, established as a network of base collections can be estimated from various sources. The calculations of expenditure in Appendix 8 of document COAG 83/10 can be used as one source of reference. The views of administrators of gene banks, and estimates of expenditures provided by IARCs, indicate that actual costs are probably about 50 percent higher than the estimates in document COAG 83/10. Appendix E to this Report summarizes, as a second source of reference, the budget estimates provided by IARCs.

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155. The most complete information on expenditures for a genetic resources centre has been given with respect to the International Rice Research Institute (IRRI), in which base collections are linked to active collections and have been systematically evaluated over the last ten years. IRRI's collection was initiated 20 years ago. It includes wild material as well as advanced breeding lines, with a total of 63 000 samples, and it is adjacent to experimental fields and laboratory facilities. The investment cost of the building has been US\$4 million and the cost of other facilities, including a seed health unit, has been over US\$1 million. The operational costs, including overheads, training and collecting, are in the order of US\$1 million per annum. Further details are provided in Appendix F hereto.

156. IRRI's operational costs seem to be basically in agreement with those of other IARCs, as can be seen in Appendix E, which indicates that nine centres together spend an annual amount of US\$10 million on plant genetic resource activities. Expenditures for the annual maintenance of small collections are much below the average in the Centro Internacional de Mejoramiento de Maís y Trigo (CIMMYT) (US\$350 000), while for the Centro Internacional de la Papa (CIP) the annual operational costs of maintaining germ plasm of a vegetatively propagated crop (potato) are much higher (US\$2.5 million). The maintenance of living plant collections generally results in higher expenditures per sample unit and are demanding on land and labour. It should be recalled that 3 000 coconut samples occupy 300 hectares in Java, an overpopulated island where the average holding is less than one hectare per family, entailing therefore a very high annual rent. In addition, the cost of maintaining a plantation healthy and clean, without any commercial return, has to be met.

157. Expenditures for the evaluation of plant genetic resources have to be considered in addition to the cost estimates provided for a genetic resources centre, which include expenditures only for the most basic evaluation of a descriptive nature. Considerable additional costs are involved, depending upon the crop to be evaluated, in the systematic screening of genetic resources for resistance to particular diseases, quality characteristics such as amino-acid composition of proteins and crossing ability, for example.

158. The establishment of an international gene bank as a network of base collections can be achieved only on the assumption that the present financing of the participating base collections, by the national or international agencies supporting them, would continue. Moreover, this financing should be based on commitments, even increased beyond the present level, so as to avoid any weakening of the base collections and their related genetic resources activities, and, if possible, to strengthen them.

# Strengthening of National Capabilities

159. An important component of an international system covering plant genetic resource activities, would be action to assist countries with limited facilities in strengthening their capabilities with respect to such activities, both within and outside the context of the international network of base collections proposed above.

160. The difficulties outlined in paragraph 108 above, relating to the establishment and maintenance of gene banks, are only a few examples of the constraints facing many developing countries. However, international action should first concentrate on the strengthening of national plant breeding capabilities. Without such capabilities, the establishment of a national gene bank, and the international network of base collections, would be ineffective.

161. In this connexion technical cooperation - in addition to assistance by countries with advanced breeding techniques - is an important element. National capabilities can be

strengthened through cooperative links between developing countries, and between the latter and countries or institutions with advanced breeding programmes. In the first place, such links would be useful in order to distribute the work involved in the storage and rejuvenation of plant genetic resources, thus sharing the costs which might otherwise unduly burden the financial resources available for other activities at the national level. Encouragement should also be given to joint activities carried out by institutions conserving the same kinds of crops or experiencing similar problems. Such activities would reduce the costs for both institutions. Collaborative research work would be helpful in strengthening breeding programmes in countries with limited manpower and facilities, and would, at the same time, serve as a mechanism for the transfer of technology.

#### Legal and Institutional Aspects

162. The preceding paragraphs of this Section have suggested that an international bank for plant genetic resources could consist of an international network of base collections, built to the extent possible on the existing IBPGR conservation network, and that an international system, comprising the International Gene Bank, should provide other services, in particular those related to the strengthening of the capabilities of developing countries. The following paragraphs suggest possible measures, of a legal and institutional nature, that could be taken to improve the present system for the conservation network and related activities.

163. The main lacunae in the present system were identified, in Section IV, as the lack of a longer-term commitment concerning the operation and performance of the system, and the absence of any mechanism for significant governmental participation. One way of filling these lacunae would be the introduction into the CGIAR system of a greater degree of institutionalization and governmental participation. A solution of this kind was considered in the Second Review of the CGIAR, 1981, and the conclusion was, in effect, that it would run counter to the basic philosophy of the CGIAR. The following paragraphs explore an alternative solution, which would seem to be capable of satisfying the main concerns expressed by some countries, without essentially affecting the CGIAR/IBPGR system. Moreover, if significant changes in that system were later considered necessary, the solution outlined below would provide a procedure for giving the matter in-depth consideration.

#### An FAO legal framework

164. It is suggested that the present activities of the IBPGR would not be prejudiced, and would indeed be strengthened, if they were carried out within a legal framework under which FAO would take charge of the legal aspects of the conservation network and which would also enable States to exercise their collective responsibilities with respect to plant genetic resources.

#### The legal aspects of the IBPGR's activities

165. One such legal aspect covers agreements relating to assistance provided by the IBPGR to governments. In the Report of the TAC Quinquennial Review of the IBPGR, 1980, it was noted (para. 4.5.4) that the IBPGR's <u>de facto</u> association with FAO "has immeasurably aided the international activities of the Board". The agreements referred to could be placed on a firm legal basis, and the association with FAO would become clearer, if the agreements were concluded between the governments concerned and FAO. The substance of the agreements would not be affected. The latter would still relate to assistance that would be provided by FAO officials in the context of IBPGR.

166. As far as the conservation network is concerned, the most important activities having legal aspects are the designation by IBPGR of the components of the network, and the related commitments made by the latter. This designation could be made by FAO (after consultation with the IBPGR), and the commitments could be made to FAO. In connexion with the commitments, the main defect is that they are at present made to an institution that has no legal personality (see para. 132 above). The commitments would be placed on a firm legal basis if they were made in an agreement concluded between the institution concerned, or preferably (where applicable) the government or governments responsible for that institution, and FAO. 167. The first step would, therefore, be for FAO to invite governments and institutions that are at present participating in the IBPGR conservation network to continue their activities, within the legal framework referred to above, under an agreement with FAO, which would basically specify the crops that would be conserved by the government or institution, and set out the latter's commitments. If a government or institution were unable to accept all the commitments proposed by FAO, its reservations should be stated clearly, so that FAO could decide whether or not they were of such a nature as to preclude designation.

168. Under these arrangements, the material in the base collections would be held in the context of the international network, but would continue to be under the ownership and control of the governments or institutions concerned.

169. A further important step would be for FAO to invite governments or institutions that had accepted the commitments proposed, particularly those relating to the full availability of samples, to place the material in their collections at the disposal of FAO. They would continue to administer the collections, but would provide material that had been requested by FAO (requests would be limited to material that could not easily be obtained elsewhere), and would allow FAO access to the collections in order to ensure that they were being administered in accordance with internationally agreed standards. In these circumstances, such base collections could be considered as forming part of an International Gene Bank under the auspices of FAO, in line with Resolution 6/81. An offer to hold a base collection available in this way was made by Spain (see Appendix G) to the Committee on Agriculture at its Seventh Session. It is likely that other governments or institutions would also be willing to participate in such an International Gene Bank.

170. The same kind of arrangements would be made by FAO with respect to new centres agreeing to participate in the network.

171. Finally, this FAO legal framework would be the context for the necessary intergovernmental participation in the global coordination of the network as well as of plant genetic resource activities in general. This aspect is elaborated below.

#### Governmental participation

172. As has been noted in Section IV (see paras. 125 to 128 above), there has in the relatively recent past been an increase in governmental participation in international plant genetic resource activities, particularly in the case of the organizational frameworks that have so far been established in Southeast Asia and Europe, side by side with the IBPGR system. At the national level, the regional committees are complemented by national committees established by the participating governments, or national coordinators appointed by them. FAO and the IBPGR should continue to encourage and facilitate these developments.

173. The main lacuna at present is the absence of any similar organizational framework at the global level. This lacuna could be filled through the establishment, within the framework of FAO, of an intergovernmental committee or other body open to all interested States. The main functions of such a body could be:

- (a) a review of the operation of the conservation network, including the international information system proposed below (paragraphs 181 to 189) as well as of plant genetic resource activities in general, including the examination of the reports of the IBPGR which are received by FAO as a member of the CGIAR and reports which the regional committees might be invited to provide to FAO;
- (b) the discussion of questions of particular concern to governments, and the formulation of related recommendations to be made, through FAO, to the CGIAR and the IBPGR;
- (c) the adoption by governments of the priorities and standards developed under the auspices of the IBPGR; and
- (d) the coordination of the support that States may, individually or collectively, be able to provide to overcome problems encountered, especially those related to the conservation network and to conservation and plant breeding activities in developing countries.

174. The above functions could be carried out by the Committee on Agriculture, in the context of its review of the biennial programmes of work of the Organization and their implementation (under Rule XXXII.6(c) of the General Rules of the Organization (GRO), regard also being had to para. 6(d) of the same Rule). The Committee on Agriculture may in exceptional cases establish subsidiary bodies under the conditions set out in GRO XXXII.12. With respect to the biennial review relating to plant genetic resource activities, it would be desirable that COAG should set up such a subsidiary body for two reasons:

- (a) to avoid an increase in the already heavy workload of COAG itself, and
- (b) to enable all potentially interested States to participate as full members of the body: under GRO, Rule XXXII.13, the Committee may include Member Nations that are not members of COAG in the membership of subsidiary bodies (subpara. (a)); and the Council may admit to membership of such bodies non-members of FAO which are members of other organizations in the UN system (subpara. (b)). In this context, it should be noted that two countries that are not Member Nations of FAO (the Soviet Union and the German Democratic Republic) hold significant collections of plant genetic resources.

175. With respect to secretariat services for the subsidiary body, reliance could be placed on the FAO unit which is at present also engaged in activities relating to the IBPGR. Since the subsidiary body would meet only biennially, the workload on that unit should not be unduly increased. The main financial implications for the Organization would be the increased cost of interpretation and other facilities for the meetings.

### Financial security

176. The present lack of financial security, especially on a long-term basis (see para. 134 above), is a problem that will require detailed consideration, and could be one of the essential questions to be discussed in the context of the subsidiary body referred to above.

177. A suggestion has been made by the Government of the Netherlands in a letter to the FAO Secretariat dated 10 June 1983: "In the case of more funds becoming available, the establishment may be considered of a 'World Gene Fund', to be administered by an international agency, such as FAO. The IBPGR could act as an advisory body, or alternatively as a sub-contractor taking responsibility for the conservation of the major food crops worked upon by the CGIAR institutes." A fund of this kind could be administered by FAO as a trust fund or a reserve fund, or it could be established under the sponsorship of FAO but outside its framework.

178. Even small annual contributions made by governments and financing agencies to a fund which would only be used to meet emergency cases arising in the operation of the conservation network (or to complement other sources of assistance in such cases), would be a desirable first step. It would also be of assistance if donors, particularly those of the CGIAR system, could give the international community an advance indication of the amounts that they would be making available for plant genetic resource activities, in order to facilitate forward planning.

179. Furthermore, while governments and funding agencies may be faced with competing priorities, many of which may be considered as important as plant genetic resource conservation, it can in general be said that there is one essential difference in the case of conservation work. Whereas a budgetary reduction could lead to a delay in the implementation of other activities, a reduction in the funds necessary for conservation work could result in the irretrievable loss to humanity of valuable material. This point should be borne in mind when funding priorities are assigned.

180. Irrespective of the amount of funds that can be made available for plant genetic resource conservation in the future, financial security could be improved if conservation was treated separately from other activities: it would be desirable that institutions with responsibilities covering plant genetic resources should prepare separate programmes relating to conservation work, with their own budget and budgetary projections for the longer term, that governments should allocate funds to the institutions specifically

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for such work, and that donors should assign their contributions to a special fund to be used exclusively to finance conservation activities.

## International Information System for Plant Genetic Resources

181. As explained above (see paras. 56 and 57), the international network of base collections must be complemented by information systems at the national, regional and international levels. While valuable work is being promoted by the IBPGR in this connexion the lack of information, in a readily retrievable form, is perhaps the most serious weakness of the present system from a scientific and technical point of view.

182. The data available for individual gene banks, as well as the ways in which they are kept, show a great diversity, ranging from the simple filling in of cards with the most elementary information, such as the place and date of collection of a sample, to computerized data, including the location of individual genes along each of the chromosomes of certain species. Considerable efforts have already been made by the IBPGR to assist individual genetic resources collections to improve their information systems, including computerization.

183. Experience has demonstrated that progress in plant genetic resources information has to be pursued on a crop-by-crop basis, and the IBPGR has issued, in collaboration with its advisory committees, the IARCs and regional programmes, lists of crop descriptors in order to standardize information collection and exchange. The wide acceptance and application of those standardized descriptors should be further pursued, and institutions holding base collections should take the lead in these efforts, as already under way through IRRI for rice, IBPCR for wheat, ICRISAT for sorghum and millet and CIP for potatoes, to give only a few examples.

184. It is necessary to ensure that the data from the evaluation of plant genetic resources flows back to the base collections.

185. With increasing information becoming available and the evolution of the international network of base collections, a central focus for plant genetic resources information would be essential. Earlier attempts to concentrate all available information in one centralized data bank, initiated by FAO in 1973 and pursued by the IBPGR during 1974/75, demonstrated that this is an impractical and difficult solution.

186. It is therefore suggested that an International Information System on Plant Genetic Resources should be established, and should take advantage of the previous experience and of collaboration with the IBPGR. It should be developed so as to interlink the main existing crop-based information systems in base collections and to incorporate new ones, in order to enable the retrieval, from a central point, of the information existing in each institution participating in the international network of base collections. The system should be designed in such a way as to ensure the compatibility of the information systems developed in individual centres with respect to computer hardware and software.

187. The system should also include information from relevant institutions outside the proposed international network of base collections.

188. In order to place the international information system within the legal framework described above, and in view of FAO's experience in successful information systems, such as AGRIS and CARIS, FAO would seem to be the most appropriate organization to administer the system, in collaboration with the IBPGR, concluding the necessary agreements with cooperating institutions.

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189. The establishment of an International Information System on Plant Genetic Resources, administered by FAO, would require the provision of additional funds to FAO. Without a more concrete assessment of the form of the system and its requirements, it is not possible to give a precise estimate of the amount involved.

#### VI. CONCLUSIONS

190. This Report demonstrates the tasks that must be carried out in order fully to ensure the exploration, collection, conservation, documentation, evaluation, availability and utilization of plant genetic resources, including the dependence of the extent to which plant genetic resources can be utilized, for the benefit of the agricultural development of each country, upon the strength of the capabilities in that country for plant breeding.

191. The Report recognizes the achievements of international cooperation to date, while demonstrating that many scientific and technical aspects of plant genetic resources are in need of further development, which will require increasing support from all interested countries and strengthened international collaboration.

192. This Report, in Section IV, identifies certain major constraints in the context of the present international arrangements, which can be summarized as follows:

- (a) the lack of the necessary personnel and facilities in many developing countries, and their pressing needs for assistance in training and equipment, for satisfactory participation in plant genetic resource activities, and for deriving the full benefits of those activities;
- (b) shortcomings of a scientific and technical nature in particular insufficient evaluation and the lack of readily retrievable information, especially at the global level, which is an essential component of a system for the preservation and use of plant genetic resources;
- (c) the absence in general of a firm commitment, on the part of governments and of relevant institutions, with respect to plant genetic resource activities, particularly the conservation of nature reserves in areas of important genetic diversity, the maintenance of base collections and the free availability of plant genetic resources for exchange;
- (d) the insufficient means through which governments can collectively exercise their responsibilities with respect to the preservation and use of plant genetic resources;
- (e) the absence of any long-term guarantee concerning the financing of essential activities related to plant genetic resources.

193. The measures proposed in this Report to improve the situation are essentially as follows:

- the adoption of an International Undertaking on Plant Genetic Resources, open to adherence by all interested governments and relevant institutions (Section III of this Report);
- (b) the establishment of a network of base collections of plant genetic resources, which could be considered as an international gene bank and would -
  - (i) make full use of the present expanding network (paragraphs 147 to 158 of this Report);
  - (ii) operate within an FAO legal framework (paragraphs 164 to 168);
  - (iii) provide cooperating governments and institutions with an opportunity to hold the material in their base collections at the full disposal of FAO (paragraph 169);
- (c) the encouragement of governmental participation in plant genetic resource activities, at the regional, sub-regional and national levels, and the global intergovernmental review - by a subsidiary body of the Committee on Agriculture - of such activities, including the operation of the network of base collections, mechanisms for increasing financial security, the action taken by countries with limited facilities to increase their plant breeding capabilities, and the assistance provided to the latter to meet their training and other needs (paragraphs 172 to 175);

- (d) the consideration of ways of strengthening financial security, and the improvement of existing funding arrangements through the allocation of funds specifically for conservation activities (paragraphs 176 to 180);
- (e) the establishment of a global information system, to be administered by FAO in collaboration with the IBPGR (paragraphs 181 to 189).

194. Thus, in the context of the proposed network, full advantage would be taken of the offer made by the Government of Spain (see Appendix G) and of similar offers from governments or institutions, to hold base collections at the disposal of FAO. Offers of this kind could, in addition, be the starting point in the exploration of alternative measures if the coverage provided by the proposed network should prove to be insufficient in terms of species or geographical distribution (see paragraph 146).

195. In the light of the above, the Director-General proposes:

- (a) that the Conference consider, with a view to adoption at its forthcoming Twentysecond Session, the draft Resolution containing an International Undertaking on Plant Genetic Resources, set out in Appendix A to this Report;
- (b) that the Director-General should, in consultation with the IBPGR, invite relevant governments and institutions to participate in an international network of base collections within an FAO legal framework, placing - if they so desire - their base collections fully at the disposal of FAO;
- (c) that, as soon as a significant number of governments and relevant institutions have notified him of their intention to give effect to the Undertaking as adopted -
  - (i) the Committee on Agriculture should establish the above-mentioned subsidiary body on plant genetic resources, which would meet at the time of the Committee's regular sessions and would include interested governments both members and non-members of the Committee (GRO, Rule XXXII.13(a)), and
  - (ii) the Council should admit to membership of that body, interested non-Member Nations of FAO that are members of the United Nations, a specialized agency or IAEA (GRO, Rule XXXII.13(b));
- (d) that the Director-General should seek the views of donor governments and financing agencies with respect to strengthening the present funding mechanisms or to establishing new mechanisms;
- (e) that the Director-General should prepare a study on the feasibility of establishing the aforesaid global information system, including the latter's financial implications; and
- (f) that the Director-General should present a report to the Council at its Eighty-sixth Session, on progress achieved in the implementation of the Conference's recommendations and decisions relevant to this Report.

## Appendix A

## DRAFT RESOLUTION AND INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

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(see Section III of this Report)

#### OUTLINE

#### THE RESOLUTION

The Resolution essentially summarizes the rationale of the Undertaking. The various aspects are developed in the text of the Undertaking.

#### THE INTERNATIONAL UNDERTAKING

#### I. GENERAL

Article 1 is a concise statement of the <u>objective</u> that the other provisions of the Undertaking are intended to achieve.

<u>Article 2</u> gives definitions of terms used in the Undertaking, including the <u>categories</u> of <u>plant genetic resources</u> covered by it. The coverage is comprehensive, but should be seen in the context of the second operative paragraph of the Resolution, which invites Governments and institutions to inform FAO of the extent to which they can give effect to the principles in the Undertaking.

Articles 3 to 5 state the principles that should apply, essentially at the <u>national level</u>, with respect to the exploration, preservation and exchange of plant genetic resources.

#### II. INTERNATIONAL COOPERATION

<u>Article 6</u> indicates the general lines of <u>international cooperation</u>: (a) <u>strengthening</u> plant genetic resource <u>capabilities in developing countries</u>; (b) <u>intensifying existing</u> <u>international activities</u>; (c) <u>collaboration in the network referred to in Art. 7</u>; (d) studying the feasibility of additional arrangements, including <u>gene banks under FAO</u> <u>administration</u>, if the network referred to in Art. 7 proves to be insufficiently comprehensive; (e) considering institutional measures to <u>finance activities</u> relating to plant genetic resources.

<u>Article 7</u> sets out the legal framework for a <u>network of base collections</u> founded, to the extent possible, on existing international arrangements. The network would comprise the collections of governments or institutions that agree to carry out, within an FAO legal framework, the activities whose coordination is promoted by the IBPGR (Art. 7.1), and governments or institutions that, in addition, arrange for their base collections to be recognized as part of an <u>International Cene Bank</u> (Art. 7.2). The network would also include a global information system (Art. 7.1(d)).

Article 8 suggests principles designed to ensure financial and other support for activities, in particular to meet difficulties encountered in the operation of the network.

Article 9 relates to the role of FAO, which would have the responsibility of monitoring international cooperation relating to plant genetic resources, and taking all necessary measures with respect to the network of base collections, including the conclusion of agreements with participating governments and institutions. FAO would carry out its responsibility in consultation with Governments supporting the network (Article 9.4);

#### III. OTHER PROVISIONS

Article 10 stresses the importance of phytosanitary measures with respect to plant genetic resource activities.

Under Article 11, adhering Governments and institutions would be invited to provide FAO with progress reports concerning the achievement of the objective of the Undertaking.

## Resolution /83

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# INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

THE CONFERENCE

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Recalling its Resolution 6/81 on plant genetic resources;

#### Recognizing that:

- (a) plant genetic resources are indispensable for the genetic improvement of cultivated plants, but have been insufficiently explored and are in danger of erosion and loss;
- (b) plant genetic resources are a heritage of mankind to be preserved, and to be freely available for use, for the benefit of present and future generations;
- (c) full advantage can be derived from plant genetic resources only through an effective programme of plant breeding, and that, while most such resources in the form of wild plants and old land races are to be found in developing countries, training and facilities for plant breeding are insufficient or even not available in many of those countries;

#### Considering that:

- (a) the international community should adopt a concrete set of principles designed to promote the exploration, preservation, availability and full exploitation of relevant plant genetic resources for plant breeding essential to agricultural development;
- (b) it is the responsibility of governments to undertake such activities as are needed to ensure the exploration, collection, conservation, maintenance, evaluation and exchange of plant genetic resources in the interest of all mankind; to provide financial and technological support to institutions engaged in such activities; and to ensure the equitable and unrestricted distribution of the benefits of plant breeding;
- (c) progress in plant breeding is essential to the present and future development of agriculture; and the establishment or strengthening of plant breeding and seed production capabilities, at the national, sub-regional and regional levels, is a prerequisite to making efficient use of international cooperation in the exploration, collection, conservation, maintenance, evaluation and exchange of plant genetic resources;

1. Adopts the International Undertaking on Plant Genetic Resources attached hereto;

2. <u>Requests</u> the Director-General to transmit this Resolution and the attached International Undertaking to Member Nations of FAO, to non-Member Nations which are members of the United Nations, any of its Specialized Agencies or the International Atomic Energy Agency, and to autonomous international institutions having responsibilities with respect to plant genetic resources, and to invite them to inform him by (date) of the extent to which they are in a position to give effect to the principles contained in the Undertaking, especially Articles 3 to 5 thereof;

3. <u>Urges</u> Governments and the aforesaid institutions to give effect to the principles of the Undertaking and to support the international arrangements outlined therein, and - where appropriate and feasible - to participate in such arrangements.

## Annex

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# INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

#### I. GENERAL

#### Article 1 - Objective

1. The objective of this Undertaking is to ensure that plant genetic resources of agricultural interest will be explored, preserved, evaluated and made available for plant breeding, for the benefit of all human beings of the present and future generations.

# Article 2 - Definitions and Scope

- 2.1 In this Undertaking, unless the context otherwise requires:
- (a) "plant genetic resources" means the reproductive or vegetative propagating material of the following categories of plants:
  - (i) cultivated varieties (cultivars) in current use and newly developed varieties;
  - (ii) obsolete cultivars;
  - (iii) primitive cultivars (land races);
  - (iv) wild and weed species, near relatives of cultivated varieties;
  - (v) special genetic stocks (including elite and current breeders' lines and mutants);
- (b) "base collection of plant genetic resources" means a collection of seed stock or vegetative propagating material (ranging from tissue cultures to whole plants) held for long term security in order to preserve the genetic variation for scientific purposes and as a basis for plant breeding;
- (c) "institution" means an entity established at the international or national level, with or without legal personality, for purposes related to the exploration, collection, conservation, maintenance, evaluation or exchange of plant genetic resources;
- (d) "centre" means an instituion holding a base collection of plant genetic resources, as described in Article 7.

2.2 This Undertaking relates to the plant genetic resources of all species of interest to agriculture at present or in the future, and has particular reference to food crops.

# Article 3 - Exploration of Plant Genetic Resources

3.1 Governments adhering to this Undertaking will organize or arrange for missions of exploration, conducted in accordance with recognized scientific standards, to identify potentially valuable plant genetic resources that are in danger of becoming extinct in the country concerned, as well as other plant genetic resources in the country which may be useful for agricultural development but whose existence or essential characteristics are at present unknown, in particular:

- (a) known land races or cultivars in danger of becoming extinct due to their abandonment in favour of the cultivation of new cultivars;
  - (b) the wild relatives of cultivated plants in areas identified as centres of genetic diversity or natural distribution;

(c) species which are not actually cultivated but may be used for the benefit of mankind as a source of food or raw materials (such as fibres, chemical compounds, medicine or timber).

3.2 Special efforts will be made, in the context of Article 3.1, where the danger of extinction of plant species is certain, or is likely, having regard to circumstances such as the clearance of vegetation from tropical rain forests and semi-arid lands with a view to the expansion of cultivated areas.

# Article 4 - Preservation of Plant Genetic Resources

4.1 Appropriate legislative and other measures will be maintained and, where necessary, developed and adopted to protect and preserve the plant genetic resources of plants growing in areas of their natural habitat in the major centres of genetic diversity.

4.2 Measures will be taken, if necessary through international cooperation, to ensure the scientific collection and safeguarding of material in areas where important plant genetic resources are in danger of becoming extinct on account of agricultural or other development.

4.3 Appropriate measures will also be taken with respect to plant genetic resources held, outside their natural habitats, in gene banks or living collections of plants. Governments and institutions adhering to this Undertaking will, in particular, ensure that the said resources are conserved and maintained in such a way as to preserve their valuable characteristics for use in scientific research and plant breeding.

# Article 5 - Availability of Plant Genetic Resources

5. It will be the policy of adhering Governments and institutions having plant genetic resources under their control to allow access to samples of such resources, and to permit their export, where the resources have been requested for the purposes of scientific research, plant breeding or genetic resource conservation. The samples will be made available free of charge, on the basis of mutual exchange, or on the most favourable terms having regard to the costs related to the provision of the material and having regard to the person or entity requesting it.

#### II. INTERNATIONAL COOPERATION

#### Article 6 - General

- 6. International cooperation will, in particular, be directed to:
- (a) establishing or strengthening the capabilities of developing countries, where appropriate on a sub-regional basis, with respect to plant genetic resource activities, including plant breeding and seed multiplication and distribution, with the aim of enabling all countries to make full use of plant genetic resources for the benefit of their agricultural development;
- (b) intensifying international activities in plant exploration, plant breeding and germ plasm maintenance, including those carried out by FAO in collaboration with the institutions supported by the CGIAR, as well as the FAO Panel of Experts on Forest Genetic Resources, with the aim of progressively covering all plant species that are important for agriculture and other sectors of the economy, in the present and for the future;
- supporting the arrangements outlined in Article 7, including the participation in such arrangements of governments and institutions, where appropriate and feasible;

- (d) studying the feasibility of arrangements, additional to those outlined in Article 7, including the establishment and administration by FAO of base collections to form part of the International Gene Bank, referred to in Article 7.2, if it appears that the facilities provided by Governments and institutions would be insufficient fully to achieve the objective of this Undertaking;
- (e) considering institutional measures, such as the strengthening or establishment of funding mechanisms, to finance activities relating to plant genetic resources.

# Article 7 - International Arrangements

7. The present international arrangements, being carried out under the auspices of FAO and other organizations in the United Nations system, by national and regional institutions and institutions supported by the CGIAR, in particular the IBPGR, for the exploration, collection, conservation, maintenance, evaluation, exchange and use of plant genetic resources will be further developed and, where necessary, complemented so as to ensure that:

- (a) there exists an internationally coordinated network of national, regional and international centres that have assumed the responsibility to hold, for the benefit of the international community and on the principle of free exchange, base collections of the plant genetic resources of particular plant species;
- (b) the number of such centres will be progressively increased so as to achieve as complete a coverage as necessary, in terms of species and geographical distribution, account also being taken of the need for duplication, of the resources to be safeguarded and preserved;
- (c) the activities of the centres that are related to the exploration, collection, conservation, maintenance, rejuvenation, evaluation and exchange of plant genetic resources will be carried out with due account being taken of scientific standards adopted from time to time under the auspices of FAO;
- (d) sufficient support in funds and facilities will be provided, at the national and international levels, to enable the centres to carry out their tasks;
- (e) a global information system, under the auspices of FAO, relating to plant genetic resources maintained in the aforementioned base collections and - to the extent feasible - elsewhere, and linked to systems established at the national, subregional and regional levels, will be developed on the basis of relevant arrangements that already exist;
- (f) early warning will be given to FAO, or to any institution designated by FAO, of any hazards that threaten the efficient maintenance and operation of a centre, with a view to prompt international action to safeguard the material maintained by the centre.

7.2 Any Governments or institutions that agree to participate in the network referred to in Article 7.1 may, furthermore, notify the Director-General of FAO that they wish the base collection or collections for which they are responsible to be recognized as part of an International Gene Bank under the auspices of FAO. The centre concerned will, whenever so requested by FAO, make material in the base collection available to FAO and will permit FAO to have access to the premises and facilities of the collection.

# Article 8 - Financial Security

8.1 Adhering Governments, and financing agencies, will, individually and collectively, consider adopting measures that would place activities relevant to the objective of this Undertaking on a firmer financial basis.

8.2 Adhering Governments, and financing agencies, will, in particular, explore the possibility of establishing mechanisms which would guarantee the availability of funds that could be immediately mobilized to meet situations of the kind referred to in Article 7.1(f).

8.3 Adhering Governments and institutions, and financing agencies, will give special consideration to requests from FAO for funds, equipment or services needed to meet situations of the kind referred to in Article 7.1(f).

## Article 9 - Monitoring of Activities and Related Action by FAO

9.1 FAO will keep under continuous review the further development of international cooperation in the exploration, collection, conservation, documentation, exchange and use of plant genetic resources.

9.2 FAO will, in particular, monitor the operation of the arrangements referred to in Article 7. It will take, or recommend to Governments or institutions participating in the arrangements, measures that are necessary or desirable in order to ensure the comprehensiveness and efficiency of operations in line with the objective of this Undertaking.

- 9.3 The measures adopted by FAO will include:
- (a) invitations to Governments and international institutions to support the arrangements;
- (b) the designation, with the consent of the Government or institution concerned and after consultation with the IBPGR or other scientific advisory body, of suitable national or international institutions to act as the centres referred to in Article 7.1;
- (c) invitations to Governments or institutions to agree to hold their base collections as part of the International Gene Bank referred to in Article 7.2;
- (d) the conclusion of agreements, with the Governments or institutions concerned to confirm their commitment to the principles of this Undertaking and to the responsibilities indicated in Article 7.1 and, where applicable, Article 7.2;
- (c) measures to overcome any difficulties or shortcomings identified;
- (f) participation, where applicable, in any arrangements adopted by Governments in addition to those referred to in Article 7;
- (g) the solicitation of funds, services or facilities referred to in Article 8.

9.4 In the performance of its responsibilities outlined in Part II of this Undertaking, FAO will act in consultation with those Governments that have indicated to FAO their intention to support the arrangements referred to in Article 7.

#### III. OTHER PROVISIONS

#### Article 10 - Phytosanitary Measures

10. This Undertaking is without prejudice to any measures taken by Governments - in line with the provisions of the International Plant Protection Convention, adopted in Rome on 6 December 1951 - to regulate the entry of plant genetic resources with the aim of pre-venting the introduction or spread of plant pests.

# Article 11 - Information on the Implementation of this Undertaking

11. Adhering Governments and institutions will, at yearly intervals, provide the Director-General of FAO with information on the measures that they have taken or propose to take to achieve the objective of this Undertaking.

#### Appendix B

# LETTER OF AGREEMENT BETWEEN CGIAR MEMBERS AND FAO (June 1974) (see para. 119 of this Report)

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#### LETTER OF AGREEMENT

between

and

The Food and Agriculture Organization of the United Nations (hereinafter referred to as FAO)

<u>Whereas</u> various members of the Consultative Group on International Agricultural Research (hereinafter referred to as "the Donors") wish to make funds available to the Food and Agriculture Organization of the United Nations (hereinafter referred to as "FAO"), as provided in this Agreement for the purpose of creating a Central Fund to finance the activities of the International Board for Plant Genetic Resources (hereinafter referred to as "the International Board") described in Annex I attached hereto:

Whereas the Director-General of FAO may under FAO Financial Regulation 6.7, receive voluntary contributions for this purpose;

Now therefore the Donors and FAO agree as follows:

The undersigned,

Consultative Group on

Agricultural Research

(hereinafter referred to

members of the

International

as the Donors)

#### ARTICLE I

1. The Donors undertake, as provided in this Agreement, to contribute to FAO funds for the purpose of creating a Central Fund to finance activities as described in Annex I.

2. The above funds will be deposited with FAO as Funds in Trust to be administered and accounted for in accordance with the Financial Regulations of FAO. For 1974 the charge to cover FAO's technical and administrative costs has been waived. The decision as to whether any charge will be made for subsequent periods, and if so, the appropriate rate of the charge, will be made at an appropriate later date. It is understood that FAO will not incur any financial liabilities in excess of the amounts actually received.

3. The Funds in Trust will be used exclusively to finance the activities of the International Board to which FAO will submit a statement of account at the end of every calendar year.

4. In accordance with the Financial Regulations of FAO, all costs incurred by the Organization for these activities of the International Board described in Annex I are to be horne by the Trust Fund. The costs chargeable to the Trust Fund may include unforeseen expenditure incurred in accordance with the Regulations of FAO.

#### ARTICLE II

1. FAO's obligations under this Agreement are subject to the constitutional rules and Financial Regulations of FAO.

2. This Agreement, including Annex I, may be modified by mutual consent between FAO and the International Board, each of which shall give full and sympathetic consideration to any proposal for such amendment.
#### ARTICLE III

The Agreement shall remain in effect for a period of one year unless terminated soon by FAO or the International Board by notice in writing given to the other, of not less than thirty days (30) in advance of the effective date of termination; any balance of funds remaining unspent in such case will be handed over to the Chairman of the International Board who will receive them on behalf of all Donors. Upon the mutual agreement of both FAO and the International Board, the effective period of the Agreement may be extended. This Agreement shall enter into force upon signature by FAO and another three of the Donors.

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#### Appendix C

#### TERMS OF REFERENCE OF THE IBPGR

#### (see para. 120 of this Report)

#### Status

The Board is an autonomous scientific, international, philanthropic, non-profitmaking organization under the aegis of the CGIAR.

#### Terms of Reference

The Board will have responsibility, under the authority of the CGIAR, for recommending policies and developing programmes in close collaboration with and with the help and advice of FAO to meet the following objectives:

- (i) To plan, initiate and coordinate wherever possible a worldwide programme through the promotion of genetic resources concepts at government and scientific level;
- (ii) To identify general and specific needs for exploration, collection, conservation and evaluation of plant genetic resources with particular reference to species of major economic importance and their wild and cultivated relatives, to determine priorities among them, and to ensure to the fullest possible extent that the materials conserved are made available for plant breeding and other scientific activities as required;
- (iii) To see the collection of genetic resources is carried out according to the established priority needs;
- (iv) To arrange for the replicated maintenance of both seed and vegetative collections and the duplication of materials between collections;
- (v) To implement appropriate data storage and retrieval systems;
- (vi) To arrange for the characterization of collections, and to incorporate relevant data in data storage and retrieval systems; to promote fuller evaluation by breeders; and to see that relevant data are exchanged along with materials;
- (vii) To promote training at all levels;
- (viii) To promote technical meetings to further the foregoing objectives and to issue technical publications relating to standards, methods and procedures and other matters;
  - (ix) To support research activities into problems the solving of which are essential to the operation of the Board's activities.

#### Membership of the Board

The Board consists of 15 members, of whom not less than four are to be nationals of developing countries, and not less than six are to be scientists. Thirteen members of the Board are elected by the CGIAR, on the recommendation of the IBPGR. FAO and UNEP each appoint one <u>ex officio</u>, non-voting member of the Board. The Executive Secretary also acts as <u>ex officio</u> member. Elected members serve in their personal capacities irrespective of their professional or official affiliation. The Board shall have the power to co-opt additional members if the need should arise.

#### Executive and other Committees

The Executive Committee comprises the Chairman and Vice Chairman of the Board and at least three other elected Board members. The member of the Board designated by FAO shall participate in all the deliberations of the Executive Committee. At least two of the members of the Executive Committee will be from developing countries.

#### Executive Secretariat of the Board

FAO provides the Executive Secretariat for the Board.

#### Other Relationships with FAO

The priorities recommended by the Board will be observed to the maximum praticable extent in formulating the programmes of the Crop Genetic Resources Centre of FAO.

#### Financial Support

The central fund, established by a Letter of Agreement between certain donor members of the CGLAR and FAO, will be administered by FAO as a Trust Fund.

Appendix D

1 P . . . . .

#### LETTER OF INVITATION TO PARTICIPATE IN IBPGR CONSERVATION NETWORK

(see para. 131 of this Report)

The following extract, taken from a typical letter addressed by the Executive Secretary of the IBPGR to a potential cooperating institution, relates to the commitments required by the IBPGR, and contains an invitation to the institution to accept designation for maintaining a specified base collection or collections:

"...

..."

The Board's policy for base collection is to require the following commitments:

- (a) that the collection will continue to receive adequate operating funds and personnel and that if, at some future time, this is not possible, FAO/IBPGR will be alerted promptly;
- (b) that if the material stored is not available from an active collection, it will be made freely available from the base collection to any professionally qualified institution or individual seriously interested in using it;
- (c) that material will be accepted for storage on a global basis;
- (d) that appropriate arrangements will be made (if necessary with suitable institutes) for regeneration of the material; and
- (e) that arrangements will be made to duplicate the material for safety (preferably in another IBPGR designated gene bank).

On this basis the IBPGR invites the (Institution) to accept designation for maintaining base collections of (specification of the crops concerned).

#### Appendix E

## ACTIVITIES OF THE IARCS ON PLANT GENETIC RESOURCES AND THEIR PRESENT COST (see para. 154 of this Report)

#### SUMMARY TABLE

	Present Annual	Projected for
Centre	Expenditure	5 years hence 1983
	US\$	
CIAT	1 358 000	1 809 000
CIP	2 530 000	3 000 000
CIMMYT	350 000	1 000 000
Germ plasm enhancement not itemized	1 000 000	1 000 000
ICARDA	1 043 000	1 356 000
ICRISAT	1 028 500	1 145 800
IITA	850 000	2 500 000
ILCA	148 000	336 000
IRRI	1 001 550	1 000 000
Germ plasm enhancement not itemized	1 000 000	1 000 000
WARDA	100 000	500 000
	10 409 050	14 646 800
IBPGR	4 117 000	5 131 000
	14 526 050	19 777 800

Appendix F

## ESTIMATED BUDGET FOR GENETIC RESOURCES WORK (1983-1985) OF THE INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI) (see para. 155 of this Report)

(at 1983 Prices) (in US\$)

Ope	rational Budget	1983	1984	1985	
Α.	Direct Costs for International Rice Germ plasm Centre (includes Seed Health Unit) $\underline{a}/$		US\$		
	Salaries and Benefits Senior Staff (1) ) Junior Researchers (12) ) Labourers and others (35) )	240 773	254 373	254 373	
	Post Doctoral Fellows (2) )	41 600	41 600	41 600	
	Equipment	56 000 <u>b</u> /	20 000	20 000	
	Maintenance of Motor Vehicles	3 000	3 000	3 000	
	International Travel	5 900	5 900	5 900	
	Travel within the Philippines	3 000	3 000	3 000	
	Sub-total	359 273	327 873	327 873	
В.	Adjusting Factor <u>c</u> / Light and Power Postage Maintenance of Building Depreciation of Facilities	36 000 10 000 24 000 81 560 151 560	36 000 10 000 24 000 81 560 151 560	36 000 10 000 24 000 81 560 151 560	
c.	Contingencies	10 217	9 587	9 587	
D.	Administrative Costs	109 600	100 000	100 000	
	Sub-total	630 650	589 020	589 020	
Dir	ect Costs for Field Collections	20 000	20 000	20 000	
Tra	aining (5 scholars/5 man-years)	50 900	50 900	50 900	
TOT	TAL	701 550	659 920	659 920	
		the second se			

a/ Includes multiplication and regeneration.

!

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b/ Includes initial equipment for the Seed Health Unit.

c/ This is in addition to the normal distribution of administrative costs and represents extraordinary charges that would apply to the Germ Plasm Centre.

#### Capital Expenditures - IRRI

Cost of Facilities (Buildings and Equipment)	4 000 000
Farm Development	500 000
Green Houses	200 000
Transfer of Collection	250 000
Training of Staff 1/	
Complete back-up of electrical utilities	300 000

US\$

1/ No basis for estimating budget which has to depend on the number of trainees, duration and kind of training.

Genetic Resources Laboratory at IRRI	
(Germ plasm Bank Complex)	US\$
1976 .	323 000
1977	1 516 000
Total Cost of Laboratory	2 039 000

#### Appendix G

#### GENE BANK OF SPAIN

#### Substance of the Offer by the Government of Spain

(see para. 169 of this Report)

Offer to FAO to place the Gene Bank of Spain at the service of the international community as a safe deposit for base collections of plant genetic resources.

This offer would mean that:

- FAO could designate species for long-term storage by the bank at global level. It is suggested that these should be seed legumes and fodder plants from rangelands, propagated by genuine seeds.
- 2. The cost of conserving these seeds would remain the responsibility of the Government of Spain, and working samples could be provided on request through FAO.
- 3. A service of active collection could not be provided without international financing, since this service would involve a constant increase in the number of samples, plus packing and dispatch of many specimens.

#### Technical information

The Gene Bank of Spain has available:

- (a) A storehouse at a temperature of  $15^{\circ}$ C below zero, of 7 x 3 x 3 m = 63 m<sup>3</sup>.
- (b) A seed storehouse at temperatures of 0 to  $2^{\circ}$ C below zero, of 3 x 10 x 3 m = 90 m<sup>3</sup>.
- (c) There are in the country 80 people working for the Gene Bank, who are responsible for reproducing the samples in the most suitable place, making use of INIA experimental stations.
- (d) The size of the samples and the method of collecting them, to ensure that they represent the proper variability, follow IBPGR standards.
- (e) Germination trials are made when the samples are deposited. Viability trials are made only when they are going to be rejuvenated.
- (f) Material at present stored has been classified by computer, and the first volume of the catalogue has already been published. It is hoped that the second volume will appear toward the end of 1983.

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MESSAGE

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RESOURCES (IECER) ONE OF THE 13 CENTRES OF THE CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESOURCES (CGIAR) STOP THE CGIAR IS SUPPORTED BY MANY GOVERNMENTS INCUDING SIDA AND REPRESENTS ONE OF THE MAJOR FORCES IN DEVELOPMENT IN THE THIRD WORLD THEX TODAY STOP THIS ATTACK INCLUDES WRONG ANALYSES OF EXPENDITURES TO TRY TO DEMONSTRATE MISAPPROPRIATION OF FUNDS A BIASED VIEW TOWARDS THE INDUSTRIALIZED COUNTRIES AND LACK OF CONCERN FOR THE THIRD WORLD COUNTRIES WITHOUT MENTION OF PERSONAL ATTACKS ON ITS CHAIRMAN AND SECRETARIAT STOP THE IBFGR WAS ESTABLISHED TO DEVELOP VIRTUALLY FROM NOTHING A GLOBAL NETWORK OF CONSERVATION ACTIVITIES AND TO PROVIDE TECHNICAL ASSISTANCE TO DEVELOPING COUNTRIES STOP THIS IT HAS FAITHFULLY DONE TO THE COMPLETE SATISFACTION OF ITS GOVERNMENTAL DONORS INCLUDING SWEDEN STOP MR MODHEY'S WRITINGS SO DISTORT THE TRUTH THAT IT WOULD BE IMPOSSIBLE TO ITEMIZE AND ANSWER

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ANYONE ENOWING THE WORK OF THE CGLAR AND THE LEFGR IN PARTICULAR THE TEXT IS A DISTORTION OF FACTS ALMED AT MISLEADING NON-GOVERNMENTAL ORGANIZATIONS STOP IT IS ISSUED NOT SURPRISINGLY JUST BEFORE A MAJOR UN ACENCY (FAO) DEBATES THE ISSUES STOP TO PUT THE RECORD STRAIGHT THE DONOR GOVERNMENTS OF THE CGLAR (AND THESE INCLUDE SOME IMPORTANT THIRD WORLD COUNTRIES) EXPRESSED ON 4 NOVEMBER 1983 QUOTE ITS SATISFACTION WITH THE ACCOMPLISIONENTS OF LEPGR IN THE FIELD OF PLANT GENETIC RESOURCES AND REINFORCED THE ORIGINAL TERMS OF REFERENCE OF LEPGR AS AN AUTONOMOUS INSTITUTION UNQUOTE STOP THE SWEDISH GOVERNMENT REMAINS IN TOTAL AGREEMENT STOR UNCLOTE BEB THERE MAY BE THE NEED FOR THE BOARD TO INITIATE LEGAL PROCKEDINGS FOR DEFAMATION CCC THE CHAIRMAN SHOULD FORMALLY WRITE A LETTER OF STRONG COMPLAINT THAT THE CONTENTS OF IBFGR FILES ARE CLEARLY BEING MADE AVAILABLE TO PEOPLE OUTSIDE THE BUILLIDNG (EXECSEC)



Bogotá,

OMBI

GROPECUA

1 0 NOV. 1983

THE SECRETARIAT CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH 1818 H St., N.W. Washington, D.C. 20433 USA

In relation with your comunication October 19, we support Dr. RAMON VALMAYOR as a member of the IBPGR Board.

Sincerely,

FERNANDO GOMEZ MONCAYO Gerente General

"El que lo abandona todo por ser útil a su país, no pierde nada y gana cuanto le consagra": SIMON BOLIVAR. November 8, 1983

Mr. Selcuk Ozgediz, CGR

Curtis Farrar, CGR

73592

IBPGR Management Review

1. It strikes me that Max Day might make a good leader of the Management Review of IBPGR.

2. He might also make a good leader of a combined management and program review which might conceivably be desirable in this case since I think we are agreed that a management review could be the work of a single individual and the management issues are very closely related to research and program effectiveness.

3. We will need to talk with Bommer about all of this in any case. The obvious time to do that is when several of us visit Rome in connection with the TAC meeting, March 12-21, 1984, or should we not wait that long?

4. If you think the combined team idea is a good one, you might wish to discuss with with Alexander.

CurtisFarrar:vbm Files W-4 and G-12 Disk 1

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G-12 W-4 cc/G-12

November 8, 1983

Mr. Selcuk Ozgediz, CGR

Curtis Farrar, CGR

73592

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4. If you think the combined team idea is a good one, you might wish to discuss with with Alexander.

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### STATEMENT BY THE CHAIRMAN OF THE IBPGR AT THE CONCLUSION OF THE IBPGR'S PRESENTATION AT INTERNATIONAL CENTERS' WEEK

Since the Centers Week last year the world attention has been directed even more than before on the role of plant genetic resources. The free exchange of material, the safe, long-term preservation of base collections and the related legal aspects have been discussed more than ever. All this has increased the awareness of the global needs in this respect for both our and future generations.

Dr. Williams' presentation demonstrates, I believe, that the IBPGR has been effective in discharging the responsibilities entrusted to it by the Consultative Group, especially in expanding and strengthening its international network of genebanks. The network is an essential basis for the conservation and ultimate utilization of the world's plant genetic resources.

However, there is now a question on which the Board needs the guidance of this Group. I refer to the proposal for an international convention for plant genetic resources which the Director General of FAO has formally presented for consideration by the FAO Conference in November.

The draft convention contains many provisions which reflect important principles already formulated and being implemented by the IBPGR. But, the proposed convention goes further. It would place the global program on plant genetic resources under the overall control of FAO. To this end, the Director General has proposed that an intergovernmental body be established within the FAO which would identify the institutions to be included in the network, as well as the responsibilities of each such institution; would periodically review the activities of the network; and generally would coordinate related activities.

As we read this draft convention, the proposed new intergovernmental body would have responsibilities duplicating to a very large extent the functions of the IBPGR except that, instead of operating under the aegis of the Consultative Group, it would operate as part of FAO. This proposal for a transfer of responsibility for genetic resources activities from the CGIAR to the FAO raises several questions, especially against the background of the achievements of the IBPGR.

#### For example:

1. IBPGR has assured free access to the materials held in the network by obtaining contractual commitments to that effect from each of the governments and for institutions involved.

2. Germplasm is now moving across national boundaries more freely than ever before, except for necessary quarantine restrictions.

3. Despite a request addressed by FAO to its member governments to specify any constraint they have experienced in obtaining germplasm held within the present network, the Director General's proposal points to no specific case.

The IBPGR feels strongly that the CGIAR has provided an operational matrix particularly well suited for accomplishing the Board's objectives around the world. Continued funding and operational flexibility are the principal ingredients of the CGIAR system. The Board does not wish to change that favorable environment.

The Board feels that provided its agreements are enforceable, as our legal counsel has assured they are, the Board should not be overly concerned about its precise legal status, for this is not the most important factor which determines the present character of its activities and achievements. Yet it is this factor which is given in the Director General's proposal as the reason why a change is needed.

Within a short period of time IBPGR has been an instrument to create a worldwide consciousness about the nature of genetic resources and the need to collect and conserve them for mankind as a whole irrespective of political and other non-scientific considerations and with the goodwill and active participation of a large body of scientists and agricultural administrators across the world, who have appreciated the Board's scientific approach to this subject.

This question involves not only the work of IBPGR but has wider implications for the Consultative Group itself. The strength of the Group lies in its informal character and the flexibility which it provides to the scientists of the International Agricultural Centres in decision-making in the course of their research programmes.

I hope that nothing will be done to detract attention from this informal nature of the Consultative Group. The Group continues to provide a unique and successful model of international cooperation and development.

The Board, of course, recognizes that ensignment of responsibility within the international community for the conservation of plant genetic resources is a matter for governments and not for the experts who comprise the IBPGR. However, available funds are limited and unnecessary duplication of functions and work must be avoided. Moreover, if adopted, the FAO proposal would place the IBPGR in a position of reporting to two different authorities: FAO and the CGIAR. Similarly, the proposal recommends that the Board's Secretariat should also serve as the Secretariat for the new intergovernmental body as well as for IBPGR.

As many members of this Group will recall, the Board's Terms of Reference specifically provide that the IBPGR will operate "under the aegis of the CGIAR" and that it shall exercise its responsibilities "under the authority of the CGIAR" but "in close collaboration with, and with the help and advice of FAO." The Board has faithfully -- and I believe effectively -- carried out this mandate. It has both earnestly sought FAO's help in formulating and executing its programme and has given FAO full credit for its contributions to the Board's work. Accordingly, the Board has asked me to pose three issues to you in connection with the Director General's proposal:

- (i) Have we properly understood the intention of the CGIAR to establish the Board as an autonomous entity under the overall supervision of the Consultative Group, closely affiliated with, but independent of, FAO?
- (ii) If so, is it the desire and decision of the CGIAR to maintain the present situation?
- (iii) Alternatively, is it the desire and decision of the CGIAR that the Board should operate under the control of FAO?

I would ask, on behalf of the Board, that the members of the Consultative Group give their views on these issues either in response to our presentation today or in connection with their indications later in the week of their continued financial support for the Board.

AGPG: IBPGR/83/106

Feta C-12

132.

INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES

Twenty-seventh Executive Committee Meeting 24-26 October 1983, Washington, D.C.

#### Provisional Agenda

- 1. Adoption of the agenda
- 2. Policy items
  - 2.1 FAO Conference Study (83/25)
  - 2.2 IBPGR Planning Report; second draft
    - 2.2.1 Short presentation of the IBPGR groundnut programme to identify practical considerations (14.00 h. 24 Oct.)
  - 2.3 Report on the legal identity of IBPGR
  - 2.4 IUCN/WWF Plants Campaign 1984
- 3. Reports of Crop Committees and Working Groups
  - 3.1 Cotton Working Group, 14-16 June 1983
  - 3.2 Multi-purpose tree germplasm, 31 May-3 June 1983
  - 3.3 Phaseolus Committee, 21-23 July 1983
  - 3.4 Rubber Working Group, 22-23 September 1983
  - 3.5 Cocoa Working Group, 20-21 October 1983
- 4. Reports of IBPGR Conservation Committees
  - 4.1 Committee on Seed Storage, 19-20 September 1983
  - 4.2 Committee on In Vitro Storage; Subcommittee on collecting techniques, 14-16 September 1983
- 5. Other reports
  - 5.1 Report on a Board mission to Southeast Asia, July 1983
  - 5.2 Eucarpia GBC Pre-breeding Workshop, May 1983
  - 5.3 UNDP/IBPGR European Programme
  - 5.4 IBPGR Regional meeting for the Southern Cone, 4-7 October 1983
  - 5.5 Interim review of the Secretariat's survey of work carried out on each major crop

- 6. Other items for decision
  - 6.1 Next meeting of the Southeast Asia Regional Committee
  - 6.2 Details of the 10th Anniversary celebrations
    - 6.2.1 Report of correspondence with the subcommittee

7. \*

- 6.2.2 Administrative arrangements
- 7. External Programme Review (second "quinquennial review") [lunch with Dr. Farrar, CGIAR and Dr. Camus, TAC, 24 October]
- 8. Proposals
- 9. Review of expenditures of 1983
- 10. Agenda for the 11th Board meeting
- 11. Any other business

## conference

C 83/25 August 1983 C

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## FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS ROME

Twenty-second Session

Rome, 5-24 November 1983

### PLANT GENETIC RESOURCES

Report of the Director-General

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#### 

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#### Paragraph

1:

#### IV. REVIEW OF EXISTING ARRANGEMENTS

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Appendix B: Letter of Agreement between CGIAR Members and FAO

Appendix C: Terms of Reference of the IBPGR

Appendix D: Letter of Invitation to Participate in IBPGR Conservation Network

Appendix E: Activities of the IARCs on Plant Genetic Resources and their Present Cost

Appendix F: Estimated Budget for Genetic Resources Work in IRRI

Appendix G: Substance of the Offer by the Government of Spain

#### I. INTRODUCTION

1. At its Twenty-first Session, in November 1981, the FAO Conference adopted the following Resolution:

#### Resolution 6/81

#### PLANT GENETIC RESOURCES

THE CONFERENCE,

<u>Recognizing</u> that plant genetic resources are indispensable for the genetic improvement of cultivated plants, and that they are in danger of erosion and loss,

<u>Recalling</u> that work on plant genetic resources was begun in FAO as the result of a recommendation made by the First Session of the Advisory Committee on Agriculture in 1946,

<u>Recalling further</u> that in 1974 with the support of the Consultative Group on International Agricultural Research, the International Board for Plant Genetic Resources (IBPGR) was set up for which FAO provides the Secretariat,

Noting that a joint FAO/IBPGR programme is promoting the international collaboration of national, regional and international plant genetic centres in which plant genetic resources are collected, maintained, evaluated, exchanged and distributed.

Considering that there is no international agreement for ensuring the conservation, maintenance and free exchange of the genetic resources of agricultural interest contained in existing germplasm banks,

Convinced of the need for such an agreement.

<u>Recalling</u> the proposal made by some members during the Seventy-ninth Session of the Council in June 1981 that consideration be given to the establishment of an international bank of plant genetic resources under the auspices of FAO to ensure the free exchange of plant genetic resources between countries,

1. <u>Requests</u> the Director-General to examine and prepare the elements of a draft international convention, including legal provisions designed to ensure that global plant genetic resources of agricultural interest will be conserved and used for the benefit of all human beings, of this and future generations, without restrictive practices that limit their availability or exchange, whatever the source of such practices.

2. <u>Requests</u> the Director-General to prepare a study on the establishment of an international bank of plant genetic resources of agricultural interest under the auspices of FAO, taking into account the provisions of the proposed international convention as well as ongoing national, regional and international efforts in this field in particular those of the IBPGR.

3. <u>Requests</u> the Director-General to present proposals based on the studies mentioned to the Committee on Agriculture for consideration at its Seventh Session in 1983, which shall report thereon to the Council with a view to consideration by the Twentysecond Session of the FAO Conference.

2. In accordance with the Resolution, the Director-General submitted to the Committee on Agriculture, in March 1983, a Proposal for the establishment of an international gene bank and the preparation of a draft international convention for plant genetic resources. This Proposal was contained in document COAG/83/10, which has, for convenience, been reissued as document C 83/LIM/2. 3. The Committee on Agriculture was not able to reach a consensus on the Proposal. It made certain suggestions concerning a further study of aspects of the Proposal, with a view to enabling governments to reach a consensus on the matter, and concluded that the Director-General should be assisted by a working party of Member Nations to help him prepare his report to the Council so that the latter could elaborate the proposals to be submitted to the Twenty-second Session of the Conference. The relevant part of the Committee's Report is set out in paragraphs 219 to 238 of document CL 83/9.

4. The Report was considered by the Council at its Eighty-third Session in June 1983, shortly after the first meeting of the Working Party, which the Director-General had established in accordance with the recommendation of COAG. The Council welcomed the establishment of the Working Party and made various suggestions for the preparation of the Director-General's Report (see document CL 83/REP, paras. 107 to 109).

5. The Working Party met in June 1983 and again in July. It consisted of Representatives of Australia, Cameroon, Cyprus, El Salvador, India, Kenya, Libya, Malaysia, Mexico, Spain, Swedem, the United Kingdom and the United States of America. As a result of the general discussion of the Working Party at its first meeting, the Director-General prepared a draft outline of the present Report, as well as draft provisions of an international agreement on plant genetic resources. At the second meeting of the Working Party, the main aspects of both drafts were the subject of detailed suggestions and comments.

6. Since some members of the Committee on Agriculture had considered that various points had not been sufficiently covered in the Director-General's Proposal, the Director-General, at the beginning of this year, had requested Member Nations to provide him with information relating to such points, as well as to difficulties in obtaining plant genetic resources and gaps in the present system for the conservation of such resources. This request was repeated to the members of the Council and of the Working Party. Information and suggestions were subsequently received from seven Member Nations and a number of international institutions.

7. The present Report takes account as far as possible of the wide range of differing suggestions that have been made since the Twenty-first Session of the Conference, but represents the Director-General's judgement and is submitted on his sole responsibility.

8. The following Sections of this Report start (Section II) by setting out the context of Resolution 6/81 and seeking to identify the basic principles and concerns underlying it. Section II then develops those principles into a proposed international system relating to plant genetic resources. Section III and Appendix A suggest a text for an international agreement that would form the legal basis of the system proposed. Section IV examines, both from a scientific and technical and a legal and institutional point of view, the present international arrangements relating to plant genetic resource activities. The main purpose is to ascertain how far the present arrangements correspond to the principles developed in Section II. Section V discusses the various measures that could be taken, in the light of the present arrangements, to satisfy the principles and concerns underlying Resolution 6/81. Finally, Section VI sets out proposals for specific measures on which, in the Director-General's opinion, a consensus of governments could be reached.

#### II. PRINCIPLES AND OBJECTIVES RELEVANT TO PLANT GENETIC RESOURCES

#### Basic Considerations

9. The first paragraph of the Preamble to Resolution 6/81 recognizes the importance of plant genetic resources and refers to the danger of their erosion and loss. They are indispensable to plant breeding, on which the development of agriculture depends. The danger to the irreplaceable diversity of plant genetic resources is essentially presented by modern agro-technology, urbanization and changes in land use.

10. Restrictions on the availability of plant genetic resources, and inadequate measures to protect the diversity of those resources, would not merely prejudice further progress in plant breeding; it could also render plant breeding incapable of responding to serious threats to the production of food or other agricultural goods.

#### The nature and significance of plant genetic resources

11. The whole plant kingdom as developed through evolution on earth, on which human life depends, can be considered to represent plant genetic resources in the widest sense. However, man has used only a fraction of all the plant species, with an increasing concentration on a reduced number of particularly promising species that were suitable for domestication and cultivation. Today, the main food supply of mankind is determined by only twenty crop species, and only eight forest species provide most of the world's wood and timber. A much larger variety of plant species are used, in addition, for food, such as oil, vegetables, fruit and animal feed, and for other purposes, such as spices, beverages, pharmaceuticals and ornamentals and for varicus industrial processes. Many plants known to earlier generations have been lost or are no longer used, and a large part of the plant kingdom is in need of exploration (on the basis of earlier knowledge, where it exists) with a view to discovering possible future uses. The protection of important natural habitats of the world's flora is a precondition to such exploration if mankind is not to be deprived on one of the most precious resources that it depends on. A decision adopted in May 1983 by the Governing Council of the United Nations Environment Programme refers to this in situ conservation of genetic resources.

12. The plant species that are now cultivated have developed - in a large number of cases, since prehistoric times - as a result of selection by man to take advantage of specific useful characteristics, and also by reason of the environment in which they have been cultivated. They originated either from a single wild species or from natural crosses of the species, the discovery of which forms part of the scientific advances in crop plant evolution. Plant breeding, and particularly its use of the rapid scientific progress in genetics, has considerably accelerated the process of evolution of crop plants in modern times, constantly increasing their adaptation to various human needs in yield, harvest index and quality.

13. Plant breeders in modern times soon recognized that the development of crop varieties with specific characteristics, particularly high yields, called for uniformity in each variety, and that this tended to narrow the genetic base of cultivated crops. They became increasingly aware of the importance of the wide genetic variability existing in the material of land races and even in the ancestors of crop plants. They thus realized the need for systematic measures to explore, collect and preserve such material, which is of interest particularly as a source of gene combinations resulting in adaptability to adverse environmental conditions, valuable quality characteristics or resistance to pests and diseases. Systematic efforts in exploring and collecting the wide variety of crop plants dates as far back as the 1920s and 1930s; this partly explains the concentration today of some of the large collections in certain countries.

14. Since then, advances in genetics, such as the inducement of mutations, polyploidization and, recently, genetic engineering, have opened up new avenues to an increase in genetic variability. Nevertheless, the variability that has arrived from the evolutionary and selective process by natural and human forces must still be considered as the prime source for crop plant breeding at present and in the future; therefore, it is the central object of plant genetic resource activities today, especially after the United Nations Conference on the Human Environment held at Stockholm in 1972.

#### Micro-organisms

15. While genetic resources of the (higher) plants used for crop production are in the foreground of this Report, attention should also be given, in parallel, to the genetic resources of micro-organisms associated with crops, which may have beneficial effects or be a source of important diseases. In breeding programmes relating to leguminous plants, the variability of Rhyzobium-bacteria needs to be considered in conjunction with the genetic variability of the host legume. The same applies to the screening and evaluation of disease resistance of crop genotypes, for which a whole range of identified genetic variability in the respective disease organisms should be available. Parallel efforts should therefore be envisaged for the exploration, collection, documentation and preservation of micro-organisms of major importance to crop plants.

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#### Use of plant genetic resources

16. In isolation from the concept of plant breeding, the term "plant genetic resources" is practically meaningless. In the absence of capability in plant breeding and plant genetics, such resources can, at the most, only be of limited use to any given country. The strength of a plant breeding programme, in terms of its human and physical assets, determines the level of importance that genetic resources can receive.

#### Documentation and evaluation

17. The use of plant genetic resources in plant breeding depends, in addition, on the information available concerning each sample, identifying its nature, its characteristics and ideally its genetic composition. This task of evaluation, and the related documentation work, are a formidable undertaking that remains to be performed for a large part of the genetic resources that have now been collected, let alone those that have still to be explored and collected.

#### Centres of genetic diversity

18. Twelve geographical areas have been recognized as primary centres of genetic diversity for individual crop plants. These centres are situated in five continents, mainly in developing countries. There are other areas that have been recognized as secondary centres of genetic diversity for various crops which have developed, through natural adaptation and subsequent selection work, in environments different from that in which they originated. A list of the regions of diversity of major crop plants and their wild relatives is contained in Appendix 8 of document COAG/83/10.

#### Categories of plant genetic resources

19. There are various kinds of plant genetic resources of importance for the breeding of new crop cultivars. The following categories have been recognized:

- (a) Cultivated varieties (cultivars) in current use. These are varieties that are often released under a particular government scheme as varieties of recognized value and performance. Successful cultivars are widely used in plant production in a given country or in several countries having similar cropping conditions. Uniformity of characteristics is a feature of this category.
- (b) Obsolete cultivars. These are varieties that were cultivated in the past, but have now been replaced by the cultivars referred to in (a). Uniformity is also, to a certain degree, a feature of this category.
- (c) Primitive cultivars or land races. These are varieties that have been used for centuries in traditional agricultural systems. They were the product of selection by man, but have not undergone modern improvements by way of plant breeding. Variability in characteristics as observed in the field is a feature of this category.
- (d) Wild species and weedy species closely related to cultivated varieties. These ancestors of cultivars are species of crop plants that have not been cultivated, but possess characteristics that might be usefully transferred to cultivated varieties through plant breeding. This category also covers species of direct economic value, such as forest trees.
- (e) Wild species of potential value to man. These are species which are not cultivated and whose importance has not yet been assessed, but may be identified through exploration.
- (f) Special genetic stocks. This is material that has normally been developed by man and is or has been used in ongoing breeding programmes. It includes mutants, "breeders' lines" and lines with identified genes or gene combinations. Material of this type is particularly useful because of the identification of special characteristics or even of genes.

20. All of the above categories of the resources of higher plant species are or may be useful, depending on the particular crop and the aims of the breeding programme concerned. Moreover, as mentioned above, other genetic resources, particularly those of micro-organisms, should also receive consideration, in parallel to those of crop plants.

#### The need to preserve plant genetic resources

21. Plant genetic resources are in serious danger of being lost in a rapidly developing world. Land races and primitive cultivars are condemned to replacement by higher yielding varieties that meet better the pressing need for higher outputs from agriculture. Weed control measures in support of crop production may eliminate important ancestors of crop plants. Forest clearings opening up new lands for settlement are endangering the centres of genetic diversity of important tree crops or may destroy the habitat of potentially new crops. Valuable breeding lines, mutants or other genetic stocks resulting from active plant breeding programmes may be discarded because their maintenance is a burden to plant breeding institutions occupied by the development of new varieties.

22. The aim of future plant breeding must be to preserve the genetic variability, inherited from nature and from human endeavour, of plants actually or potentially useful for mankind. A clear idea of the magnitude of this task cannot be given, nor is it possible to assess, for any given species, the number of samples that would represent the existing genetic variability. So far only estimates could be made; the estimate for rice is approximately 120 000 samples. Only further scientific work in genetics and plant exploration will provide a clearer picture of the size and form of the gene pools for each crop species which should be maintained as basic genetic resources.

23. In the case of a large number of seed propagated crops, controlled storage conditions have been developed to maintain full viability of seeds without genetic change for long periods of time, thus enabling the preservation of the genetic resources of those species. For some other species, long-term seed preservation is not possible, and vegetatively propagated crops can be preserved only as growing plants or, in more recent times, as tissue culture under controlled conditions. However, as will be seen in paragraph 46 below, both these methods of preservation present difficulties. For plant species requiring vegetative propagation or having seeds which cannot be stored, <u>in situ</u> preservation of genetic diversity in their natural habitats is therefore an important parallel task in plant genetic resource management.

#### Concluding remarks

24. The above general considerations provide the context of the statement, in the Report of the Seventh Session of the Committee on Agriculture (document CL 83/9, para. 221), that plant genetic resources are a heritage of mankind and that they should be freely exchanged between countries and their respective institutions for scientific purposes and use in crop-breeding programmes.

25. Successful plant breeding will increasingly depend on access to the full range of variability in plant genetic resources existing and developing in all countries of the world; from the resources of plants in their natural habitat to those that have undergone or are undergoing changes and selections by man. The full availability and exchange of plant genetic resources should therefore be ensured and increasing emphasis should be given to exploring and evaluating them, to safeguarding them against indiscriminate losses and to placing all nations, particularly developing countries, in a position to make full use of them through plant breeding for their agricultural development.

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#### Principles underlying Resolution 6/81

26. In Resolution 6/81, the Conference requested the Director-General to "prepare the elements of a draft international convention, including legal provisions designed to ensure that global plant genetic resources of agricultural interest will be conserved and used for the benefit of all human beings, of this and future generations, without restrictive practices that limit their availability or exchange...". The Conference also requested the Director-General "to prepare a study on the establishment of an international bank of plant genetic resources of agricultural interest under the auspices of FAO, taking into account... ongoing national, regional and international efforts in this field in particular those of the IBPGR".

27. The general principle underlying the Conference's request, particularly as seen in the light of the discussions of COAG (see para. 3 above), is that plant genetic resources are a common heritage of mankind and should be freely available, and that such availability should be the object of a firm commitment by the international community and individual governments.

28. In the context of the principle of free exchange of plant genetic resources, the study in document COAG/83/10 noted (see paras. 22 to 32) certain cases of restrictions of a legal nature. Such restrictions did not appear significantly to affect the availability of resources, particularly those of food crops. In response to a request by FAO to governments for details of specific cases in which a government or institution has been unable to obtain material on account of restrictive practices relating to exchange, information was received from one government. The latter referred to difficulties in obtaining, for research purposes, samples of modern varieties covered by plant breeders' legislation in other countries, particularly those of horticultural species, but also field crop cultivars.

29. In the discussions during the follow-up to Resolution 6/81, a number of governments stated that they would not be able to commit themselves to providing material in violation of their national legislation on plant breeders' rights. This legislation confers on a breeder exclusive rights limited in time and related to the commercialization of cultivars originating from his breeding programmes and meeting specific conditions. The legislation does not restrict the exchange and use of samples of a cultivar for which legal protection has been granted, if they are to be used as a genetic source in other breeding programmes, even in the countries of protection (the rights conferred do not in any event extend to other countries). Such samples can, in addition, be purchased on the market.

30. The problem of availability may be greater with respect to material that is not in itself eligible for legal protection, but from which one or more plant varieties that are eligible could be developed with comparative ease: for example, advanced breeders' lines produced in active breeding programmes or the inbred parent lines used in hybrid breeding. Material of this kind may considerably facilitate the breeding work in developing countries with agro-ecological conditions similar to those of the country where the material was developed, particularly as the former countries do not generally have sufficient technology and facilities to breed the material from its original parent lines. However, enterprises run for commercial purposes may be reluctant to release the material, which they may have developed and tested at considerable cost, for fear that it would reach the hands of competitors.

31. It should be noted, however, that advanced breeding lines are often exchanged among breeders, and are made available in cooperative breeding programmes, particularly those of the international agricultural research centres (IARCs) and the countries wishing to join the programme concerned. The exchange covers both the material developed by the IARCs and that developed by the participating countries. However, outside the context of programmes of this kind, it may be difficult to obtain general acceptance of the principle of free availability of advanced breeding material.

32. Whether or not restrictions on the availability of plant genetic resources are more widespread than has so far become apparent, the fact remains that there has been no general commitment on the part of governments or relevant institutions to apply the principle of free exchange and to ensure that this principle is adequately reflected in basic legal texts.

34. With respect to the international bank for plant genetic resources, the Committee on Agriculture (para. 231 of document CL 83/9) suggested that the bank "should be considered as an international concept and not a single physical entity; it could be formed of a network of storage facilities." COAG also considered (para. 227) that account should be taken of ongoing activities. In addition, emphasis was placed (para. 233) on the predominant need to strengthen the national capabilities of developing countries in plant genetic resources, plant breeding and seed multiplication.

35. In the light of the discussions of the Committee on Agriculture, the remaining paragraphs of this Section outline an international system which would reflect the principles and meet the requirements underlying the Conference's Resolution. They essentially indicate the specific activities that should be carried out, the way in which those activities could be coordinated and the commitments that would be necessary to guarantee the effective operation of the system.

#### Activities relating to Plant Genetic Resources

#### Priority for exploration and collection

36. In the face of the magnitude of the task of exploring and making available all valuable or potentially valuable plant genetic resources, the approach can only be progressive, and depends on worldwide scientific collaboration in many disciplines. An international system relating to those resources has therefore to be based on priorities by plant species and geographical areas taking into account the achievements made so far. The IBPGR, in collaboration with FAO, has developed such priorities for international action, which will need to be updated in the course of future developments. The need for major food crops, the threat to genetic resources in particular geographical areas and the size of the genetic base of present plant breeding are among the important criteria used.

37. The world expertise of scientific knowledge has to be mobilized, on a crop-by-crop basis supported by cytogenetics, phytogeography and taxonomy, to orient and update priorities for plant genetic exploration and collection. Further eco-geographical surveys will be needed in some major centres of crop diversity so that more activities can be planned. Scientifically established priorities should be subject to periodical intergovernmental review to ensure government acceptance and commitment.

#### The conservation of plant genetic resources

38. There are basically two ways of conserving plant genetic resources: one is by leaving them in their natural habitat (in situ conservation). This allows a natural evolution of the plants without any intervention from man. The other way is by the (ex situ) conservation of plants or parts of plants (for example, seeds, seedlings, trees, tissues or organs) outside their natural habitat.

39. For in situ conservation, the establishment of nature reserves is of utmost importance. Within an international system the development of such reserves in relation to plant genetic resources should be pursued in close collaboration with UNEP and the International Union for the Conservation of Nature (IUCN).

40. Ex situ conservation takes the form of living collections of plants, or gene banks holding tissue cultures of vegetatively reproduced plants or seed of many categories of sexually reproduced plants. A gene bank, depending on its purpose, comprises "base collections" or "active collections", or preferably both.

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41. Base collections hold samples of plant genetic resources for long-term storage. In the case of seed, the samples must be kept at a temperature of approximately 20°C below zero in air-tight containers that are normally only opened when tests of the continued viability of the seed are necessary (at an average of about ten-yearly intervals, depending upon the type of plant). A reliable continuous supply of electricity is an essential requirement for guaranteeing the quality of the samples.

42. Many food crops can only be vegetatively propagated. They include root and tuber crops, such as cassava, potato, sweet potato, taro, yam and cocoyam, and also the herbaceous and woody perennials such as banana, cocoa, date palm and breadfruit. They are often important sources of food and are widely grown in developing countries. The techniques for conserving such material, for example through tissue cultures and low temperature storage, are relatively new and are demanding in resources (especially skilled labour).

43. International action should concentrate primarily on base collections: In those collections, the treasure of genetic variability of many crop plants should be maintained for the future in cases where in situ conservation is not possible. The deterioration or destruction of base collections would mean the extinction of invaluable genetic resources, which could never be recovered in many cases. Moreover, for both seed and vegetatively propagated plants, international recognition of base collections should be restricted to those containing the most comprehensive collections of one or several crops, and are thus capable of replacing any material that is lost or is no longer maintained in active collections.

## The maintenance of plant genetic resources

44. The maintenance of plant genetic resources requires careful handling to avoid losses in viability, genetic shifts or changes, reduction of a given sample below a minimum size and contamination or even loss through pests and diseases. In the case of seed conservation, the minimization of seed moisture is a prerequisite to maintaining viability. Another requirement is constant storage conditions.

45. A particularly demanding task for base collections is the rejuvenation of the samples. This is determined by their physiological characteristics, by the need for periodic checking, or by the reduction of the samples to the minimum amount needed, as a result of requests for the material where it cannot readily be obtained elsewhere.

46. The maintenance of vegetatively propagated material is even more demanding. Material which has to be grown in the field is subject to the vagaries of weather conditions and, even more important, to infection or infestation. There are many ways of minimizing these risks, but there is always a danger of failure. Tissue culture propagation and maintenance, where possible, reduces the risks as there is the possibility of cleaning infected plants or even putting their storage under completely controlled conditions. However, the maintenance of base collections in the form of tissue culture requires well-designed special laboratories and well-developed logistics. For medium-term storage, shoots might need to be transferred to fresh culture media only once a year. For long-term storage, cryopreservation is necessary. This method has so far been developed only for a few plant species. Cryopreservation can be applied for the long-term storage of cell cultures, which will become of increasing importance to genetic resources with the progress made in genetic engineering.

## The documentation and evaluation of plant genetic resources

47. An essential component of conservation activities (without which efforts would be almost purposeless) is the preparation and dissemination of information enabling the retrieval of material kept in a collection. For all plant genetic resources, information starts with the observations made at the point of collection and the taxonomic identification of the material. But only the further evaluation of the material for cytogenetic, agronomic and breeding characteristics, for resistance to particular diseases and for quality characteristics will provide the information which is of essential interest to plant breeders. Ideally a genetic "passport" is established, containing information on particular genes and gene combinations. 48. The preparation and assembly of such information is the most extensive task in all genetic resource activities and has begun only in a limited way. It can be done only through the well-organized collaboration between gene banks and a number of specialized institutions and groups of scientists, often going well beyond national boundaries.

49. The systematic collection of such information requires internationally agreed systems of "descriptors" in order to facilitate information exchange and retrieval.

50. Each base collection should be the focal point for the systematic collection of information on the plant genetic resources for which it is responsible, and for the constant updating and accumulation of information, received from various sources, that results from the evaluation of material, where this takes place.

#### Security precautions

51. The introduction of plant genetic resources into gene banks presents a risk of plant pests and diseases. This is especially true where, in the various exploration missions, material is collected from the field and taken for storage, and also where material is transferred from one ecological zone to another. Stringent quarantine rules (including the periodic checking of material in storage) must therefore be followed to prevent contamination and the creation of a breeding ground for diseases and pests. A sufficiently equipped seed pathology laboratory for the inspection and treatment of plant material is a minimum requirement for a gene bank, in addition to its active cooperation with the plant quarantine authorities of the country of its location.

52. Account must also be taken of the possible loss of material through natural or manmade disasters. The material in base collections should therefore be duplicated or, if possible, triplicated in base collections located elsewhere.

#### The use of plant genetic resources

53. The maintenance of gene banks responding to the requirements set out above will ensure that plant genetic resources are preserved and are available for use. However, unless a country has well-qualified plant breeders, the great potential of the material conserved will be wasted. It is therefore vital that national capabilities in plant breeding be developed hand in hand with other activities relating to plant genetic resources, so as to ensure that a country may derive the maximum benefit from the resources available on its territory and elsewhere.

#### International Network of Base Collections

#### The conservation of material

54. A central component of a global system for the collection, preservation and exchange of plant genetic resources would be an internationally coordinated network of base collections. Each collection should be responsible for the maintenance of particular crops, account being taken of the need for some duplication (see para. 52 above). The activities of the network should be carried out in accordance with internationally agreed scientific and technical standards. The network should evolve in line with priorities accepted at the international level. The priorities relating to major food crops should be considered first.

55. Each base collection should be linked with an active collection, which would arrange for the exchange of material and organize the rejuvenation (see para. 45 above) of the material for which the base collection is responsible.

## The coordination and distribution of information

56. As the exchange and utilization of plant genetic resources depends to a large extent on the availability of information concerning their characteristics (see para. 47 above), this information should be collected and distributed by each base collection in the network. The base collections should also be the focal point for the accumulation and dissemination of information generated in the evaluation of the resources. The information - 10 -

available to the base collections should be linked to a global information system operated at the international level.

57. Other sources of information and information systems on plant genetic resources established at the national or international level, outside the ambit of the base collections, should be interlinked with the global system, where feasible.

## Legal and institutional requirements

58. The various activities of the network - the designation of its components, the operations of the latter and agreement on international standards and priorities - would need to be carried out within a firm legal and institutional framework.

59. In the first place, a State or institution which agrees to participate in the international network should enter into binding commitments. Such a legal guarantee is necessary since the base collection operated by the State or institution would be a component of a structure on which the international community would rely for the fulfillment of the present and future needs with respect to plant genetic resources.

60. The State or institution should agree to maintain the base collection, in accordance with internationally agreed standards. It should also agree that, while the base collection would continue to serve the purposes for which it was established, its activities would also be oriented to the fulfillment of the needs of the international community, including the supply of samples for the purpose of plant breeding or scientific research. Finally, the State or institution should guarantee that it will maintain the base collection on a permanent basis, providing the necessary funds and facilities or, if at any time it finds it is unable to do so, that it will give the international community sufficient notice to enable the material in the base collection to be transferred elsewhere.

61. The preservation of plant genetic resources, for the present and the future, would depend upon a constant source of funding. There should be a mechanism for a guarantee in this respect if the international community is to have any security concerning the permanence of the network and the material kept in it.

62. The international network would also require procedures for coordinating the activities of the various components, for establishing the standards and priorities and for reaching agreement on the specific crops that would be covered by each base collection. Procedures would be needed to enable the operations of the network to be monitored and for recommendations to be made to its components. There should also be an international forum in which the coordination of the system and its progress, including problems encountered, could be discussed.

63. A fundamental principle of the network would be that the material in the base collections, if it is not readily obtainable elsewhere, should be made freely available for use in plant breeding or scientific or technical research. Ideally, such material should be held, by the State or institution concerned, at the disposal of the international community. This would give full application to the principle that plant genetic resources are the common heritage of mankind.

#### International Cooperation

64. An international system covering the various activities outlined above, based on the principle of the full availability of plant genetic resources, and having as a central component a network of base collections, would require the interacting cooperation of the scientific community and the community of nations. In addition, the emphasis of international cooperation should be on ensuring that all nations are in a position to exploit the benefits of plant genetic resources.

#### Scientific cooperation

65. As indicated above a comprehensive system for plant genetic resource activities would need to evolve on many fronts: exploration and collection, conservation and maintenance, evaluation and documentation, security precautions and, finally, the full utilization of

the resources in plant breeding programmes. As many of the activities are of a scientific nature, their success depends upon the work and guidance of scientists and scientific institutions.

66. Reliance must therefore be placed on the scientific community, at the national and international levels, to recommend priorities and organize exploration and collection missions, to develop scientific and technical standards, including those for documentation, and to provide the necessary advice concerning the designation of the components of the network of base collections, and on the activities and development of the network. There should be strong links between the base collections and the scientific networks engaged in the evaluation of plant genetic resources, so that in time the required information to characterize the resources in base collections will be available for utilization by plant breeders.

#### Intergovernmental cooperation

67. As has been seen above, an international system for the collection, conservation, maintenance and free availability of plant genetic resources would cover a whole range of activities, demanding substantial inputs. If any government is to adopt a policy under which it will use the financial and other resources available to take part in such a system, in the interest of the international community as a whole, it would be realistic for it to require a guarantee that other governments and prepared to assume the same responsibilities. A similar guarantee might be required in return for the free availability of the plant genetic resources under a government's jurisdiction or control.

68. A country with scarce financial resources assuming responsibilities with respect to plant genetic resources, for the benefit of the international community, would also expect some guarantee of support from that community in funds, technology and equipment.

69. The basis of international cooperation should therefore be a commitment, reflected in a legal instrument or instruments, by each State or relevant international institution to participate in, or support, the international network, and the various other activities carried out at the international level, within the limits of its capabilities.

70. At the same time, this commitment should be matched by the involvement of governments in the general operation of the network and the coordination of the other activities. It should be noted that international cooperation would, to a large extent, particularly in the case of developing countries, depend upon activities carried out by governments and on the financial and other resources that they are prepared to make available for that purpose. Governments should be placed in the position of full participants in an international system for the exploration, preservation and exchange of plant genetic resources.

71. There should therefore be an intergovernmental forum through which governments could collectively exercise their responsibilities with respect to plant genetic resources, including the review of scientific and technical progress, the final approval of the standards and priorities developed on scientific and technical considerations, and the mobilization of financial and other support for plant genetic resource activities.

## Strengthening of national capabilities concerning plant genetic resources

72. As has been seen, most of the land races and wild relatives of cultivated crop species are found in the less developed countries where agricultural progress has been slow. These countries should, if they receive the necessary assistance, play an important role in the international network outlined above. They are, moreover, generally countries that are in serious need of expertise and equipment in order to enable them to exploit the broad range of genetic variations that exist on their territory and those that are available elsewhere.

73. Intergovernmental cooperation and support from intergovernmental organizations and financing agencies should ensure increased assistance to developing countries, to strengthen or establish their plant breeding and seed production capabilities, their expertise in exploration and evaluation work, with the related training, and the establishment of gene banks for their plant breeding programmes, in the first instance, and for their participation in the network of base collections.

#### III. DRAFT INTERNATIONAL AGREEMENT

#### Purpose of the Agreement

74. The agreement would essentially be the legal basis of the international system, outlined in paragraphs 54 to 73 of the preceding Section. It would develop the general principle that plant genetic resources are the heritage of mankind and that they should be preserved and made available without restriction, into a set of more specific principles covering the commitments and role of governments and relevant institutions with respect to plant genetic resources.

75. It should be noted that there are already multilateral and bilateral agreements that are relevant to plant genetic resources. Many of them have been concluded under the auspices of the United Nations, or organizations in the UN system, in particular UNEP and Unesco. In this connection, mention might be made of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973, the African Convention on the Conservation of Nature and Natural Resources, 1968, the Convention on the Conservation of Nature in the South Pacific, 1976, the Treaty for Amazonian Co-operation, 1978, and - with respect to plant genetic resources in marine areas - the recent Protocol concerning Mediterranean Specially Protected Areas, 1982, to the Convention for the Protection of the Mediterranean Sea against Pollution.

76. However, the scope of these agreements is essentially restricted to the aspect of preservation as far as plant genetic resources are concerned. The draft agreement proposed in this Report would cover all aspects, and its emphasis would be on the essential objective of plant genetic resources, namely plant breeding.

#### Form of the Agreement

77. At its Seventh Session, the Committee on Agriculture agreed (para. 227 of its Report - document CL 83/9) that "in the spirit of Conference Resolution 6/81 further discussions on the question of a proposed convention must relate to the drafting of elements which would meet and respect the concerns of the majority of governments both members and non-members of FAO, so that the convention would be truly universal". The consensus of the discussions was that further study should be given to a convention or other form of international

78. In considering the form of the instrument that would embody the principles in the agreement, account has been taken of the need for the wide acceptability and rapid entry into effect of the principles and, at the same time, for an instrument that would establish specific commitments. The basic alternatives in this respect are outlined below.

In the first place, the principles could be incorporated in an international conven-79. tion or agreement in the strict sense. The essential advantage of this solution is that, after its entry into force, the instrument would be legally binding on the States that had accepted it. One of the main disadvantages is the time that would be needed to bring the instrument into force for a significant number of States. The first step would be the adoption of the instrument: this could take the form of approval of the text by the FAO Conference, if the instrument was to be adopted within the framework of FAO in accordance with Article XIV of the Constitution; or the instrument could be adopted by a plenipotentiary conference consisting of interested governments. After adoption, the instrument would be transmitted to States for their consideration with a view to acceptance. This acceptance normally takes the form of ratification (by governments that have signed the instrument) or accession. The process of acceptance may take a long time especially as, in many countries, the approval of the national Parliaments would be required. The convention or agreement would not enter into force until the number of States specified in its provisions had deposited instruments of ratification or accession, and it would not be binding on any State which did not deposit such an instrument.

80. Another factor to be considered is that the convention or agreement would lay down binding obligations for the parties. This could be a disadvantage if the instrument is to achieve the widest possible acceptability. States may have difficulties in joining in a consensus on the text of a legally binding instrument and in committing themselves to implementing each one of its provisions.

81. Another alternative would be an instrument on the lines of the International Undertaking on World Food Security, adopted by the FAO governing bodies in 1974. Such an instrument would have a strong moral force, rather than a legally binding character. It could be adopted in a resolution of the FAO Conference, which could invite governments to notify FAO of their agreement with its provisions. Apart from the fact that the procedures involved would be considerably quicker, this solution has, to a lesser degree, the advantages and disadvantages of a convention or agreement. States, especially those which had notified their agreement to the Undertaking, would be making commitments similar to those of a convention, the main difference being that they would not be bound by those commitments as a matter of law.

82. Finally, the principles could be incorporated in a more general instrument, such as a Code of Conduct, which again could form part of a Conference resolution. The Code of Conduct would reflect an international consensus on the principles. Moreover, governments could be invited in the Code to report to FAO on the measures that they have taken or intend to take to give effect to its provisions.

83. The alternative of a draft International Undertaking on Plant Genetic Resources would appear to be the most appropriate solution. Unlike a convention, it could be adhered to by relevant international institutions, in addition to governments. It would represent a strong formal commitment (rather than a set of agreed principles in a Code of Conduct), without having the legally binding character of a convention, which could be an obstacle to acceptance and would certainly entail a delay in its entry into effect for a significant number of governments.

#### Content of the Agreement

84. The text of a draft resolution containing an International Undertaking, which would be open to adherence by governments, as well as by autonomous international institutions engaged in plant genetic resource activities, is set out in Appendix A hereto. The draft Undertaking begins with a general part (Part I), defining the coverage of the Undertaking and setting out the responsibilities of governments and institutions, essentially at the national level, with respect to the various plant genetic resource activities outlined in paragraphs 36 to 53 above.

85. Part II relates to international cooperation, and provides an outline of the arrangements for an international network of base collections, including an international information system, referred to in paragraphs 56 and 57 above. It would be built on the existing arrangements, in the manner that is proposed below in Section V. Within the network, there would be an international gene bank, under the auspices of FAO, consisting of the base collections that participating governments or institutions had agreed to place at FAO's disposal.

86. Part III stresses the importance of phytosanitary measures in the context of plant genetic resources. It also contains provision for adhering governments and institutions to provide FAO with reports on progress in the implementation of the principles of the Undertaking.

87. It is believed that the general principles in the Undertaking would be largely acceptable to all governments and international institutions. There may, however, be details (such as the principle of availability of all categories of plant genetic resources - see para. 31 above) on which it may not be possible to achieve universal acceptance. For this reason, the second operative paragraph of the Resolution makes it clear that governments and institutions would be able to adhere to the Undertaking subject to any limitations that they may specify.

## IV. REVIEW OF EXISTING ARRANGEMENTS

#### Historical Development

88. The major developments leading to the present arrangements for global plant genetic resource activities are summarized in paragraphs 3 to 7 of the document presented to the Committee on Agriculture (COAG/83/10).

## Existing Collections of Plant Genetic Resources

89. Appendix 7 of document COAG/83/10 gives a list of the major collections of plant genetic resources, and indicates the crops covered by each of them. A vast number of collected plant genetic resources (referred to as "accessions") are distributed among 90 countries. Many of the collections are active collections, maintained by plant breeding institutions for use in current breeding programmes. The crops most frequently included in global programmes are cereals and food legumes (see document COAG/83/10, Appendices 4 and 7). This indicates the importance that has been given to these staple food crops, to the preservation of their variability and to the amount of breeding work for their improvement.

90. A total of more than 293 000 accessions of cereal crops are held in three countries: the Soviet Union (106 000 accessions covering wheat, barley, sorghum and millet); the United States of America (124 000 accessions covering wheat, maize, barley and rice); and the Philippines (with 63 000 accessions of rice). Various other institutions (in particular, in Australia, Canada, China, Iran, Israel and Italy) hold appreciable amounts of wheat and barley collections (more than 19 000 accessions each). Most of the major collections of food legumes (totalling about 125 000 accessions) are found in China, Colombia, India, the Soviet Union, Syria, and the United States of America.

91. These figures should, however, be treated as indicative only, for the following reasons: In the first place, there has been no full assessment of the genetic variation represented by the accessions. In addition, a small collection of well-evaluated samples may be more significant than a larger collection of an institution that has not yet fully documented and evaluated the material it holds (see para. 17 above). Furthermore, the information available shows, for example, that of some 30 000 lines of wheat held at the Germplasm Institute in Bari, Italy, and the 37 000 at Beltsville, USA, 21 000 are common to both institutions. If one takes account of the extensive exchange of material between all the major institutions, one must conclude that duplication at the global level is far greater than that necessary for security (see para. 52 above).

92. Although global documentation is at present insufficient to give an accurate picture of the contents of the collections, it would seem, from an analysis carried out by the IBPGR, that land races make up the greater part of accessions in the global collections. The remaining part comprises breeders' material or plant varieties, and a few samples of wild species. There are also indications that the genetic variation in the collections is inadequate.

93. The conditions under which seed is stored in the various institutions are relatively good. There would, however, seem to be room for improvement with respect to the rejuvenation of material.

## International Activities

94. International activities relating to all the various aspects of plant genetic resources are mainly carried out by the IBPGR (in collaboration with FAO), with respect to the resources of crops, and by FAO with respect to forest resources.

#### Activities of the IBPGR

95. The basic function of the International Board for Plant Genetic Resources (IBPGR) is to promote and support the collection, conservation, documentation, evaluation, utilization and exchange of plant genetic resources, at the global level, in order to ensure the sustained supply of useful material for national and international breeding programmes. The overall achievements of the IBPGR to date are summarized below. 96. <u>Priorities for action</u>. The first few years of operation of the Board were mainly devoted to the rescue of threatened germ plasm, on the basis of well-defined criteria in relation to crops and geographical areas, that were drawn up having regard to the urgent needs as highlighted by FAO. For this purpose, expert advice was obtained from the Board's advisory committees and working groups and individual specialists, and a large IBPGR field programme was developed. Emphasis was placed on major staple food crops. Since 1980, action has been taken to cover other crops, including major vegetatively propagated plants. There are now 50 priority crops, with respect to collection and conservation, in the 14 regions into which countries are grouped for the purposes of the IBPGR system. The crops include staple food crops and other species of worldwide or regional economic importance.

97. <u>Collecting missions</u>. The Board carries out, organizes or supports about 65 collecting missions each year. In general, the missions are headed by a scientist from the host country; samples of the material collected are always deposited with the host country, and local expertise is used. The missions are carried out in accordance with proposals to which the governments or government institutions concerned have previously agreed. More than 100 000 seed samples of priority species have been collected in the 250 missions carried out over the last few years. The cost of collecting one sample varies considerably: it may be as low as US\$10 or as high as US\$300. The IBPGR, which does not itself maintain collections, makes arrangements before the mission for the conservation of the collected material, under the most suitable scientific and technical conditions.

98. <u>Conservation</u>. The most important achievement of the IBPGR has been the promotion of a global network of base collections. This aspect is dealt with in more detail in paragraphs 101 to 104 below.

99. Documentation. The IBPGR has, in particular, prepared "descriptor lists", setting out the botanical characteristics of material, for 37 crops. Forty-five more lists are under preparation. It has a two-pronged approach to documentation: the preparation of directories providing information on existing collections and the establishment of data bases, and the mobilization of funds for documentation work. The directories for 1980 to 1983 cover rice, wheat, barley, sorghum, millet, maize, food legumes, root crops, some cash crops and vegetables. Information on fruit is at an advanced stage of preparation. The data will be kept under review and computerized. Detailed inventories on a crop-bycrop worldwide basis are being developed by specialized institutes and coordinated through the IBPGR. The emphasis of the data bases being developed by the IBPGR is on information enabling the comprehensiveness of existing collections to be assessed.

100. <u>Training</u>. Training under the auspices of the IBPGR is available on all major aspects of genetic resource activities. About 160 trainees have attended a one-year postgraduate course, initiated in 1969 at the suggestion of FAO, on the conservation and use of plant genetic resources, at the University of Birmingham in the United Kingdom. The courses have received financial support from the IBPGR and the United Nations Environment Programme, during the past eight years. Five hundred trainees from developing countries have attended short technical courses, at a number of agricultural research institutes, on various subjects, including exploration techniques and seed technology for gene banks. Study tours have been arranged for about 100 scientists from different parts of the world. In addition, the Board has organized or co-sponsored regional workshops and technical conferences.

#### The IBPGR conservation network

101. With the cooperation of the institutions maintaining collections of plant genetic resources, the IBPGR has promoted a network of base collections. It has at present designated 38 institutions in 29 countries to hold collections covering 33 crops (see document COAG/83/10, Appendix 4). The institutions bear the cost of operating the base collections, and release material to centres holding active collections, for the purpose of exchange. Repositories for the resources of vegetatively propagated crops have, since 1981, been designated by the IBPGR for certain crops.
102. As has previously been explained, base collections are intended essentially for the long-term storage of resources, and thus for their preservation rather than their exchange, for plant breeding and similar purposes. It is planned to expand the IBPGR network to cover 100 centres, two thirds of which would hold active collections.

103. An examination of information concerning important crop resources held in collections, including those of the major staple cereals, legumes, vegetables, annual oil seeds, root crops, banana and plaintain, has shown that, in addition to the gene banks in the IBPGR conservation network, significant collections exist in 100 countries.

104. The centres holding these collections are distributed over seven regions: 26 in Europe, 23 in Africa, 19 in Latin America, 14 in Asia and the Far East, 12 in North Africa and the Near East, 3 in the Pacific, and 2 in North America. Seventy-seven are in developing countries, several of which (for example, Brazil, China, India and Peru) have a relatively large number of accessions covering various kinds of crops. However, 15 of the 100 countries do not yet have an adequate gene bank.

# Activities relating to Forest Resources

105. For more than 15 years, FAO has been coordinating the activities of national institutes, supporting ongoing work relating to forest resources, and highlighting global, regional and national priorities. The seed and other propagating material collected by countries under this global seed programme is temporarily stored, if possible, in the country of collection. The centre holding the material then distributes it, in accordance with requests by FAO, for the purpose of evaluation, conservation and seed production or selection stands of species of value to the region, country or area concerned.

106. For conservation, the seed is rarely put into long-term storage; the emphasis has been on living collections in situ or ex situ. Genetic improvement work is always performed with respect to populations of plants that are specially created for that purpose, leaving the wild species with maximum variation. Collection, exploration and evaluation work is left to the countries themselves; this maximizes local interest and knowledge in the resources.

107. The programme benefits from advice provided by an FAO Panel of Experts on Forest Gene Resources (consisting of specialists acting in a personal capacity), established in 1968.

## Problems of a Scientific and Technical Nature

108. A major constraint on the establishment of collections of seed and other plant genetic resources in developing countries is their inadequate infrastructure for the maintenance and use of those resources. In many national gene banks, inadequate seed storage facilities and the lack of land and skilled labour place severe limitations on the number of samples in a collection and on the frequency of rejuvenation of the material conserved. Equipment for the maintenance of an acceptable level of hygiene is also lacking. Facilities for the collection of resources in remote areas (such as vehicles, camping equipment and field instruments) are not always available. Essential activities, such as the collection and multiplication of genetic resources, are often in jeopardy due to insufficient funds. Of these constraints, the inadequacy or lack of storage facilities would seem to be the most serious. The provision of such equipment involves large inputs in terms of installation and maintenance costs. The amount of material to be stored, its safety, and the frequency of rejuvenation and the flow of samples for evaluation and exchange are dependent on the quality and size of the storage facilities available. Equipment to maintain a miniature plant quarantine system is also needed, especially as, in many developing countries, the national quarantine programmes are not sufficiently developed.

109. The lack of funds and qualified plant breeders also place serious constraints on the creation of essential links between gene banks and breeding programmes. Breeders frequently do not make use of primitive material. The general tendency is to take advantage of modern cultivars, often with less potential for plant breeding, since primitive lines, which usually represent a major part of the collections of gene banks, have no immediate value as varieties and are difficult to use in breeding work.

111. The non-availability of data, at least in a usable form, is a general problem. Whereas data are generated at all stages of genetic resource activities from collecting in the field to evaluation, their assembly and storage, and the retrieval procedures, are often insufficient to enable their use in the most efficient way. Moreover, especially in the case of the older existing gene banks the data may not have been properly gathered at the time of collection; material unaccompanied by data may have been obtained through exchange; and the greater part of the samples in the gene bank may not have been characterized and evaluated.

112. There also appear to be problems concerning the duplication of material in collections: there are indications not only of an excessive duplication, referred to in para. 91 above, but also of insufficient duplication of certain significant genetic resources.

113. Finally, a constraint on the achievement on maximum genetic variation is the tendency of many gene banks to restrict the material conserved to that which is of direct use to current breeding programmes.

## Legal and Institutional Aspects of the IBPGR System

114. The following paragraphs of this Section examine how the present network, and the related activities, are coordinated, how far governments are involved in such activities at the international level; the extent to which those activities are the subject of a commitment; and how the activities are financed.

#### The components of the network

115. The IBPGR network consists, on the one hand, of national and regional institutions and, on the other, of the international agricultural research centres (IARCs) in the system of the Consultative Group on International Agricultural Research (CGIAR).

#### National and regional institutions

116. These institutions, or the governments responsible for them, have retained full autonomy with respect to plant genetic resource activities. Decisions as to the mandate of the institutions, including the crops that they will cover and their policy concerning the release of material, and to the standards to be observed in the performance of their mandate, thus rest with the governments or institutions concerned.

#### The CGIAR system

117. The CGIAR has been described (in the Report of the Second Review of the CGIAR, 1981, para. 3.10) as "an informal association of countries, international organizations and private institutions with a common understanding that they will consult and agree on ways in which they will support international agricultural research". It was initiated in 1971 under the co-sponsorship of FAO, the World Bank and the United Nations Development Programme (UNDP). Apart from the sponsors, the members are in two categories: the donors, and representatives of developing Member Nations of FAO elected biennially by the countries in the five FAO regions concerned. The CGIAR has no constitution, no legal personality and no rules of procedure. Decisions are taken by consensus. The basic objective of the CGIAR is to support international agricultural research for the improvement of food production in developing countries. In addition to the Secretariat, provided by the World Bank, the CGIAR has a Technical Advisory Committee (TAC), which inter alia advises the CGIAR on the main gaps and priorities in agricultural research related to the problems of developing countries. TAC consists of a chairman and 12 members, appointed by the co-sponsors and serving in their personal capacity, half of whom are from developing countries. The Secretariat of TAC is provided by FAO.

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118. The donor members of the CGIAR provide financial support to 13 international institutions, many of which have been established to carry out multidisciplinary agricultural research. For convenience, they are all (apart from the IBPGR - see below) referred to here as the International Agricultural Research Centres. Plant genetic resources is one of the aspects of the work of nine of the IARCs; six of them hold base collections of such resources and three are establishing them. The IARCs have legal personality, either as internationally-oriented institutions incorporated under a national law or (in one case) as an intergovernmental organization. The IARCs are autonomous, working (except in the case of the intergovernmental organization) under the overall direction and supervision of a Board of Trustees, whose members act in a personal capacity. In the case of many of the institutions, some of the members of the Boards are designated by the CGIAR.

119. The IBPGR is also an institution in the CGIAR system. It was established in 1974, on the recommendation of the CGIAR, as an autonomous international, philanthropic, nonprofit organization. The IBPGR does not have legal personality. The only legal instrument relevant to its establishment is a letter of agreement concluded between FAO and donor members of the CGIAR to set up a trust fund to finance the IBPGR's activities. The text of this agreement is reproduced in Appendix B hereto. The IBPGR is managed by its 15 members, serving in their personal capacity, of whom not less than half are to be nationals of developing countries. Thirteen members are elected by the CGIAR, on the recommendation of the IBPGR. FAO and the United Nations Environment Programme (UNEP) each appoint one ex-officio non-voting member. The Executive Secretary of IBPGR also acts as an ex-officio member. The Chairman of the IBPGR is elected by the Board in consultation with the Director-General of FAO. The IBPGR has an Executive Committee, with power to act on behalf of the Board, comprising the Chairman, Vice-Chairman and three other elected members. The member designated by FAO and the Executive Secretary (an FAO official) also participate. Two of the members are to be from developing countries. FAO provides the Executive Secretariat. The IBPGR has set up a number of advisory committees and working groups, whose members serve in a personal capacity.

120. The Board has, with the approval of the CGIAR, adopted terms of reference. The most recent version is reproduced in Appendix C hereto. However, the IBPGR's main function, described above, concerning the promotion of coordination of the international conservation network, is not immediately apparent from that version.

## The decision-making process with respect to IBPGR activities

121. In establishing its global priorities for action, including the choice of priority crops and geographical areas (see para. 36 above), the IBPGR seeks the opinions of experts of international repute. These priorities are regarded as flexible guidelines for action and are revised from time to time. For the establishment of priorities at the regional nd national levels, the IBPGR organizes international consultations, at which it invites the participants to report on progress with respect to plant genetic resource activities and to inform it of the needs of the countries concerned.

122. The proposed programmes of the IBPGR are presented annually to the TAC for analysis. They are then considered by the CGIAR, whose members may make comments or suggest changes and approve the budget for the IBPGR. Reports on the IBPGR's activities are received by FAO as a member of the CGIAR, and reports on regional activities are submitted to the governments concerned through FAO. Moreover, FAO's Sub-Programme 2.1.2.1. (Genetic Resources), which covers activities performed in the context of the IBPGR, is reviewed, with respect to its implementation and future planning, by the relevant FAO governing bodies - COAG, the Programme Committee, the Council and the Conference.

123. With respect to the funding of activities by the IBPGR, decisions are taken by the Board itself and, within the limit of US\$75 thousand, by its Executive Committee. The Executive Secretary may also take decisions on funding within the Programme approved by the Board up to an amount of US\$10 thousand.

## The involvement of governments in international activities

124. As has been seen, the IBPGR is managed by experts acting in their personal capacity. Its programme is presented through TAC, whose members also act in their personal capacity, to the CGIAR, which is in essence an informal association, although representatives of States and intergovernmental organizations take part in its discussions. There is a further intergovernmental element in that FAO is represented in the IBPGR and provides the Secretariat of the IBPGR and the TAC. The day-to-day work of the IBPGR is therefore carried out by FAO officials. Because of the links between the activities of FAO and the IBPGR, the activities of the latter in effect come to some extent within the scope of the review by the FAO governing bodies.

125. At the regional and sub-regional levels, there has been an increasing governmental involvement in the coordination of plant genetic resource activities, which had previously been largely dependent on the initiatives of scientific institutions. In 1976, a Working Group, consisting of representatives of governments in the Southeast Asia Region and sponsored by the IBPGR, adopted a proposed organizational framework for a Regional Cooperative Programme for the exploration, conservation, evaluation and documentation of plant genetic resources of significance to the region. The Programme was to be administered, under the auspices of IBPGR, by a Regional Committee representative of the participating countries. The Regional Committee held its first meeting in 1978, and has been an important forum for presenting to the IBPGR the views and priorities of governments in the Southeast Asia Region.

126. In Europe, on the suggestion of FAO and some countries in the Region, and with financial assistance from UNDP, a European Cooperative Programme was established in order to support and strengthen the inter-institutional cooperation, relating to plant genetic resource activities, that had been promoted by some governments and private organizations, in particular the European Association for Research on Plant Breeding (EUCARPIA), and individual scientists. The Programme is coordinated by a Governing Board, consisting of government representatives, which receives advice from a Scientific Advisory Committee, composed of experts in their personal capacity. Each participating government appoints a national coordinator to facilitate the day-to-day implementation of the Programme at the national level. The first two objectives of the Programme are to further the activities of national and sub-regional institutions for plant genetic resources in Europe, by supplementing and strengthening cooperation through the establishment of intergovernmental links, and to constitute the European part of the global network in the IBPGR system. The other objectives cover a wide range of plant genetic resource activities, including the furtherance of the exchange of material, both within Europe and between Europe and other regions.

127. Of the sub-regional initiatives of a governmental nature in Europe, mention might be made of the Nordic Gene Bank, established in 1979, and the network of genetic resources established by the countries of the Council for Mutual Economic Assistance (CMEA).

128. An organizational framework of the kind established for Southeast Asia and Europe was proposed last year at a meeting of Liaison Officers for the IBPGR Mediterranean Programme, and also at an IBPGR sponsored regional meeting, of government representatives, on plant genetic resources in the Andean Region. It should be noted, with respect to the international consultations referred to in paragraph 121 above, that the IBPGR in most cases invites governments to designate two participants, one of whom is to be the spokesman of the government. The IBPGR has also invited governments to appoint liaison officers to provide a link with the Board, as well as national coordinators with respect to IBPGR activities.

129. A form of global forum for the general discussion of plant genetic resource activities is also provided to some extent by international conferences, sponsored by FAO and the International Biological Programme of the International Council of Scientific Unions, and, for the last such conference in 1981, by FAO, UNEP and the IBPGR. These conferences are held at about six-yearly intervals.

#### Commitments relating to plant genetic resource activities

130. In Section III above, reference was made to conventions establishing national and collective commitments that are relevant to the subject matter of Resolution 6/81. The participation of States in the Southeast Asia and European Cooperative Programmes represents collective commitments corresponding to those envisaged in Resolution 6/81, but essentially do not entail individual commitments for the participating governments.

131. With respect to the IBPGR conservation network, the question arises as to how far the governments and institutions participating in it have entered into a binding commitment of the kind recommended in Section II (paras. 59 and 60 above). The practice has been for the Executive Secretary of the IBPGR to write a letter to a potential cooperating institution inviting it to accept designation for maintaining a specified base collection or collections. The relevant extract from a typical letter is reproduced in Appendix D hereto. The general substance of the letter corresponds to a great extent to the requirements stated in para. 60 above.

132. The wording of the letter could be improved, since it merely states that "The Board's policy...is to require the following commitments:...", and adds that "On this basis, the IBPGR invites the (institution) to accept designation". Nevertheless, the acceptance of a designation would probably be construed also as an implied acceptance of the commitments. To have a firm legal basis, however, a commitment should be established in an agreement between two (or more) legal persons. The IBPGR and, perhaps in some cases, the cooperating institution do not have legal personality.

133. A formal commitment to carry out certain activities in the interest of the international community is clearly important in the case of national cooperating institutions. This may also be true, to a certain extent, with respect to international institutions: in the report of the TAC quinquennial review of the IBPGR, 1980, it is stated (page 26): "The IARCs are independent bodies, each having generally a strong interest in assembling the germ plasm it needs for its own work but with no necessary commitment to (genetic resource conservation) activity beyond those limits." However, in a recent statement to FAO (of 1 July 1983), the Directors of the IARCs participating in the network "pledge their total support to the conservation and effective utilization of crop genetic resources".

# Funding of plant genetic resource activities

134. As stated above, the IBPGR conservation network comprises national and regional institutions, and IARCs holding base collections. The financing of the former institutions is largely a matter for the governments concerned. The IARCs and the IBPGR mainly depend for their financial support on the CGIAR system. The CGIAR itself does not provide contributions; it approves its programme and the budget levels of the activities it supports. Each donor member annually pledges a specific amount (one member contributes on a pro rata basis of 25 percent of total contributions) for activities selected by it within the system. No more permanent commitment is made by donors. However, there would appear (from the Report of the Second Review of the CGIAR, November 1981, para. 3.7) to be an understanding that, on becoming a member of the Group, donors accept a long-term - but unquantified responsibility in this respect.

135. In 1983, the CGIAR agreed to set up a stabilization mechanism in funding, for which, as a final step, the World Bank will make available the equivalent of 2.5 percent of total contributions by the CGIAR system. This would be in addition to the 10 percent of total contributions which the Bank is already providing and which can serve to fill any gaps in the support to the various IARCs.

136. As far as the planning of funding is concerned, the IARCs submit to the CGIAR through TAC an outline of their proposed budget for the two following years, as well as budget projections for an additional three years.

## Conclusion

137. The essential characteristic of the present system for the coordination of international activities relating to plant genetic resources is its lack of institutionalization. It derives from the CGIAR, an association without legal personality or legal structure, though with intergovernmental participation. The coordination is promoted by the IBPGR, an entity without legal personality. The activities are performed by institutions which have retained the authority to decide on their programmes, although - in the case of the IARCs - an overall review is carried out by TAC and the CGIAR. Certain essential guarantees with respect to plant genetic resource activities in the IBPGR system are contained in a letter of commitment for which, however, there is no firm legal basis. Furthermore, the IARCs depend, for their financial support, to a large extent on voluntary contributions from CGIAR donors, which do not make longer-term commitments in this respect.

138. The orientation of the activities is largely influenced by the advice of experts, who - while they are nationals of a broad range of countries - do not in most cases represent their governments. Although the IBPGR has encouraged links with governments, in the appointment of liaison officers, for example, as well as intergovernmental links, in the form of the regional organizational frameworks, those links cannot be considered part of a general institutional structure, particularly as there is no institutional apex.

139. Furthermore, there is no established mechanism for the global coordination of plant genetic resource activities. While the IBPGR's work in the promotion of coordination is of considerable value, the IBPGR has limited resources (about US\$4 million annually) and many other responsibilities.

140. However, the informal and scientific approach of the IBPGR ensures that the orientation of activities, which mainly depends upon scientific considerations, is carried out with scientific professionalism. Moreover, the voluntary donations of the members of the CGIAR, and the decentralization of the various activities, have resulted in the mobilization of substantial financial support (the contribution in 1983 for plant genetic resource conservation amounted to about US\$14.5 million) and in an expanding network of gene banks.

141. At the same time, the responsibility for ensuring that the needs relating to plant genetic resources are satisfied ultimately rests on governments, individually and collectively. This does not necessarily mean that all activities must be carried out under their direction and control. For the fulfillment of their responsibility, they can rely on initiatives outside their direct control provided that they are satisfied that the activities fully respond to present and future needs. However, reliance cannot reasonably be placed on a system, however effective, if it offers no firm guarantee of permanence. At present, there is no such guarantee, either on the part of the CGIAR system as a whole or on the part of its individual components.

142. In addition, the IBPGR system has been criticized by some countries as working unfairly with respect to developing countries: reference has been made to a significant concentration of plant genetic resources in the gene banks of industrialized countries; to an orientation of activities to resources of cultivars valuable to the agriculture and industry of industrialized countries, to the detriment of resources of great importance to developing countries, such as breeders' lines; and to a lack of guarantee concerning the free availability of resources.

143. While other countries hold an opposing view, the fact that such criticism has been made at least highlights an important lacuna in the present situation: namely, the absence - apart from some indirect influence that can be exerted through FAO - of an established mechanism, at least at the global level, through which States can collectively monitor plant genetic resource activities, and express their views and concerns.

# V. MEASURES THAT COULD BE ADOPTED IN THE LIGHT OF THE BASIC PRINCIPLES, OBJECTIVES AND REQUIREMENTS

# International Bank for Plant Genetic Resources

144. In line with Resolution 6/81, the starting point in the examination of possible measures to improve the present arrangements relating to plant genetic resources was a study of the feasibility of establishing an international bank for plant genetic resources of agricultural interest under the auspices of FAO. This study is contained in paragraphs 61 to 119 of the Proposal presented to the Committee on Agriculture (document COAG/83/10).

145. It was noted, however, that, for the establishment of such a bank, considered as a single physical entity, a number of difficult problems would have to be faced and that the cost involved in the construction and in the operation and (permanent) maintenance of the bank would be large, even if the capacity of the bank were reduced to a minimum. Indeed,

there was a consensus in the Committee on Agriculture that the indicative figures, given

in the study with respect to the costs, were in all probability underestimated (see document CL 83/9, para. 229).

146. In the light of the above, a government has suggested that consideration could be given to the establishment of a pioneer gene bank under the auspices of FAO, which would make use of facilities and material that some governments would be prepared to offer. While it is not possible to estimate the cost involved for FAO in the absence of detailed information on the support and facilities that might be available from governments, solutions of this kind should be borne in mind, especially if it does not prove possible to realize the concept of the international gene bank, as suggested by the Committee on Agriculture.

147. As stated in paragraph 34 above, the suggestion of the Committee on Agriculture was that the international gene bank should be considered as an international concept, rather than as a single physical entity, and that account should be taken of relevant ongoing activities.

148. Paragraphs 54 to 63 of Section II have described an international network of base collections that could be established in line with Resolution 6/81. Section IV has examined the existing conservation network. It has been suggested by some governments that, in view of the discussions of COAG, an international network of base collections, founded on the present network, could be considered as constituting in practice an international gene bank. Further scientific and technical aspects of such a gene bank are discussed immediately below. The additional element in the Conference's Resolution - namely, an international gene bank that would operate under the auspices of FAO - is the subject of the subsequent paragraphs relating to legal and institutional aspects.

149. In view of the present state of development with respect to the exploration and conservation of plant genetic resources, the concept of the network should be an evolving one, starting from a realistic base and envisaging a minimum comprehensive coverage by a certain date.

150. The network would, subject to the agreement of the governments and institutions concerned, comprise the base collections that have already been designated by the IBPGR for 32 crops, or groups of crops, in 38 institutions situated in 29 countries. Additional collections are planned, account being taken of priorities developed by the IBPGR. These priorities would be reviewed and further developed, with the participation of governments, with the aim of establishing a comprehensive system for major crops, which would, in time, satisfy the main needs relating to plant breeding, conservation and geographical coverage.

151. Within the legal framework outlined below, the IBPGR would advise and be consulted on the further expansion of the network, through the designation of existing national or international institutions as base collections. As the coverage of the network evolved, it might be necessary to establish completely new facilities for base collections of particular crops. The national, regional or international authority that would be responsible for the administration of such collections would be decided by the participating governments.

152. The material in the base collections of the network, and the availability of that material, would in principle cover all categories of plant genetic resources. However, subject to the agreement of FAO in particular cases (see para. 167 below), qualifications of that principle would be possible.

153. As base collections must function as long-term depositories of world genetic resources, they should, as explained in paragraph 55 above, be linked with active collections. Most of the exchange of genetic resources would take place between the numerous active collections and plant breeding and other scientific institutions. Requests for material from the

base collections would be made only where active collections were not able to supply samples of it.

154. The financial implications of an international gene bank, established as a network of base collections can be estimated from various sources. The calculations of expenditure in Appendix 8 of document COAG 83/10 can be used as one source of reference. The views of administrators of gene banks, and estimates of expenditures provided by IARCs, indicate that actual costs are probably about 50 percent higher than the estimates in document COAG 83/10. Appendix E to this Report summarizes, as a second source of reference, the budget estimates provided by IARCs.

155. The most complete information on expenditures for a genetic resources centre has been given with respect to the International Rice Research Institute (IRRI), in which base collections are linked to active collections and have been systematically evaluated over the last ten years. IRRI's collection was initiated 20 years ago. It includes wild material as well as advanced breeding lines, with a total of 63 000 samples, and it is adjacent to experimental fields and laboratory facilities. The investment cost of the building has been US\$4 million and the cost of other facilities, including a seed health unit, has been over US\$1 million. The operational costs, including overheads, training and collecting, are in the order of US\$1 million per annum. Further details are provided in Appendix F hereto.

156. IRRI's operational costs seem to be basically in agreement with those of other IARCs, as can be seen in Appendix E, which indicates that nine centres together spend an annual amount of US\$10 million on plant genetic resource activities. Expenditures for the annual maintenance of small collections are much below the average in the Centro Internacional de Mejoramiento de Maís y Trigo (CIMMYT) (US\$350 000), while for the Centro Internacional de la Papa (CIP) the annual operational costs of maintaining germ plasm of a vegetatively propagated crop (potato) are much higher (US\$2.5 million). The maintenance of living plant collections generally results in higher expenditures per sample unit and are demanding on land and labour. It should be recalled that 3 000 coconut samples occupy 300 hectares in Java, an overpopulated island where the average holding is less than one hectare per family, entailing therefore a very high annual rent. In addition, the cost of maintaining a plantation healthy and clean, without any commercial return, has to be met.

157. Expenditures for the evaluation of plant genetic resources have to be considered in addition to the cost estimates provided for a genetic resources centre, which include expenditures only for the most basic evaluation of a descriptive nature. Considerable additional costs are involved, depending upon the crop to be evaluated, in the systematic screening of genetic resources for resistance to particular diseases, quality characteristics such as amino-acid composition of proteins and crossing ability, for example.

158. The establishment of an international gene bank as a network of base collections can be achieved only on the assumption that the present financing of the participating base collections, by the national or international agencies supporting them, would continue. Moreover, this financing should be based on commitments, even increased beyond the present level, so as to avoid any weakening of the base collections and their related genetic resources activities, and, if possible, to strengthen them.

## Strengthening of National Capabilities

159. An important component of an international system covering plant genetic resource activities, would be action to assist countries with limited facilities in strengthening their capabilities with respect to such activities, both within and outside the context of the international network of base collections proposed above.

160. The difficulties outlined in paragraph 108 above, relating to the establishment and maintenance of gene banks, are only a few examples of the constraints facing many developing countries. However, international action should first concentrate on the strengthening of national plant breeding capabilities. Without such capabilities, the establishment of a national gene bank, and the international network of base collections, would be ineffective.

161. In this connexion technical cooperation - in addition to assistance by countries with advanced breeding techniques - is an important element. National capabilities can be

strengthened through cooperative links between developing countries, and between the latter and countries or institutions with advanced breeding programmes. In the first place, such links would be useful in order to distribute the work involved in the storage and rejuvenation of plant genetic resources, thus sharing the costs which might otherwise unduly burden the financial resources available for other activities at the national level. Encouragement should also be given to joint activities carried out by institutions conserving the same kinds of crops or experiencing similar problems. Such activities would reduce the costs for both institutions. Collaborative research work would be helpful in strengthening breeding programmes in countries with limited manpower and facilities, and would, at the same time, serve as a mechanism for the transfer of technology.

## Legal and Institutional Aspects

162. The preceding paragraphs of this Section have suggested that an international bank for plant genetic resources could consist of an international network of base collections, built to the extent possible on the existing IBPGR conservation network, and that an international system, comprising the International Gene Bank, should provide other services, in particular those related to the strengthening of the capabilities of developing countries. The following paragraphs suggest possible measures, of a legal and institutional nature, that could be taken to improve the present system for the conservation network and related activities.

163. The main lacunae in the present system were identified, in Section IV, as the lack of a longer-term commitment concerning the operation and performance of the system, and the absence of any mechanism for significant governmental participation. One way of filling these lacunae would be the introduction into the CGIAR system of a greater degree of institutionalization and governmental participation. A solution of this kind was considered in the Second Review of the CGIAR, 1981, and the conclusion was, in effect, that it would run counter to the basic philosophy of the CGIAR. The following paragraphs explore an alternative solution, which would seem to be capable of satisfying the main concerns expressed by some countries, without essentially affecting the CGIAR/IBPGR system. Moreover, if significant changes in that system were later considered necessary, the solution outlined below would provide a procedure for giving the matter in-depth consideration.

# An FAO legal framework

164. It is suggested that the present activities of the IBPGR would not be prejudiced, and would indeed be strengthened, if they were carried out within a legal framework under which FAO would take charge of the legal aspects of the conservation network and which would also enable States to exercise their collective responsibilities with respect to plant genetic resources.

# The legal aspects of the IBPGR's activities

165. One such legal aspect covers agreements relating to assistance provided by the IBPGR to governments. In the Report of the TAC Quinquennial Review of the IBPGR, 1980, it was noted (para. 4.5.4) that the IBPGR's <u>de facto</u> association with FAO "has immeasurably aided the international activities of the Board". The agreements referred to could be placed on a firm legal basis, and the association with FAO would become clearer, if the agreements were concluded between the governments concerned and FAO. The substance of the agreements would not be affected. The latter would still relate to assistance that would be provided by FAO officials in the context of IBPGR.

166. As far as the conservation network is concerned, the most important activities having legal aspects are the designation by IBPGR of the components of the network, and the related commitments made by the latter. This designation could be made by FAO (after consultation with the IBPGR), and the commitments could be made to FAO. In connexion with the commitments, the main defect is that they are at present made to an institution that has no legal personality (see para. 132 above). The commitments would be placed on a firm legal basis if they were made in an agreement concluded between the institution concerned, or preferably (where applicable) the government or governments responsible for that institution, and FAO. 167. The first step would, therefore, be for FAO to invite governments and institutions that are at present participating in the IBPGR conservation network to continue their activities, within the legal framework referred to above, under an agreement with FAO, which would basically specify the crops that would be conserved by the government or institution, and set out the latter's commitments. If a government or institution were unable to accept all the commitments proposed by FAO, its reservations should be stated clearly, so that FAO could decide whether or not they were of such a nature as to preclude designation.

168. Under these arrangements, the material in the base collections would be held in the context of the international network, but would continue to be under the ownership and control of the governments or institutions concerned.

169. A further important step would be for FAO to invite governments or institutions that had accepted the commitments proposed, particularly those relating to the full availability of samples, to place the material in their collections at the disposal of FAO. They would continue to administer the collections, but would provide material that had been requested by FAO (requests would be limited to material that could not easily be obtained elsewhere), and would allow FAO access to the collections in order to ensure that they were being administered in accordance with internationally agreed standards. In these circumstances, such base collections could be considered as forming part of an International Gene Bank under the auspices of FAO, in line with Resolution 6/81. An offer to hold a base collection available in this way was made by Spain (see Appendix G) to the Committee on Agriculture at its Seventh Session. It is likely that other governments or institutions would also be willing to participate in such an International Gene Bank.

170. The same kind of arrangements would be made by FAO with respect to new centres agreeing to participate in the network.

171. Finally, this FAO legal framework would be the context for the necessary intergovernmental participation in the global coordination of the network as well as of plant genetic resource activities in general. This aspect is elaborated below.

#### Governmental participation

172. As has been noted in Section IV (see paras. 125 to 128 above), there has in the relatively recent past been an increase in governmental participation in international plant genetic resource activities, particularly in the case of the organizational frameworks that have so far been established in Southeast Asia and Europe, side by side with the IBPGR system. At the national level, the regional committees are complemented by national committees established by the participating governments, or national coordinators appointed by them. FAO and the IBPGR should continue to encourage and facilitate these developments.

173. The main lacuna at present is the absence of any similar organizational framework at the global level. This lacuna could be filled through the establishment, within the framework of FAO, of an intergovernmental committee or other body open to all interested States. The main functions of such a body could be:

- (a) a review of the operation of the conservation network, including the international information system proposed below (paragraphs 181 to 189) as well as of plant genetic resource activities in general, including the examination of the reports of the IBPGR which are received by FAO as a member of the CGIAR and reports which the regional committees might be invited to provide to FAO;
- (b) the discussion of questions of particular concern to governments, and the formulation of related recommendations to be made, through FAO, to the CGIAR and the IBPGR;
- (c) the adoption by governments of the priorities and standards developed under the auspices of the IBPGR; and
- (d) the coordination of the support that States may, individually or collectively, be able to provide to overcome problems encountered, especially those related to the conservation network and to conservation and plant breeding activities in developing countries.

174. The above functions could be carried out by the Committee on Agriculture, in the context of its review of the biennial programmes of work of the Organization and their implementation (under Rule XXXII.6(c) of the General Rules of the Organization (GRO), regard also being had to para. 6(d) of the same Rule). The Committee on Agriculture may in exceptional cases establish subsidiary bodies under the conditions set out in GRO XXXII.12. With respect to the biennial review relating to plant genetic resource activities, it would be desirable that COAG should set up such a subsidiary body for two reasons:

(a) to avoid an increase in the already heavy workload of COAG itself, and

(b) to enable all potentially interested States to participate as full members of the body: under GRO, Rule XXXII.13, the Committee may include Member Nations that are not members of COAG in the membership of subsidiary bodies (subpara. (a)); and the Council may admit to membership of such bodies non-members of FAO which are members of other organizations in the UN system (subpara. (b)). In this context, it should be noted that two countries that are not Member Nations of FAO (the Soviet Union and the German Democratic Republic) hold significant collections of plant genetic resources.

175. With respect to secretariat services for the subsidiary body, reliance could be placed on the FAO unit which is at present also engaged in activities relating to the IBPGR. Since the subsidiary body would meet only biennially, the workload on that unit should not be unduly increased. The main financial implications for the Organization would be the increased cost of interpretation and other facilities for the meetings.

#### Financial security

176. The present lack of financial security, especially on a long-term basis (see para. 134 above), is a problem that will require detailed consideration, and could be one of the essential questions to be discussed in the context of the subsidiary body referred to above.

177. A suggestion has been made by the Government of the Netherlands in a letter to the FAO Secretariat dated 10 June 1983: "In the case of more funds becoming available, the establishment may be considered of a 'World Gene Fund', to be administered by an international agency, such as FAO. The IBPGR could act as an advisory body, or alternatively as a sub-contractor taking responsibility for the conservation of the major food crops worked upon by the CGIAR institutes." A fund of this kind could be administered by FAO as a trust fund or a reserve fund, or it could be established under the sponsorship of FAO but outside its framework.

178. Even small annual contributions made by governments and financing agencies to a fund which would only be used to meet emergency cases arising in the operation of the conservation network (or to complement other sources of assistance in such cases), would be a desirable first step. It would also be of assistance if donors, particularly those of the CGIAR system, could give the international community an advance indication of the amounts that they would be making available for plant genetic resource activities, in order to facilitate forward planning.

179. Furthermore, while governments and funding agencies may be faced with competing priorities, many of which may be considered as important as plant genetic resource conservation, it can in general be said that there is one essential difference in the case of conservation work. Whereas a budgetary reduction could lead to a delay in the implementation of other activities, a reduction in the funds necessary for conservation work could result in the irretrievable loss to humanity of valuable material. This point should be borne in mind when funding priorities are assigned.

180. Irrespective of the amount of funds that can be made available for plant genetic resource conservation in the future, financial security could be improved if conservation was treated separately from other activities: it would be desirable that institutions with responsibilities covering plant genetic resources should prepare separate programmes relating to conservation work, with their own budget and budgetary projections for the longer term, that governments should allocate funds to the institutions specifically

for such work, and that donors should assign their contributions to a special fund to be used exclusively to finance conservation activities.

# International Information System for Plant Genetic Resources

181. As explained above (see paras.56 and 57), the international network of base collections must be complemented by information systems at the national, regional and international levels. While valuable work is being promoted by the IBPGR in this connexion the lack of information, in a readily retrievable form, is perhaps the most serious weakness of the present system from a scientific and technical point of view.

182. The data available for individual gene banks, as well as the ways in which they are kept, show a great diversity, ranging from the simple filling in of cards with the most elementary information, such as the place and date of collection of a sample, to computerized data, including the location of individual genes along each of the chromosomes of certain species. Considerable efforts have already been made by the IBPGR to assist individual genetic resources collections to improve their information systems, including computerization.

183. Experience has demonstrated that progress in plant genetic resources information has to be pursued on a crop-by-crop basis, and the IBPGR has issued, in collaboration with its advisory committees, the IARCs and regional programmes, lists of crop descriptors in order to standardize information collection and exchange. The wide acceptance and application of those standardized descriptors should be further pursued, and institutions holding base collections should take the lead in these efforts, as already under way through IRRI for rice, IBPGR for wheat, ICRISAT for sorghum and millet and CIP for potatoes, to give only a few examples.

184. It is necessary to ensure that the data from the evaluation of plant genetic resources flows back to the base collections.

185. With increasing information becoming available and the evolution of the international network of base collections, a central focus for plant genetic resources information would be essential. Earlier attempts to concentrate all available information in one centralized data bank, initiated by FAO in 1973 and pursued by the IBPGR during 1974/75, demonstrated that this is an impractical and difficult solution.

186. It is therefore suggested that an International Information System on Plant Genetic Resources should be established, and should take advantage of the previous experience and of collaboration with the IBPGR. It should be developed so as to interlink the main existing crop-based information systems in base collections and to incorporate new ones, in order to enable the retrieval, from a central point, of the information existing in each institution participating in the international network of base collections. The system should be designed in such a way as to ensure the compatibility of the information systems developed in individual centres with respect to computer hardware and software.

187. The system should also include information from relevant institutions outside the proposed international network of base collections.

188. In order to place the international information system within the legal framework described above, and in view of FAO's experience in successful information systems, such as AGRIS and CARIS, FAO would seem to be the most appropriate organization to administer the system, in collaboration with the IBPGR, concluding the necessary agreements with cooperating institutions.

189. The establishment of an International Information System on Plant Genetic Resources, administered by FAO, would require the provision of additional funds to FAO. Without a more concrete assessment of the form of the system and its requirements, it is not possible to give a precise estimate of the amount involved.

#### VI. CONCLUSIONS

190. This Report demonstrates the tasks that must be carried out in order fully to ensure the exploration, collection, conservation, documentation, evaluation, availability and utilization of plant genetic resources, including the dependence of the extent to which plant genetic resources can be utilized, for the benefit of the agricultural development of each country, upon the strength of the capabilities in that country for plant breeding.

191. The Report recognizes the achievements of international cooperation to date, while demonstrating that many scientific and technical aspects of plant genetic resources are in need of further development, which will require increasing support from all interested countries and strengthened international collaboration.

192. This Report, in Section IV, identifies certain major constraints in the context of the present international arrangements, which can be summarized as follows:

- (a) the lack of the necessary personnel and facilities in many developing countries, and their pressing needs for assistance in training and equipment, for satisfactory participation in plant genetic resource activities, and for deriving the full benefits of those activities;
- (b) shortcomings of a scientific and technical nature in particular insufficient evaluation and the lack of readily retrievable information, especially at the global level, which is an essential component of a system for the preservation and use of plant genetic resources;
- (c) the absence in general of a firm commitment, on the part of governments and of relevant institutions, with respect to plant genetic resource activities, particularly the conservation of nature reserves in areas of important genetic diversity, the maintenance of base collections and the free availability of plant genetic resources for exchange;
- (d) the insufficient means through which governments can collectively exercise their responsibilities with respect to the preservation and use of plant genetic resources;
- (e) the absence of any long-term guarantee concerning the financing of essential activities related to plant genetic resources.

193. The measures proposed in this Report to improve the situation are essentially as follows:

- (a) the adoption of an International Undertaking on Plant Genetic Resources, open to adherence by all interested governments and relevant institutions (Section III of this Report);
- (b) the establishment of a network of base collections of plant genetic resources, which could be considered as an international gene bank and would -
  - (i) make full use of the present expanding network (paragraphs 147 to 158 of this Report);
  - (ii) operate within an FAO legal framework (paragraphs 164 to 168);
  - (iii) provide cooperating governments and institutions with an opportunity to hold the material in their base collections at the full disposal of FAO (paragraph 169);
- (c) the encouragement of governmental participation in plant genetic resource activities, at the regional, sub-regional and national levels, and the global intergovernmental review - by a subsidiary body of the Committee on Agriculture - of such activities, including the operation of the network of base collections, mechanisms for increasing financial security, the action taken by countries with limited facilities to increase their plant breeding capabilities, and the assistance provided to the latter to meet their training and other needs (paragraphs 172 to 175);

- (d) the consideration of ways of strengthening financial security, and the improvement of existing funding arrangements through the allocation of funds specifically for conservation activities (paragraphs 176 to 180);
- (e) the establishment of a global information system, to be administered by FAO in collaboration with the IBPGR (paragraphs 181 to 189).

194. Thus, in the context of the proposed network, full advantage would be taken of the offer made by the Government of Spain (see Appendix G) and of similar offers from governments or institutions, to hold base collections at the disposal of FAO. Offers of this kind could, in addition, be the starting point in the exploration of alternative measures if the coverage provided by the proposed network should prove to be insufficient in terms of species or geographical distribution (see paragraph 146).

- 195. In the light of the above, the Director-General proposes:
- (a) that the Conference consider, with a view to adoption at its forthcoming Twentysecond Session, the draft Resolution containing an International Undertaking on Plant Genetic Resources, set out in Appendix A to this Report;
- (b) that the Director-General should, in consultation with the IBPGR, invite relevant governments and institutions to participate in an international network of base collections within an FAO legal framework, placing - if they so desire - their base collections fully at the disposal of FAO;
- (c) that, as soon as a significant number of governments and relevant institutions have notified him of their intention to give effect to the Undertaking as adopted -
  - (i) the Committee on Agriculture should establish the above-mentioned subsidiary body on plant genetic resources, which would meet at the time of the Committee's regular sessions and would include interested governments both members and non-members of the Committee (GRO, Rule XXXII.13(a)), and
  - (ii) the Council should admit to membership of that body, interested non-Member Nations of FAO that are members of the United Nations, a specialized agency or IAEA (GRO, Rule XXXII.13(b));
- (d) that the Director-General should seek the views of donor governments and financing agencies with respect to strengthening the present funding mechanisms or to establishing new mechanisms;
- (e) that the Director-General should prepare a study on the feasibility of establishing the aforesaid global information system, including the latter's financial implications; and
- (f) that the Director-General should present a report to the Council at its Eighty-sixth Session, on progress achieved in the implementation of the Conference's recommendations and decisions relevant to this Report.

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Appendix A

#### DRAFT RESOLUTION AND INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

#### (see Section III of this Report)

#### OUTLINE

#### THE RESOLUTION

The Resolution essentially summarizes the rationale of the Undertaking. The various aspects are developed in the text of the Undertaking.

# THE INTERNATIONAL UNDERTAKING

# I. GENERAL

Article 1 is a concise statement of the <u>objective</u> that the other provisions of the Undertaking are intended to achieve.

Article 2 gives definitions of terms used in the Undertaking, including the <u>categories</u> of <u>plant genetic resources</u> covered by it. The coverage is comprehensive, but should be seen in the context of the second operative paragraph of the Resolution, which invites Governments and institutions to inform FAO of the extent to which they can give effect to the principles in the Undertaking.

Articles 3 to 5 state the principles that should apply, essentially at the <u>national level</u>, with respect to the <u>exploration</u>, preservation and <u>exchange</u> of plant genetic resources.

# II. INTERNATIONAL COOPERATION

Article 6 indicates the general lines of international cooperation: (a) strengthening plant genetic resource capabilities in developing countries; (b) intensifying existing international activities; (c) collaboration in the network referred to in Art. 7; (d) studying the feasibility of additional arrangements, including gene banks under FAO administration, if the network referred to in Art. 7 proves to be insufficiently comprehensive; (e) considering institutional measures to finance activities relating to plant genetic resources.

<u>Article 7</u> sets out the legal framework for a <u>network of base collections</u> founded, to the extent possible, on existing international arrangements. The network would comprise the collections of governments or institutions that agree to carry out, within an FAO legal framework, the activities whose coordination is promoted by the IBPGR (Art. 7.1), and governments or institutions that, in addition, arrange for their base collections to be recognized as part of an <u>International Gene Bank</u> (Art. 7.2). The network would also include a global information system (Art. 7.1(d)).

Article 8 suggests principles designed to ensure financial and other support for activities, in particular to meet difficulties encountered in the operation of the network.

<u>Article 9</u> relates to the <u>role of FAO</u>, which would have the responsibility of monitoring international cooperation relating to plant genetic resources, and taking all necessary measures with respect to the network of base collections, including the conclusion of agreements with participating governments and institutions. FAO would carry out its responsibility in consultation with Governments supporting the network (Article 9.4);

#### III. OTHER PROVISIONS

Article 10 stresses the importance of phytosanitary measures with respect to plant genetic resource activities.

Under Article 11, adhering Governments and institutions would be invited to provide FAO with progress reports concerning the achievement of the objective of the Undertaking.

#### Resolution /83

# INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

THE CONFERENCE

Recalling its Resolution 6/81 on plant genetic resources;

Recognizing that:

- (a) plant genetic resources are indispensable for the genetic improvement of cultivated plants, but have been insufficiently explored and are in danger of erosion and loss;
- (b) plant genetic resources are a heritage of mankind to be preserved, and to be freely available for use, for the benefit of present and future generations;
- (c) full advantage can be derived from plant genetic resources only through an effective programme of plant breeding, and that, while most such resources in the form of wild plants and old land races are to be found in developing countries, training and facilities for plant breeding are insufficient or even not available in many of those countries;

#### Considering that:

- (a) the international community should adopt a concrete set of principles designed to promote the exploration, preservation, availability and full exploitation of relevant plant genetic resources for plant breeding essential to agricultural development;
- (b) it is the responsibility of governments to undertake such activities as are needed to ensure the exploration, collection, conservation, maintenance, evaluation and exchange of plant genetic resources in the interest of all mankind; to provide financial and technological support to institutions engaged in such activities; and to ensure the equitable and unrestricted distribution of the benefits of plant breeding;
- (c) progress in plant breeding is essential to the present and future development of agriculture; and the establishment or strengthening of plant breeding and seed production capabilities, at the national, sub-regional and regional levels, is a prerequisite to making efficient use of international cooperation in the exploration, collection, conservation, maintenance, evaluation and exchange of plant genetic resources;

1. Adopts the International Undertaking on Plant Genetic Resources attached hereto;

2. <u>Requests</u> the Director-General to transmit this Resolution and the attached International Undertaking to Member Nations of FAO, to non-Member Nations which are members of the United Nations, any of its Specialized Agencies or the International Atomic Energy Agency, and to autonomous international institutions having responsibilities with respect to plant genetic resources, and to invite them to inform him by (date) of the extent to which they are in a position to give effect to the principles contained in the Undertaking, especially Articles 3 to 5 thereof;

3. <u>Urges</u> Governments and the aforesaid institutions to give effect to the principles of the Undertaking and to support the international arrangements outlined therein, and - where appropriate and feasible - to participate in such arrangements.

#### Annex

# INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

## I. GENERAL

## Article 1 - Objective

1. The objective of this Undertaking is to ensure that plant genetic resources of agricultural interest will be explored, preserved, evaluated and made available for plant breeding, for the benefit of all human beings of the present and future generations.

## Article 2 - Definitions and Scope

- 2.1 In this Undertaking, unless the context otherwise requires:
- (a) "plant genetic resources" means the reproductive or vegetative propagating material of the following categories of plants:
  - (i) cultivated varieties (cultivars) in current use and newly developed varieties;
  - (ii) obsolete cultivars;
  - (iii) primitive cultivars (land races);
  - (iv) wild and weed species, near relatives of cultivated varieties;
  - (v) special genetic stocks (including elite and current breeders' lines and mutants);
- (b) "base collection of plant genetic resources" means a collection of seed stock or vegetative propagating material (ranging from tissue cultures to whole plants) held for long term security in order to preserve the genetic variation for scientific purposes and as a basis for plant breeding;
- (c) "institution" means an entity established at the international or national level, with or without legal personality, for purposes related to the exploration, collection, conservation, maintenance, evaluation or exchange of plant genetic resources;
- (d) "centre" means an instituion holding a base collection of plant genetic resources, as described in Article 7.

2.2 This Undertaking relates to the plant genetic resources of all species of interest to agriculture at present or in the future, and has particular reference to food crops.

# Article 3 - Exploration of Plant Genetic Resources

3.1 Governments adhering to this Undertaking will organize or arrange for missions of exploration, conducted in accordance with recognized scientific standards, to identify potentially valuable plant genetic resources that are in danger of becoming extinct in the country concerned, as well as other plant genetic resources in the country which may be useful for agricultural development but whose existence or essential characteristics are at present unknown, in particular:

- (a) known land races or cultivars in danger of becoming extinct due to their abandonment in favour of the cultivation of new cultivars;
- (b) the wild relatives of cultivated plants in areas identified as centres of genetic diversity or natural distribution;

(c) species which are not actually cultivated but may be used for the benefit of mankind as a source of food or raw materials (such as fibres, chemical compounds, medicine or timber).

3.2 Special efforts will be made, in the context of Article 3.1, where the danger of extinction of plant species is certain, or is likely, having regard to circumstances such as the clearance of vegetation from tropical rain forests and semi-arid lands with a view to the expansion of cultivated areas.

# Article 4 - Preservation of Plant Genetic Resources

4.1 Appropriate legislative and other measures will be maintained and, where necessary, developed and adopted to protect and preserve the plant genetic resources of plants growing in areas of their natural habitat in the major centres of genetic diversity.

4.2 Measures will be taken, if necessary through international cooperation, to ensure the scientific collection and safeguarding of material in areas where important plant genetic resources are in danger of becoming extinct on account of agricultural or other development.

4.3 Appropriate measures will also be taken with respect to plant genetic resources held, outside their natural habitats, in gene banks or living collections of plants. Governments and institutions adhering to this Undertaking will, in particular, ensure that the said resources are conserved and maintained in such a way as to preserve their valuable characteristics for use in scientific research and plant breeding.

# Article 5 - Availability of Plant Genetic Resources

5. It will be the policy of adhering Governments and institutions having plant genetic resources under their control to allow access to samples of such resources, and to permit their export, where the resources have been requested for the purposes of scientific research, plant breeding or genetic resource conservation. The samples will be made available free of charge, on the basis of mutual exchange, or on the most favourable terms having regard to the costs related to the provision of the material and having regard to the person or entity requesting it.

#### II. INTERNATIONAL COOPERATION

#### Article 6 - General

- 6. International cooperation will, in particular, be directed to:
- (a) establishing or strengthening the capabilities of developing countries, where appropriate on a sub-regional basis, with respect to plant genetic resource activities, including plant breeding and seed multiplication and distribution, with the aim of enabling all countries to make full use of plant genetic resources for the benefit of their agricultural development;
- (b) intensifying international activities in plant exploration, plant breeding and germ plasm maintenance, including those carried out by FAO in collaboration with the institutions supported by the CGIAR, as well as the FAO Panel of Experts on Forest Genetic Resources, with the aim of progressively covering all plant species that are important for agriculture and other sectors of the economy, in the present and for the future;
- supporting the arrangements outlined in Article 7, including the participation in such arrangements of governments and institutions, where appropriate and feasible;

- (d) studying the feasibility of arrangements, additional to those outlined in Article 7, including the establishment and administration by FAO of base collections to form part of the International Gene Bank, referred to in Article 7.2, if it appears that the facilities provided by Governments and institutions would be insufficient fully to achieve the objective of this Undertaking;
- (e) considering institutional measures, such as the strengthening or establishment of funding mechanisms, to finance activities relating to plant genetic resources.

# Article 7 - International Arrangements

7. The present international arrangements, being carried out under the auspices of FAO and other organizations in the United Nations system, by national and regional institutions and institutions supported by the CGIAR, in particular the IBPGR, for the exploration, collection, conservation, maintenance, evaluation, exchange and use of plant genetic resources will be further developed and, where necessary, complemented so as to ensure that:

- (a) there exists an internationally coordinated network of national, regional and international centres that have assumed the responsibility to hold, for the benefit of the international community and on the principle of free exchange, base collections of the plant genetic resources of particular plant species;
- (b) the number of such centres will be progressively increased so as to achieve as complete a coverage as necessary, in terms of species and geographical distribution, account also being taken of the need for duplication, of the resources to be safeguarded and preserved;
- (c) the activities of the centres that are related to the exploration, collection, conservation, maintenance, rejuvenation, evaluation and exchange of plant genetic resources will be carried out with due account being taken of scientific standards adopted from time to time under the auspices of FAO;
- (d) sufficient support in funds and facilities will be provided, at the national and international levels, to enable the centres to carry out their tasks;
- (e) a global information system, under the auspices of FAO, relating to plant genetic resources maintained in the aforementioned base collections and - to the extent feasible - elsewhere, and linked to systems established at the national, subregional and regional levels, will be developed on the basis of relevant arrangements that already exist;
- (f) early warning will be given to FAO, or to any institution designated by FAO, of any hazards that threaten the efficient maintenance and operation of a centre, with a view to prompt international action to safeguard the material maintained by the centre.

7.2 Any Governments or institutions that agree to participate in the network referred to in Article 7.1 may, furthermore, notify the Director-General of FAO that they wish the base collection or collections for which they are responsible to be recognized as part of an International Gene Bank under the auspices of FAO. The centre concerned will, whenever so requested by FAO, make material in the base collection available to FAO and will permit FAO to have access to the premises and facilities of the collection.

# Article 8 - Financial Security

8.1 Adhering Governments, and financing agencies, will, individually and collectively, consider adopting measures that would place activities relevant to the objective of this Undertaking on a firmer financial basis.

8.2 Adhering Governments, and financing agencies, will, in particular, explore the possibility of establishing mechanisms which would guarantee the availability of funds that could be immediately mobilized to meet situations of the kind referred to in Article 7.1(f).

8.3 Adhering Governments and institutions, and financing agencies, will give special consideration to requests from FAO for funds, equipment or services needed to meet situations of the kind referred to in Article 7.1(f).

# Article 9 - Monitoring of Activities and Related Action by FAO

9.1 FAO will keep under continuous review the further development of international cooperation in the exploration, collection, conservation, documentation, exchange and use of plant genetic resources.

9.2 FAO will, in particular, monitor the operation of the arrangements referred to in Article 7. It will take, or recommend to Governments or institutions participating in the arrangements, measures that are necessary or desirable in order to ensure the comprehensiveness and efficiency of operations in line with the objective of this Undertaking.

- 9.3 The measures adopted by FAO will include:
- (a) invitations to Governments and international institutions to support the arrangements;
- (b) the designation, with the consent of the Government or institution concerned and after consultation with the IBPGR or other scientific advisory body, of suitable national or international institutions to act as the centres referred to in Article 7.1;
- (c) invitations to Governments or institutions to agree to hold their base collections as part of the International Gene Bank referred to in Article 7.2;
- (d) the conclusion of agreements, with the Governments or institutions concerned to confirm their commitment to the principles of this Undertaking and to the responsibilities indicated in Article 7.1 and, where applicable, Article 7.2;
- (e) measures to overcome any difficulties or shortcomings identified;
- (f) participation, where applicable, in any arrangements adopted by Governments in addition to those referred to in Article 7;
- (g) the solicitation of funds, services or facilities referred to in Article 8.

9.4 In the performance of its responsibilities outlined in Part II of this Undertaking, FAO will act in consultation with those Governments that have indicated to FAO their intention to support the arrangements referred to in Article 7.

# III. OTHER PROVISIONS

# Article 10 - Phytosanitary Measures

10. This Undertaking is without prejudice to any measures taken by Governments - in line with the provisions of the International Plant Protection Convention, adopted in Rome on 6 December 1951 - to regulate the entry of plant genetic resources with the aim of preventing the introduction or spread of plant pests.

# Article 11 - Information on the Implementation of this Undertaking

11. Adhering Governments and institutions will, at yearly intervals, provide the Director-General of FAO with information on the measures that they have taken or propose to take to achieve the objective of this Undertaking.

#### Appendix B

# LETTER OF AGREEMENT BETWEEN CGIAR MEMBERS AND FAO (June 1974)

# (see para. 119 of this Report)

## LETTER OF AGREEMENT

#### between

and

The undersigned, members of the Consultative Group on International Agricultural Research (hereinafter referred to as the Donors)

The Food and Agriculture Organization of the United Nations (hereinafter referred to as FAO)

Whereas various members of the Consultative Group on International Agricultural Research (hereinafter referred to as "the Donors") wish to make funds available to the Food and Agriculture Organization of the United Nations (hereinafter referred to as "FAO"), as provided in this Agreement for the purpose of creating a Central Fund to finance the activities of the International Board for Plant Genetic Resources (hereinafter referred to as "the International Board") described in Annex I attached hereto:

Whereas the Director-General of FAO may under FAO Financial Regulation 6.7, receive voluntary contributions for this purpose;

Now therefore the Donors and FAO agree as follows:

# ARTICLE I

1. The Donors undertake, as provided in this Agreement, to contribute to FAO funds for the purpose of creating a Central Fund to finance activities as described in Annex I.

2. The above funds will be deposited with FAO as Funds in Trust to be administered and accounted for in accordance with the Financial Regulations of FAO. For 1974 the charge to cover FAO's technical and administrative costs has been waived. The decision as to whether any charge will be made for subsequent periods, and if so, the appropriate rate of the charge, will be made at an appropriate later date. It is understood that FAO will not incur any financial liabilities in excess of the amounts actually received.

3. The Funds in Trust will be used exclusively to finance the activities of the International Board to which FAO will submit a statement of account at the end of every calendar year.

4. In accordance with the Financial Regulations of FAO, all costs incurred by the Organization for these activities of the International Board described in Annex I are to be borne by the Trust Fund. The costs chargeable to the Trust Fund may include unforeseen expenditure incurred in accordance with the Regulations of FAO.

#### ARTICLE II

1. FAO's obligations under this Agreement are subject to the constitutional rules and Financial Regulations of FAO.

2. This Agreement, including Annex I, may be modified by mutual consent between FAO and the International Board, each of which shall give full and sympathetic consideration to any proposal for such amendment.

## ARTICLE III

The Agreement shall remain in effect for a period of one year unless terminated soon by FAO or the International Board by notice in writing given to the other, of not less than thirty days (30) in advance of the effective date of termination; any balance of funds remaining unspent in such case will be handed over to the Chairman of the International Board who will receive them on behalf of all Donors. Upon the mutual agreement of both FAO and the International Board, the effective period of the Agreement may be extended. This Agreement shall enter into force upon signature by FAO and another three of the Donors.

#### Appendix C

C 83/25

#### TERMS OF REFERENCE OF THE IBPGR

(see para. 120 of this Report)

#### Status

The Board is an autonomous scientific, international, philanthropic, non-profitmaking organization under the aegis of the CGIAR.

#### Terms of Reference

The Board will have responsibility, under the authority of the CGIAR, for recommending policies and developing programmes in close collaboration with and with the help and advice of FAO to meet the following objectives:

- (i) To plan, initiate and coordinate wherever possible a worldwide programme through the promotion of genetic resources concepts at government and scientific level;
- (ii) To identify general and specific needs for exploration, collection, conservation and evaluation of plant genetic resources with particular reference to species of major economic importance and their wild and cultivated relatives, to determine priorities among them, and to ensure to the fullest possible extent that the materials conserved are made available for plant breeding and other scientific activities as required;
- (iii) To see the collection of genetic resources is carried out according to the established priority needs;
- (iv) To arrange for the replicated maintenance of both seed and vegetative collections and the duplication of materials between collections;
- (v) To implement appropriate data storage and retrieval systems;
- (vi) To arrange for the characterization of collections, and to incorporate relevant data in data storage and retrieval systems; to promote fuller evaluation by breeders; and to see that relevant data are exchanged along with materials;
- (vii) To promote training at all levels;
- (viii) To promote technical meetings to further the foregoing objectives and to issue technical publications relating to standards, methods and procedures and other matters;
  - (ix) To support research activities into problems the solving of which are essential to the operation of the Board's activities.

## Membership of the Board

The Board consists of 15 members, of whom not less than four are to be nationals of developing countries, and not less than six are to be scientists. Thirteen members of the Board are elected by the CGIAR, on the recommendation of the IBPGR. FAO and UNEP each appoint one <u>ex officio</u>, non-voting member of the Board. The Executive Secretary also acts as ex officio member. Elected members serve in their personal capacities irrespective of their professional or official affiliation. The Board shall have the power to co-opt additional members if the need should arise.

# Executive and other Committees

The Executive Committee comprises the Chairman and Vice Chairman of the Board and at least three other elected Board members. The member of the Board designated by FAO shall participate in all the deliberations of the Executive Committee. At least two of the members of the Executive Committee will be from developing countries.

#### Executive Secretariat of the Board

FAO provides the Executive Secretariat for the Board.

#### - 40 -

## Other Relationships with FAO

The priorities recommended by the Board will be observed to the maximum praticable extent in formulating the programmes of the Crop Genetic Resources Centre of FAO.

#### Financial Support

The central fund, established by a Letter of Agreement between certain donor members of the CGIAR and FAO, will be administered by FAO as a Trust Fund.

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## Appendix D

C 83/25

# LETTER OF INVITATION TO PARTICIPATE IN IBPGR CONSERVATION NETWORK

## (see para. 131 of this Report)

The following extract, taken from a typical letter addressed by the Executive Secretary of the IBPGR to a potential cooperating institution, relates to the commitments required by the IBPGR, and contains an invitation to the institution to accept designation for maintaining a specified base collection or collections:

"...

..."

The Board's policy for base collection is to require the following commitments:

- (a) that the collection will continue to receive adequate operating funds and personnel and that if, at some future time, this is not possible, FAO/IBPGR will be alerted promptly;
- (b) that if the material stored is not available from an active collection, it will be made freely available from the base collection to any professionally qualified institution or individual seriously interested in using it;
- (c) that material will be accepted for storage on a global basis;
- (d) that appropriate arrangements will be made (if necessary with suitable institutes) for regeneration of the material; and
- (e) that arrangements will be made to duplicate the material for safety (preferably in another IBPGR designated gene bank).

On this basis the IBPGR invites the (Institution) to accept designation for maintaining base collections of (specification of the crops concerned).

# Appendix E

# ACTIVITIES OF THE IARCS ON PLANT GENETIC RESOURCES AND THEIR PRESENT COST (see para. 154 of this Report)

	SUMMARY TABLE	
Centre	Present Annual Expenditure	Projected for 5 years hence 1983
	US\$	1909
CIAT	1 358 000	1 809 000
CIP	2 530 000	3 000 000
CIMMYT Germ plasm enhancement	350 000	1 000 000
not itemized	1 000 000	1 000 000
ICARDA	1 043 000	1 356 000
ICRISAT	1 028 500	1 145 800
IITA	850 000	2 500 000
ILCA	148 000	336 000
IRRI Germ plasm enhancement	1 001 550	1 000 000
not itemized	1 000 000	1 000 000
WARDA	100 000	500 000
	10 409 050	14 646 800
IBPGR	4 117 000	5 131 000
	14 526 050	19 777 800

# Appendix F

# ESTIMATED BUDGET FOR GENETIC RESOURCES WORK (1983-1985) OF THE INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI)

# (see para. 155 of this Report)

(at 1983 Prices) (in US\$)

Operational Budget		1983		1984		1985	
А.	Direct Costs for International Rice Germ plasm Centre (includes Seed Health Unit) <u>a</u> /			US	5\$		
	Salaries and Benefits Senior Staff (1) ) Junior Researchers (12) ) Labourers and others (35) )				×		
	Post Doctoral Fellows (2) )	249	773	254	373	254	373
	Supplies	41	600	41	600	41	600
	Equipment	56	000 <u>ь</u> /	20	000	20	000
	Maintenance of Motor Vehicles	3	000	3	000	3	000
	International Travel	5	900	5	900	5	900
	Travel within the Philippines	3	000	3	000	3	000
	Sub-total	359	273	327	873	327	873
в.	Adjusting Factor <u>c</u> / Light and Power Postage Maintenance of Building Depreciation of Facilities	36 10 24 81 151	000 000 560 560	36 10 24 81 151	000 000 000 560 560	36 10 24 81 151	000 000 560 560
c.	Contingencies	10	217	9	587	9	587
D.	Administrative Costs	109	600	100	000	100	000
	Sub-total	630	650	589	020	589	020
Dir	ect Costs for Field Collections	20	000	20	000	20	000
Tra	ining (5 scholars/5 man-years)	50	900	50	900	_50	900
TOT	AL	701	550	659	920	659	920

a/ Includes multiplication and regeneration.

1

b/ Includes initial equipment for the Seed Health Unit.

<u>c</u>/ This is in addition to the normal distribution of administrative costs and represents extraordinary charges that would apply to the Germ Plasm Centre.

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tal Expenditures Inti	
Cost of Facilities (Buildings and Equipment)	4 000 000
Farm Development	500 000
Green Houses	200 000
Transfer of Collection	250 000
Training of Staff <u>1</u> /	
Complete back-up of electrical utilities	300 000

1/ No basis for estimating budget which has to depend on the number of trainees, duration and kind of training.

Genetic Resources Labora	atory at IRRI	
(Germ plasm Bank Compl	lex)	US\$
1976		323 000
1977		1 516 000
Total Cost of Labor	atory .	2 039 000

.

#### Appendix G

C 83/25

#### GENE BANK OF SPAIN

# Substance of the Offer by the Government of Spain

#### (see para. 169 of this Report)

Offer to FAO to place the Gene Bank of Spain at the service of the international community as a safe deposit for base collections of plant genetic resources.

This offer would mean that:

- 1. FAO could designate species for long-term storage by the bank at global level. It is suggested that these should be seed legumes and fodder plants from rangelands, propagated by genuine seeds.
- 2. The cost of conserving these seeds would remain the responsibility of the Government of Spain, and working samples could be provided on request through FAO.
- 3. A service of active collection could not be provided without international financing, since this service would involve a constant increase in the number of samples, plus packing and dispatch of many specimens.

## Technical information

The Gene Bank of Spain has available:

- (a) A storehouse at a temperature of  $15^{\circ}$ C below zero, of 7 x 3 x 3 m = 63 m<sup>3</sup>.
- (b) A seed storehouse at temperatures of 0 to  $2^{\circ}$ C below zero, of 3 x 10 x 3 m = 90 m<sup>3</sup>.
- (c) There are in the country 80 people working for the Gene Bank, who are responsible for reproducing the samples in the most suitable place, making use of INIA experimental stations.
- (d) The size of the samples and the method of collecting them, to ensure that they represent the proper variability, follow IBPGR standards.
- (e) Germination trials are made when the samples are deposited. Viability trials are made only when they are going to be rejuvenated.
- (f) Material at present stored has been classified by computer, and the first volume of the catalogue has already been published. It is hoped that the second volume will appear toward the end of 1983.

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INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES

Twenty-seventh Executive Committee Meeting 24-26 October 1983, Washington, D.C.

# Provisional Agenda

- 1. Adoption of the agenda
- 2. Policy items
  - 2.1 FAO Conference Study (83/25)
  - 2.2 IBPGR Planning Report; second draft
    - 2.2.1 Short presentation of the IBPGR groundnut programme to identify practical considerations (14.00 h. 24 Oct.)
  - 2.3 Report on the legal identity of IBPGR
  - 2.4 IUCN/WWF Plants Campaign 1984
- 3. Reports of Crop Committees and Working Groups
  - 3.1 Cotton Working Group, 14-16 June 1983
  - 3.2 Multi-purpose tree germplasm, 31 May-3 June 1983
  - 3.3 Phaseolus Committee, 21-23 July 1983
  - 3.4 Rubber Working Group, 22-23 September 1983
  - 3.5 Cocoa Working Group, 20-21 October 1983
- 4. Reports of IBPGR Conservation Committees
  - 4.1 Committee on Seed Storage, 19-20 September 1983
  - 4.2 Committee on In Vitro Storage; Subcommittee on collecting techniques, 14-16 September 1983
- 5. Other reports
  - 5.1 Report on a Board mission to Southeast Asia, July 1983
  - 5.2 Eucarpia GBC Pre-breeding Workshop, May 1983
  - 5.3 UNDP/IBPGR European Programme
  - 5.4 IBPGR Regional meeting for the Southern Cone, 4-7 October 1983
  - 5.5 Interim review of the Secretariat's survey of work carried out on each major crop

6. Other items for decision

- 6.1 Next meeting of the Southeast Asia Regional Committee
- 6.2 Details of the 10th Anniversary celebrations
  - 6.2.1 Report of correspondence with the subcommittee

1. \*

- 6.2.2 Administrative arrangements
- 7. External Programme Review (second "quinquennial review") [lunch with Dr. Farrar, CGIAR and Dr. Camus, TAC, 24 October]

8. Proposals

- 9. Review of expenditures of 1983
- 10. Agenda for the 11th Board meeting
- 11. Any other business

1) Day -2) combined team, pance 3) need to talk w. Bonnes-(list & queitions) Allan Sh?

To : Dr. C. Farrar, Executive Secretary CGIAR

Mr. A. van der Osten, Executive Secretary TAC

From : L. Kahre , Chairman IBPGR

Date : 26 October 1983

#### EPR of the IBPGR

6-12

The Executive Committee has been discussing for sometime the long-term planning of the IBPGR. As a result of those discussions there are a number of items while the IBPGR drqws to your attention in planning the EPR.

1. Although the basic function of the IBPGR remains unchanged - that is, the collection, conservation, evaluation, utiliztion and exchange of plant genetic resources, the operational and mangerial aspects attendant to its mandate requires periodic assessment. This is to assure that utilization of man-power and financial resources is as effective as possible. A further need for any assessment is that as we learn more about the diversity and ecogeographic dispersal of both primary and secondary genetic resources, new strategies must be developed. This is so in order to efficiently collect materials to fill gaps in our base of diversity and to interpret the potential breeding attributes that these new strategies will provide for.

2. Any shifts in the scientific approach will require a re-thinking of the IBPGR in several basic mangerial areas. This is because IBPGR is still operating on terms of reference deawn up at the outset of the programme and based on existing national schemes, which of course were the only guideline at the time. These were highly successful during the early development of the Board. But we have now entered a new and rather complex stage of development in which it is essential that the Board's operational procedures be consistent with the scientific approaches that it intends to follow during the next 10 years.

3. The IBPGR recognizes that while the results of the fist 10 years activities met the functions established for the IBPGR as originally envisaged and certainly established the validity of IBPGR in the views of both the sponsors, the donors and participating countries it is essential that new initiatives must be undertaken if IBPGR is to continue as the international focal point for genetic resources.

4. A number of constraints which could seriously impair the ability of IBPGR to fit into the role that is envisaged for the next 10 years are recognized:

(i) The IBPGR has completed 250 collecting expeditions which have resulted in a broad base of genetic material and while recipients have been identified for this material as a result of the effectiveness of the network established by IBPGR, the problems of evaluation, documentation and increase for distribution are becoming an excessive constraint. Particularly the IBPGR needs to carry out research in the area of regeneration.

(ii) Collecting itself now requires that more attention be paid to methodology, team composition and logistics as germplasm is sought in more remote areas. The resources required to identify peripheral collecting localities for the increasing number of crops coming under the IBPGR programme are increasingly limited and require serious attention.

(iii) The IBPGR has developed markedly in its international status in comparison to the size of its Secretariat. It is physically impossible to accomplish the many tasks which have been brought about this attention and increased activities within the existing framework and manpower.

(iv) A second area of constraint is how the IBPGR shall function in its relationship with regional groupings of countries. As programmes mature, managerial structures that were effective in initiating cooperation among countries with common genetic resources and needs may no longer apply and alternative solutions will be required. This becomes especially constraining as the network focuses more on relationships with institutions, evaluation programmes and the emergence of a crop curator system.

(v) The IBPGR needs to be advised of a shift in emphasis of the relationship with donors. It is apparent that donors in some instances have directed geographical interests and that although these do not restrict the Board's activities such interests are apparent to the IBPGR. This geographic interest is also manifested in some of the bilateral aid programmes that donor countries may be undertaking which parallel the activities of IBPGR which the very same donors support. Awareness of such bilateral appoaches could very well serve the interests of the Board in terms of direct IBPGR project funding. Donor countries may very well prefer to operat appropriate programmes or portions of programmes through the IBPGR where we have to on-going expertise.




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From: Curtis Farrar, CGIAI	2		
Subject / Title FAO Report on Plant Genet	tic Resources C 83/25		
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## CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

1818 H St., N.W. Washington, D.C. 20433 U.S.A.
Telephone (Area Code 202) 477-3592
Cable Address - INTBAFRAD

From: The Secretariat

October 19, 1983

### International Board for Plant Genetic Resources \* \* \* Candidates for Board of Trustees

1. The operational rules and procedures that govern IBPGR state that thirteen members of the Board are elected by the CGIAR, on the recommendation of the IBPGR.

2. The Board has proposed that Dr. C. Bishop, Professor J.P. Cooper, Professor H.K. Jain, and Professor G.T. Scarascia-Mugnozza be reappointed for a second three-year term beginning January 1, 1984.

3. Dr. N. Chomchalow, whose second term expires in December 1983, is not eligible for reelection. The Board recommends that Dr. Ramon Valmayor, whose curriculum vitae is attached, be elected to replace Dr. Chomchalow for a three-year term beginning January 1, 1984.

4. The Group's approval of these proposals is requested. In the absence of objections to be communicated to the CG Secretariat by November 30, 1983, the Board will be informed of the Group's agreement. A current list of the IBPGR Board members is attached.

Attachments

#### Distribution

CGIAR Members TAC Chairman TAC Secretariat Chairman of IBPGR Board Director General of IBPGR

## INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES (IBPGR)

#### Board of Trustees

Dr. Lennart Kahre (Chairman) Director, Swedish Seed Testing and Certification Institute S-171 73 Solna, Sweden

Dr. Charles J. Bishop Research Branch Agriculture Canada Ottawa, Canada KIA 0C5

Dr. O. Brauer Director, AGP Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla Rome 00100, Italy

Dr. Narong Chomchalow Thailand Institute of Scientific and Technological Research 196 Phahonyothin Road Bangkhen, Bangkok 9, Thailand

Dr. John Philip Cooper Welsh Plant Breeding Station Plas Gogerddan Nr. Aberystwyth United Kingdom

Dr. Edmond de Langhe Katholieke Universiteit Leuven Labo. Tropische Plantenteelt Kardinaal Mercierlaan 92 3030 Leuven, Belgium

Dr. Dalmo C. Giacometti National Genetic Resources Programme of Brazil CENARGEN/EMPRAPA Avenida W-5 Norte Parque Rural C.P. 10.2372 CEP 70.000 Brasilia D.F., Brazil Dr. Muneo Iizuka Faculty of Agriculture Chiba University Matsudo-shi Chiba-ken, Japan 271

Dr. H.K. Jain Indian Agricultural Research Institute (IARI) New Delhi 110012, India

Dr. Quentin Jones BARC-West Science and Education Administration/Agricultural Research US Department of Agriculture Beltsville, MD 20705

Dr. Reuben Olembo Division of Environmental Management United Nations Environment Programme P.O. Box 30552 Nairobi, Kenya

Dr. William J. Peacock Division of Plant Industry, CSIRO P.O. Box 260 Canberra, ACT 2608, Australia

Dr. S.A. Qureshi Director General Agriculture Research Ayub Agricultural Research Institute Faisalabad, Pakistan

Dr. G.T. Scarascia-Mugnozza Faculty of Agriculture University of Viterbo Via Riello Oll00 Viterbo, Italy

### Board of Trustees - Page 2

H.E. Dr. Djibril Sene Minister for Higher Education and Scientific Research Administrative Building Avenue Roume Dakar, Senegal

Dr. J. Trevor Williams Plant Production and Protection Division Agriculture Department Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla Rome 00100, Italy

Dr. Xu Yuntian Deputy Director Institute of Crop Germplasm Resources Chinese Academy of Agricultural Sciences Beijing, China

August 1983





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October 19, 1983	Memorandum			
Correspondents / Participants To: Mrs. Eva Meigher, LEC	ł			
From: Curtis Farrar, CGIAR				
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### CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

1818 H St., N.W. Washington, D.C. 20433 U.S.A.
Telephone (Area Code 202) 477-3592
Cable Address - INTBAFRAD

From: The Secretariat

October 19, 1983

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### International Board for Plant Genetic Resources \* \* \* Candidates for Board of Trustees

1. The operational rules and procedures that govern IBPGR state that thirteen members of the Board are elected by the CGIAR, on the recommendation of the IBPGR.

2. The Board has proposed that Dr. C. Bishop, Professor J.P. Cooper, Professor H.K. Jain, and Professor G.T. Scarascia-Mugnozza be reappointed for a second three-year term beginning January 1, 1984.

3. Dr. N. Chomchalow, whose second term expires in December 1983, is not eligible for reelection. The Board recommends that Dr. Ramon Valmayor, whose curriculum vitae is attached, be elected to replace Dr. Chomchalow for a three-year term beginning January 1, 1984.

4. The Group's approval of these proposals is requested. In the absence of objections to be communicated to the CG Secretariat by November 30, 1983, the Board will be informed of the Group's agreement. A current list of the IBPGR Board members is attached.

Attachments

Distribution

CGIAR Members TAC Chairman TAC Secretariat Chairman of IBPGR Board Director General of IBPGR

## INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES (IBPGR)

#### Board of Trustees

Dr. Lennart Kahre (Chairman) Director, Swedish Seed Testing and Certification Institute S-171 73 Solna, Sweden

Dr. Charles J. Bishop Research Branch Agriculture Canada Ottawa, Canada KIA 0C5

Dr. O. Brauer Director, AGP Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla Rome 00100, Italy

Dr. Narong Chomchalow Thailand Institute of Scientific and Technological Research 196 Phahonyothin Road Bangkhen, Bangkok 9, Thailand

Dr. John Philip Cooper Welsh Plant Breeding Station Plas Gogerddan Nr. Aberystwyth United Kingdom

Dr. Edmond de Langhe Katholieke Universiteit Leuven Labo. Tropische Plantenteelt Kardinaal Mercierlaan 92 3030 Leuven, Belgium

Dr. Dalmo C. Giacometti National Genetic Resources Programme of Brazil CENARGEN/EMPRAPA Avenida W-5 Norte Parque Rural C.P. 10.2372 CEP 70.000 Brasilia D.F., Brazil Dr. Muneo Iizuka Faculty of Agriculture Chiba University Matsudo-shi Chiba-ken, Japan 271

Dr. H.K. Jain Indian Agricultural Research Institute (IARI) New Delhi 110012, India

Dr. Quentin Jones BARC-West Science and Education Administration/Agricultural Research US Department of Agriculture Beltsville, MD 20705

Dr. Reuben Olembo Division of Environmental Management United Nations Environment Programme P.O. Box 30552 Nairobi, Kenya

Dr. William J. Peacock Division of Plant Industry, CSIRO P.O. Box 260 Canberra, ACT 2608, Australia

Dr. S.A. Qureshi Director General Agriculture Research Ayub Agricultural Research Institute Faisalabad, Pakistan

Dr. G.T. Scarascia-Mugnozza Faculty of Agriculture University of Viterbo Via Riello Oll00 Viterbo, Italy

#### Board of Trustees - Page 2

H.E. Dr. Djibril Sene Minister for Higher Education and Scientific Research Administrative Building Avenue Roume Dakar, Senegal

Dr. J. Trevor Williams Plant Production and Protection Division Agriculture Department Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla Rome 00100, Italy

Dr. Xu Yuntian Deputy Director Institute of Crop Germplasm Resources Chinese Academy of Agricultural Sciences Beijing, China

August 1983





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			Shiri Alon	23-Mar-16 Archives 1 (Jan

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