

## Consultative Group on International Agricultural Research

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Agenda Item 13

Intellectual Property Issues and Implications for IARCS

Attached is a report prepared by the Center Directors' Committee on Intellectual Property Rights entitled A Review of Intellectual Property Protection within the CGIAR.

The document is transmitted for information and should be considered as background material for the panel discussion of Intellectual Property Issues and Implications for IARCS, Agenda item 13.

### Distribution

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## REVIEW OF INTELLECTUAL PROPERTY PROTECTION WITHIN THE CGIAR

In recent years intellectual property rights (IPR) have become an increasingly important topic in agricultural research. The CGIAR and the centers have been actively involved in the various discussions. An overview of actions taken since 1991 for the development of a CGIAR policy is presented in Annex I. This has resulted, among others, in the preparation of a "CGIAR discussion document on intellectual property, bio-safety and plant genetic resources", the adoption by the CGIAR mid-term meeting held from 18-22 May 1992 at Istanbul, Turkey, of a "CGIAR working document on genetic resources and intellectual property" (Annex II), as well as a set of "Suggested guiding principles of the International Agricultural Research Centers on plant genetic resources and related intellectual property rights" (Annex III). This working paper is providing an update on the current status of various initiatives taken by the centers.

### 1. CONSULTATIONS ON POLICY PAPER AND GUIDELINES.

#### 1.1 Discussion Document on Intellectual Property, Biosafety and Plant Genetic Resources.

The CGIAR discussion document was sent for comments to various national institutes in all developing countries, as well as to a wide range of inter-governmental and non-governmental organizations, public and private organisations and certain individuals. The comments received are summarized in Annex IV.

The NGOs actively involved in plant genetic resources expressed strong concern that the document may give the impression that the CGIAR and the centers are in favor of IPR. These NGOs do not see the need for the system to adopt practices that would support intellectual property protection (IPP) over life forms. Additional discussions with NGOs in SE Asia, as well as comments from the Rice Growers Association of Columbia, confirm the importance of centers clarifying their policies on IPR and plant genetic resources.

Contrary to the above-mentioned NGOs, the International Union for the Protection of New Varieties of Plants (UPOV), notes that the discussion document would seem to reflect an antipathy to intellectual property in its various forms. Two other inter-governmental organizations, OECD and the Secretariat of the FAO Commission on Plant Genetic Resources, welcome the discussion document. Various public organizations express support, with some emphasizing the need to respect relevant national legislation.

Comments from three private companies vary from encouraging the centers to maintain unrestricted availability of plant genetic resources to stressing the need for the adoption of IPR.

The Center Directors Committee in its meeting held 22-23 October, 1992, in Washington, considered these various comments, as well as a proposal to carry out jointly

with the NGOs concerned a study on the impact of plant breeding rights and intellectual property rights on plant breeding. It agreed that such a study could help in clarifying a number of outstanding issues and could provide a useful input for the preparation of an overall policy paper. This study is currently being carried out as discussed in 4. Study on plant genetic resources, plant breeding and intellectual property rights.

### 1.2 Suggested Guiding Principles of the International Agricultural Research Centers on Plant Genetic Resources and Related Intellectual Property Rights.

After an initial series of comments had been received the CD Committee revised slightly the original version of the guiding principles. This accommodated the suggestions to be more explicit on the matter of patent protection of naturally occurring genes. This revised version is attached as Annex III, and was re-circulated to the various NARS, NGOs and private and public organisations. The comments received on these guiding principles are summarized in Annex V.

The various comments received provide strong endorsement for the suggested guiding principles. Some of the NARS stressed that the centers should be more explicit with respect to the non-patenting of naturally occurring genes. One NARS noted the need for careful consideration of plant health matters in the exchange of plant genetic resources.

With this strong support the guiding principles seem to constitute an excellent basis for the development and adoption of policies on IPR and plant genetic resources by the individual centers.

## **2. STATEMENT BY INTER-CENTER WORKING GROUP ON GENETIC RESOURCES (ICWG-GR) ON IPR GUIDELINES IN RELATION TO PLANT GENETIC RESOURCES**

The ICWG on Genetic Resources at its meeting in Addis Ababa last February, devoted considerable time to discussing the proposed "Guiding Principles". The Group recommended the following elements as the basis for CGIAR policy on IPR relating to the germplasm collections held in trust.

- The plant genetic resources maintained in genebanks of the CG Centers are held in trust for the world community.
- The CG Centers adhere to the principle of unrestricted availability of the plant genetic resources they hold in trust, including related information.
- The CG Centers will not protect the plant genetic resources they hold in trust by any form of intellectual property protection.

- The CG Centers are opposed to the application of patent legislation to plant genetic resources (genotypes and/or genes) held in trust.

- Plant genetic resources held in trust by the Centers will be made available on the understanding that the recipients will take no steps which restrict their further availability to other interested parties.

It should be noted that the above elements are intended only to apply to in-trust germplasm. They do not cover materials arising from breeding programs, processes, publications, software, machinery etc., for which other guiding principles are needed.

### 3. TRUSTEESHIP OF COLLECTIONS AND AGREEMENT WITH FAO

The Centers have been discussing for some time the possibility and desirability of signing agreements with FAO to bring the in-trust collections within the FAO International Network of Ex Situ Base Collections. This would:

- provide an inter-governmental framework for the collections, thus increasing the confidence of developing countries and others that the Centers are taking their role as trustees seriously,

- demonstrate that the CGIAR Centers are willing to collaborate with UN Agencies and do not wish to set themselves apart,

- provide 'legal' recognition to the in-trust concept, and

- provide added 'security' in the case of political or other threats to the safety of collections.

IBPGR, on behalf of all the Centers, negotiated an agreement with FAO which was submitted for approval to the Commission on Plant Genetic Resources at their meeting in April 1993. The Commission welcomed the initiative but requested further clarification on the trusteeship concept. They also asked for a say in the determination of policies relating to the materials. Following the meeting, IBPGR has had further discussions with FAO and a revised draft was circulated to Centers on 10 August 1993 for their input (Annex VI). Based on feedback from the Centers and further discussion with FAO, it is hoped that an agreed text can be formally submitted to FAO within the next few months for their approval. It is proposed that each Center would sign an individual agreement, but that the terms contained in all agreements would be the same. It is hoped that it will be possible to sign the agreements in 1994.

#### 4. STUDY ON PLANT GENETIC RESOURCES, PLANT BREEDING AND INTELLECTUAL PROPERTY RIGHTS

A project is underway which aims to study the potential impact of recent trends in intellectual property rights legislation on plant genetic resources conservation and plant breeding. The project, managed by a committee comprising IDRC, SAREC, RAFI and IBPGR (representing the CGIAR Centers), brings together diverse viewpoints in a Working Group which is seeking consensus where possible, and explaining and exploring differences of opinion where they exist. The Working Group comprises participants from North and South, representing a wide cross-section of opinions, interests and expertise. The Group includes legal experts, NARS, the CGIAR, NGOs, UN organizations, and the private sector.

The final report will contain policy options of particular interest to decision-makers in developing countries who will be faced with drawing up national legislation on intellectual property in response to GATT and the Biodiversity Convention. The recommendations are also expected to be of interest to bodies such as the CGIAR in drawing up their own IPR policies, as well as to individual NARS.

The Working Group has identified a number of crucial issues to be addressed in the study. The document will be reviewed by a number of outside parties before it is finalized in October. Possible follow-up activities include news releases, the establishment of a reference center, seminars for policy makers and the commissioning of further studies on specific topics.

Initial support for the project has been received from IDRC and SAREC, and several other donors have expressed an interest to participate.

#### 5. STUDY ON MATERIAL TRANSFER AGREEMENTS

In view of a) the increasing use of intellectual property rights worldwide to protect plant germplasm, b) the growing concern for recognition of national sovereignty over genetic resources, and c) the role of the Centers as trustees of international collections, legal mechanisms are needed to protect the interests of all parties involved in the exchange and use of plant genetic resources. The draft CGIAR policy paper referred to the use of Material Transfer Agreements (MTAs) as a basis for providing the necessary legal protection. However, concern has been expressed by several parties as to the practicality of MTAs and the possible impact of their use on unrestricted access to, and the utilization of, genetic resources.

A study has thus been initiated by IBPGR and the CGIAR Secretariat to look in more detail at MTAs, their use and possible consequences. The study would propose model agreements for different situations. All CGIAR Centers, as well as key NARS and other interested parties, will be widely consulted during the course of the study. It is planned to

complete the study and distribute the report before the end of 1993.

## 6. POLICY ACTION BY INDIVIDUAL CENTERS

As noted above the Center Directors had endorsed the guiding principles presented in Annex III as a basis for establishing specific policies for the individual Centers. In the following an update is given on further action taken by the Centers.

### CIAT

The Board of Trustees of CIAT approved in its 34th meeting held from 29-30 April 1993, the following interim policy on IPR.

- CIAT believes that maintaining the free access of developing countries to science and technology is essential for reaching the Center's goal of alleviating hunger and poverty in tropical developing countries while preserving the natural resource base.

- CIAT, being funded by donors, prefers not to obtain property rights on its scientific and technologic output, nor to grant exclusive rights of any kind on the Center's research results and output to others. That is, CIAT prefers its science and technology output to remain public goods.

- Exceptionally, however, CIAT will contemplate protecting some of its science and technology output under intellectual property rights.

Three needs may lead to such rare decisions:

- To avoid misappropriation by others of CIAT scientific and technologic output, which might endanger users' free access to such output;
- To join essential research partners who may impose intellectual property right protection of the research output as a condition for partnership;
- To grant authorization to others to protect under IPR in order to make CIAT scientific and technologic output available to end users and beneficiaries.

- Underlying such decisions is CIAT's aim of facilitating users' access to science and technology, especially in developing countries, to fight hunger, poverty, and resource degradation. And IPR protection will always be a last resort for CIAT; publication and disclosure, or any other legal means of keeping CIAT's science and technology output as public goods will always be preferred to IPR protection by the Center.

- CIAT maintains and improves international germplasm collections.

- These are a resource kept in trust for the benefit of mankind and for the use of scientists worldwide. Under no circumstance will CIAT protect materials in these collections under IPR, nor grant authorization to others to do so.

- To prevent misappropriation of materials in the international germplasm collections, such materials will be delivered to users under material transfer agreement by which recipients undertake not to appropriate these public goods.

- Recipients of materials from the international germplasm collection may, however, protect under IPR new plant varieties obtained through plant breeding or other means of plant improvement, provided that the difference between the new product and the transferred material is not trivial.

### Temporary article

- CIAT supports present negotiations between CGIAR and FAO for the recognition of the concept of trusteeship of international germplasm collections. Upon FAO's acceptance of this concept CIAT is prepared to put the international collections which are in the centers trust, under the auspices of FAO.

- CIAT keeps and improves an international geographic information system and related data-bases, I-GIS for brevity. This information system is considered by CIAT to be a public resource and to be kept in trust in the same way as the international germplasm collections. Consequently, CIAT will not protect I-GIS under IPR.

- To maintain I-GIS as a public good, CIAT deposits the corresponding data-bases in public repository agencies. Contingent upon the availability of funds, CIAT hopes to be able to publish I-GIS on optic or electronic media such as CD-ROM.

- In the exceptional cases where CIAT may protect some of its products under IPR, if the product is a live being CIAT prefers the application of breeders' rights, or equivalent legislation, which allows free access to the protected material for research and further plant improvement, and free seed multiplication by farmers for their own use.

- CIAT recognizes that IPR protection does not in itself imply any restrictive or profit making policy. It is the licensing policy that determines availability and costs to others. In the rare cases in which CIAT may protect some of its science and technology output under intellectual property rights, decisions on granting licences to others will be guided by CIAT's aim of facilitating users' access to science and technology, especially in developing countries to fight hunger, poverty, and resource degradation.

- Being funded by donors, CIAT does not see revenues from IPR protection as a funding mechanism for its research and development operations.

- Any revenue which might accrue to CIAT from IPR protection will be incorporated into a trust-fund to support the collections in the Center's trust.

- The creation of an international Plant Genetic Resources Fund has been proposed in several fora. If such a fund eventually comes into being, CIAT is prepared, in principle, to incorporate its IPR-derived revenues into it.

- If CIAT needs to become involved in negotiations with partners and/or third parties on the distribution of IPR-related revenues, CIAT will not aim at maximizing the Center's share. Rather, CIAT will aim at maintaining the free flow of germplasm, and the free access to science and technology, particularly for developing countries.

- For any work of CIAT in partnership, partners' attitudes towards IPR protection of outputs must be established at the outset, and agreement formally documented.

- When choosing essential partners, CIAT will prefer those who share CIAT's values of keeping science and technology as public goods and facilitating the access of developing countries to science and technology.

- Any IPR protection of CIAT output will be on the part of the Center and not of individual scientists.

## **CIFOR**

Matters concerning IPR are covered in general terms in the Host Country Agreement of CIFOR. For example article 3(c) of the agreement states: "The Parties to this agreement accept the need for a joint policy on intellectual property rights including germplasm arising from any collaborative activity conducted in Indonesia under this Agreement and shall prepare a supplementary agreement on the equitable allocation of ownership and licensing of such intellectual property".

It is the intention to develop a separate Memorandum of Understanding concerning IPR when CIFOR negotiates bilateral cooperative agreements with research agencies in Indonesia.

## **CIMMYT**

The CIMMYT Board of Trustees approved on 31 March 1993 the following statement on intellectual property for review with partners.

Since its inception CIMMYT has followed a policy of unrestricted distribution and use of the plant genetic resources it holds in trust, as well as the products of its research program. This central principle remains an essential part of the current CIMMYT strategy. However, in recognition of the increasing use of intellectual property protection in



science, a statement of policy has been developed to more clearly define our position.

#### **A. Genetic Resources Held in Trust**

The designated accessions of genetic resources in the CIMMYT genebank are held in trust for the world community. CIMMYT adheres to the principle of unrestricted availability of these resources held in trust, along with related information. CIMMYT will not protect plant genetic resources held in trust with any form of intellectual property protection, and is opposed to the application of protection legislation to plant genetic resources (genotypes or genes) held in trust. Plant genetic resources held in trust will be made available to recipients who agree to take no steps that restrict the further availability of those resources in their original form to other interested parties.

#### **B. Products of Research**

##### **1. Developed by CIMMYT**

CIMMYT will protect or allow others to protect CIMMYT's intellectual property only when we see this as compatible with our mission.

##### **2. Developed by others**

To work with the most modern technology, products owned by others may have to be used in CIMMYT research. CIMMYT will negotiate for rights of unrestricted distribution.

##### **3. Developed with others**

CIMMYT will share ownership, under mutually agreed terms, of any protectable product arising from specific collaborative research agreements.

#### **C. Information Products and Computer Software**

CIMMYT imprimatur information products will not be copyrighted unless required to ensure unrestricted distribution.

CIMMYT will declare ownership of computer software it develops, or joint ownership if the product has been developed in cooperation with another organization. Distribution will be unrestricted.

#### **CIP**

CIP is in the process of developing an IPR policy. The guiding principles will be used as a basis for this.

## **IBPGR**

Although IBPGR does not manage any germplasm collections of its own, it interacts with many national and international organizations that do, and is frequently asked for advice. IBPGR is also directly involved with collecting germplasm in the field.

The 15th Meeting of the Board of Trustees, in February 1988, stated "IBPGR's policy is that all naturally occurring genetic resources, including naturally occurring genes isolated from such resources, shall be freely available."

A report on the legal status of germplasm collections within the CGIAR system was commissioned by IBPGR in 1991. The report concluded that the concept of trusteeship of the collections has a legal basis with international recognition.

IBPGR is currently involved in a number of initiatives on IPR policy within the CGIAR including: leading the negotiations with FAO on the development of an agreement to bring Centre collections within the FAO Network of ex situ Base Collections; chairing the management team of the collaborative study on Plant Genetic Resources, Plant Breeding and Intellectual Property; and commissioning a study on Material Transfer Agreements.

IBPGR has also taken a lead in representing the CGIAR system in a number of fora where IPR issues have been debated. These include the FAO Commission on Plant Genetic Resources, UNCED and follow-up meetings on the Convention on Biological Diversity.

IBPGR has established an internal Task Force to follow-up on issues relating to IPRs.

## **ICLARM**

ICLARM has not yet formulated any firm policies on intellectual property rights concerning the development of new breeds of aquatic organisms but will be considering this in the near future as its research in quantitative genetics and support to national fish breeding programs expand.

ICLARM held an international workshop in Ternate, Cavite, Philippines, June 1-5, 1992 entitled "International Concerns in the Use of Aquatic Germplasms." The need to safeguard innovations through patenting was not perceived as an issue except for the longer term. It was noted, however, that since becoming a member of the CGIAR, ICLARM will become subject to the policy decisions taken by that body. The following extracts from the recommendations of that meeting are relevant:

- ICLARM should continue basic research on the genetic improvement of farm fishes to secure and improve upon the gains that have already been made and the current breeding strategy (based on combined selection) is most appropriate for maintaining genetic diversity

and ensuring ease of access to the material (i.e. it is difficult to patent). It should therefore be continued.

- If and when ICLARM undertakes biotechnological research, it is recommended that it applies internationally recognized safeguards, guidelines and codes of practice applying specifically to transgenic fish.

- Valuable fish germplasm collected for and developed by fish breeding programs, including the Genetic Improvement of Farmed Tilapia (GIFT) Project, through the use of public funds, should be carefully conserved for future use. Safeguards against loss or damage to such germplasm should include its replication at institutions that are willing to undertake the responsibility for long term stewardship of and guaranteed international access to such germplasm for the purposes of research within the public domain and development programs to benefit disadvantaged peoples. Although this is a long term issue it will require action by ICLARM at the earliest appropriate time.

## **ICRAF**

Research on multipurpose tree/shrub germplasm improvement has not yet reached the stage where IPR applies. Therefore, ICRAF has not yet taken any initiatives on the matter.

## **ICRISAT**

ICRISAT has been carefully studying the issues surrounding intellectual property. In the past it pursued an "open door" policy, freely distributing the fruits of its work to all interested parties. But many other organizations that it interacts with, such as private sector firms and universities, are unwilling to collaborate without clear agreements on the disposition of intellectual property rights. Therefore ICRISAT has been required to think about what intellectual property management policies would be appropriate.

ICRISAT prefers to continue the "open door" approach followed in the past; the introduction of IPR raises certain dilemmas. But it also presents new opportunities for cooperating with other organizations in ways that will generate benefits for developing countries and for society at large.

ICRISAT's policies take into account the following considerations:

- first, do no harm; no action should be taken that would adversely affect developing countries;
- the fruits of ICRISAT's research should be actively disseminated for the benefit of developing countries and for society in general;

- innovations arising from the use of ICRISAT's resources should not be appropriated by individual scientists for their personal benefit.

In pursuing these goals, ICRISAT's primary tool will be publication. It believes that broad public dissemination, through scientific journals, in-house publications, and workshops and conferences, will be the most effective strategy in almost all cases. By placing ICRISAT innovations in the public domain, others are automatically prevented from patenting the same innovation. ICRISAT does not follow the "defensive patenting" approach advocated by some organizations. Patenting is expensive, and offers little defense against pre-emptive protection by others.

In a small number of exceptional cases it may be advisable to enter into legally binding contracts and in some cases patent protection may be part of this although never on naturally occurring genes. In situations where an innovation requires substantial investment before it can be of benefit to society, dedicating ownership to the public could discourage any firm from undertaking product development, resulting in "orphan" technology. In such cases, ICRISAT believes that its mission is better served by negotiating equitable terms with manufacturers/producers that safeguard the interests of developing countries, while ensuring that the innovation is developed for the public good.

ICRISAT is committed to the principle that the genetic material it holds in trust for the world community should remain readily accessible. It is however concerned that the past practice of distributing germplasm to all requesting researchers at no charge may not be as equitable as it seems on the surface.

Material for research purposes is supplied without further restriction. Commercial use of material will be permitted, but consideration of equity and impact issues is necessary. Material will be made available for commercial use only when ICRISAT is confident that the interests of people of developing countries are properly safeguarded.

ICRISAT does not intend using its position to create income for Institute operations. Any income derived would be set aside to further the conservation and use of plant genetic resources in developing countries.

We do not intend to apply for patents to naturally occurring genes. We believe that the broad applicability of gene patents interferes excessively with the ability of research organizations to create new varieties. At the same time, we cannot ignore the patented innovations of others; we are prepared to negotiate with the owners of proprietary technology, including patented genes, in order to gain access to innovations that might enable us to make important advances.

Accordingly, ICRISAT has adopted the following interim guidelines to assist in making decisions when questions regarding intellectual property arise:

### **Interim Guidelines**

- ICRISAT subscribes to the Guiding Principles of the International Agricultural Research Centers on Plant Genetic Resources and Related Intellectual Property Right Issues.

- ICRISAT's policies regarding intellectual property are to be interpreted in a manner consistent with the Convention on Biological Diversity adopted by the United Nations Conference on the Environment and Development (UNCED) in Brazil 5 June 1992.

- Germplasm accessions in ICRISAT's base and active collections are held in trust for the world community. ICRISAT will maintain ready and equitable access to the germplasm it holds in trust.

- ICRISAT will at all times prefer to dedicate the results of its work to the public domain. It will assert control over intellectual property only in those exceptional instances where it is found necessary in order to facilitate its research, to make technology transfer effective, or to protect the interests of developing country partners. ICRISAT will not apply for patent rights over naturally occurring genes.

- Germplasm from ICRISAT's base and active collections will be supplied without restriction to appropriate governmental bodies in developing countries. This material will be distributed to other users for research purposes only. (Governmental recipients will be requested to add similar "research only" restrictions when transferring the material to other organizations).

- Breeding material under development in working collections will be distributed to users in developing countries in accordance with agreements we have with that country, but to users in developed countries for research purposes only. No commercialization or intellectual property protection of the distributed material as directly derived varieties, or genes isolated from the material would be permitted by a user without further negotiation in order to safeguard the interests of developing countries.

- Biotechnological exploitation by others of cells, organelles, genes, or molecular constructs, arising from ICRISAT's research, and having commercial value, will be permitted only for research purposes. No commercialization or further distribution of the material or their derivatives will be permitted without a license.

- Licenses to public users will normally be issued without requiring payment of royalties other than the cost of distribution. Licenses to users other than nonprofit organizations will normally require payment of reasonable royalties.

- ICRISAT will ordinarily issue an exclusive license to a user only where this is determined to be the most effective means of making the innovation available for the benefit of society.

- Any financial income stemming from commercialization by others will be used to further the conservation and use of genetic resources in developing countries.

- Given that research by ICRISAT employees is made possible by the generosity of donors, individual employees will not be permitted to assert personal claims to intellectual property arising out of their work at ICRISAT. Employees will be required to disclose innovations of possible commercial value, and to assign all rights to these innovations to ICRISAT. All data, whether in raw form or after significant manipulation, and research results (including formal or informal reports) belong to ICRISAT, not to scientists individually.

(As used in the context of intellectual property policies and procedures, "employee" is defined to include any person who participates in the research or training activities of ICRISAT, whether compensated or not, or who makes significant use of facilities owned by ICRISAT, but does not include those casual visitors who attend workshops, conferences or seminars at ICRISAT).

- ICRISAT recognizes that it may be necessary to delay publication of research results in order to permit ICRISAT, its collaborators, or sponsors to protect intellectual property rights. ICRISAT will endeavor to minimize delays, and will not permit others to impose delays greater than ninety days.

- ICRISAT welcomes requests for access to its data and research results by bona fide researchers in other organizations.

## **IFPRI**

IFPRI is not currently involved in any research activities related to IPR nor does it see any comparative advantage to do so at this time.

## **IIMI**

IIMI does not currently have an IPR policy, but may soon develop one along the lines of those prepared by other centers.

## **IITA**

A statement on intellectual property management at IITA has been endorsed by the Board of Trustees in its meeting of 26-29 April 1993.

- Germplasm accessions in IITA's base and active collections are held in trust for the world community.

- IITA adheres to the principle of unrestricted availability of the plant genetic resources it holds in trust, including related information.

- IITA maintains collections of micro-organisms and arthropods emanating from its research activities, which will be available for research purposes.

- IITA will seek intellectual property protection over the results of its research only in those exceptional instances where it is found necessary in order to facilitate its research, to make technology transfer effective or to protect the interests of developing country partners.

- IITA will not seek patent rights over naturally occurring genes.

- Breeding materials will be freely distributed to various users under the understanding, that the material is not intended for exclusive use by any single organization, that IITA retains the right to distribute the same material to other organizations and that the use of these materials will be recognized.

- Any financial income coming to IITA and stemming from commercialization by others will be used to further the conservation and use of genetic resources/agricultural research in developing countries.

- Individual employees will not be permitted to assert personal claims to intellectual property arising out of their work at IITA. Employees will be required to disclose innovations of possible commercial value, and to assign all rights to these innovations to IITA.

- IITA will follow the host country rules and regulations concerning biosafety.

## **ILCA**

ILCA has considered IPR and does not wish to be preemptive in developing a policy which may impair its partnerships with NARS. ILCA accepts the concept of trusteeship of the germplasm held in ILCA facilities, and wishes to put the ILCA forage germplasm collection under the auspices of FAO, under the same agreement for other Centers.

This strategy has been discussed by the Programme Committee in May 1993, who recommended that ILCA should not at this time develop its own policy, but should await a common CGIAR policy.

## **ILRAD**

ILRAD's policy on IPR dates from a revision of the existing policies in 1983. It contains the following statement: "The Board of Trustees of ILRAD wishes to ensure that the

findings accruing to the programme of research at ILRAD and of such other programmes as ILRAD may be associated with as grantor, grantee or collaboratory shall be of maximum public benefit. In furtherance of this intent, the Board has established the policy to retain for itself the proprietary rights to such discoveries, including the right to determine that the discovery shall be yielded into the public domain through disclosure, or take out copyright or patent in such work which enhances the possibility of achieving ILRAD's mandate either directly, or through the provision of additional financial resources. In furtherance of this policy, all persons whose work is financed in part or in whole by funds under the jurisdiction of the Board shall as a condition of receiving such support, waive rights to such findings without the prior requirement that such be determined to be patentable.

## **INIBAP**

The Executive Committee of INIBAP in its meeting of 25 and 26 January 1993 expressed general support for the draft guiding principles.

## **IRRI**

During the IRRI Board Meeting held in April 1993, two policy statements on IPR were approved by the Board. The first one essentially adopts the elements of a CGIAR policy on Plant Genetic Resources and IPR, but reworded to suit IRRI's purposes, as follows:

- The Policy of the International Rice Research Institute (IRRI) on Rice Genetic Resources and Intellectual Property Rights.

- The rice genetic resources maintained in the genebank at IRRI are held in trust for the world community.

- IRRI adheres to the principle of unrestricted availability of the rice genetic resources it holds in trust, including related information.

- IRRI will not protect the rice genetic resources it holds in trust by any form of intellectual property protection.

- IRRI is opposed to the application of patent legislation to plant genetic resources (genotypes and/or genes) held in trust.

- The rice genetic resources held in trust by IRRI will be made available on the understanding that the recipients will take no steps which restrict their further availability to other interested parties.

The second IRRI policy approved by the Board concerns IPR and Hybrid Rice.



The Policy of the International Rice Research Institute (IRRI) on Hybrid Rice and Intellectual Property Rights.

- IRRI adheres to the policy of free availability of the breeding lines, elite germplasm and parental lines produced in its breeding program.

- IRRI will not seek intellectual property protection on the breeding lines, elite germplasm and parental lines emanating from its breeding program.

- IRRI recognizes that the private sector is likely to play an important role in the development of hybrid rice technology.

- IRRI will provide hybrid rice parental lines (and other elite materials) to both the public sector institutions and the private organizations on the understanding that:

- The material is not intended for exclusive use by any single organization.
- IRRI retains the right to distribute the same material to other organizations.
- The use of IRRI materials will be recognized when a hybrid rice variety is released.

- Collaboration with profit-making organizations for the development of hybrid rice technology will proceed after consultation, where appropriate, with the authorities in the respective host country.

The IRRI Board also recognized the need to protect in perpetuity the more than 80,000 accessions of rice germplasm at IRRI.

The FAO Commission on Plant Genetic Resources has proposed to establish an International Network of Base Collections to be under the auspices of the Commission. In as much as the Plant Genetic Resources maintained in the genebank of IRRI are held in trust for the world community, we are of the unanimous opinion that, the world community's best interest would be served by placing our collection under the auspices of the FAO Commission.

The IRRI Board has authorized management to seek, on behalf of the Board and Management, to place IRRI's germplasm collection under the auspices of the FAO Commission on Plant Genetic Resources.

## **ISNAR**

ISNAR is preparing a publication entitled "Intellectual Property Protection of Agricultural Biotechnology: Implications and Options for Developing Countries". This is

part of ISNAR's Intermediary Biotechnology Report and is targeted at policy makers of NARS.

## **WARDA**

WARDA is currently reviewing the various options for the development of a policy statement on IPR.

## **Conclusion**

Most Centers have at this stage adopted or are in the process of adopting a policy statement on IPR. The various statements are in conformity with the suggested guiding principles of the International Agricultural Research Centers. They differ in the level of detail.

## **7. FURTHER ACTION**

Although the consultation process has essentially been concluded, there are several other on-going activities which relate to IPRs and which will influence the further development of CGIAR policy. For example the IPR study and the study on MTAs, which will both be completed before the end of 1993. In addition more will be known within the next few months about the likely outcome of the GATT-TRIPS negotiations and the possible development of protocols to the Convention on Biological Diversity. It is proposed that the CD Committee on IPR meets in early 1994 to try to bring all of these various elements together.

Further thought needs to be given to the eventual output of all these efforts. This includes the possible production of a revised version of the original policy document and of the Guiding Principles.

## ANNEX I. OVERVIEW OF ACTIONS TAKEN BY THE CGIAR AND THE CENTERS ON INTELLECTUAL PROPERTY RIGHTS.

Within the CGIAR matters related to intellectual property protection are reviewed and advised upon by the joint TAC/Center Directors Committee on Plant Genetic Resources and the Center Directors Committee on Intellectual Property Rights.

The Center Directors Committee was established by the Center Directors at their meeting held in June 1991 in Rome. This followed the preparation of a report by a Workshop on the Consequences of Intellectual Property Rights for the International Agricultural Research Centers held at ICRISAT in November 1990 and a paper by J.H. Barton and W.E. Siebeck entitled "Intellectual Property Issues for the International Agricultural Research Centers - What are the options?" The Committee was requested to prepare a draft policy statement on intellectual property rights (IPR).

Subsequently; ad hoc Working Group met at ISNAR, The Hague, from 5-6 September 1991 consisted of the members of the two above mentioned committees and a number of additional experts. The Working Group prepared a paper entitled "Towards a CGIAR Policy on Intellectual Property Rights". This paper was reviewed by TAC in its 56th meeting held in Washington DC from 22-26 October 1991, during a joint session with board chairs and center directors. It was concluded that the issue of IPR in the CGIAR could not be considered in isolation from that of plant genetic resources (PGR) and biosafety. Consequently it was agreed that the three topics should be handled together so as to develop a draft policy statement dealing with basic CGIAR principles and policies on each. These principles and policies should eventually be translated into a CGIAR strategy.

During ICW91 the CG members concurred with these proposals but emphasized the urgency of the matter in view of the forthcoming United Nations Conference on Environment and Development (UNCED) in Brazil in June 1992. Hence it was proposed to prepare a statement of principles guiding the CGIAR's intent in these areas. Such a draft statement was circulated to members; full agreement was, however, not reached on it. The center directors in their meeting following ICW91 decided to further develop this statement of principles for use by the centers.

Following the discussions in TAC56 and ICW91 the TAC/CD Committee on PGR and the CD Committee on IPR organized a Workshop on Intellectual Property, Biosafety and Plant Genetic Resources at IBPGR, Rome, from 30 January to 1 February 1992. The report of the workshop entitled "CGIAR Statement on Intellectual Property, Biosafety and Plant Genetic Resources" was reviewed by TAC during its 57th meeting held at ICARDA, Aleppo, Syria from 15-21 March 1992. It emphasized the need for continued free exchange of germplasm and inventions among the centers and countries they serve, and among all the scientific community.

TAC decided not to publish a final policy statement before UNCED and emphasized that there should be adequate consultations with all stakeholders before the draft was finalized. However, it was generally felt that it would be useful to publish the center directors' statement of principles in the immediate future in order to indicate the principles currently being followed by the CGIAR centers. It was further decided that the report from the IBPGR workshop would be revised in light of the TAC discussion. After approval by the TAC/Center Directors Committee on PGR and the Center Directors Committee on IPR, the report would be widely circulated (to donors, NARS, NGOs, etc.) by the CGIAR Secretariat as a discussion paper for comments. A status report would be presented to the CGIAR at its mid-term meeting in Istanbul. The report circulated was entitled "CGIAR Discussion Document on Intellectual Property, Biosafety and Plant Genetic Resources".

The Group at the mid-term meeting, held from 18-22 May in Istanbul, unanimously adopted a working document on genetic resources and intellectual property (Annex II). It noted that the centers and their Boards of Trustees bear the responsibility for developing particular policies and procedures relating to the major issues dealt with in the working document. It stressed the necessity for consultations with all collaborators including NARS, NGO's, advanced laboratories and private companies. In view of these planned consultations it was considered premature to move already toward a formal system-wide policy.

The Center Directors Committee on IPR decided to circulate the discussion paper and guiding principles for comment to NARS, NGO's and private industry.

## ANNEX II. CGIAR WORKING DOCUMENT ON GENETIC RESOURCES AND INTELLECTUAL PROPERTY (Istanbul, May 22, 1992).

This document reiterates the commitment of the Consultative Group on International Agricultural Research (CGIAR) to the conservation and use of genetic resources, and to the dissemination of its discoveries and products to the developing world in an expeditious and cost-effective manner.

Established in 1971, the CGIAR is an association of countries, international and regional organizations, and private foundations dedicated to supporting international research. It currently sponsors 18 autonomous international research centers involved in research on problems related to production in agriculture, forestry, and fisheries. The purpose of the CGIAR-sponsored research is to improve the quantity and quality of production in a sustainable manner. The centers have made substantial contributions towards these goals for the benefit of producers and consumers in developing countries. These contributions have resulted from the work of scientists at the centers, in close collaboration with scientists in the national research systems and in public institutions, universities and private companies throughout the world.

In this connection the value of biological resources is becoming increasingly recognized by the world community. The centers are contributing to the conservation of biological diversity through: 1) the collection, characterization, ex-situ maintenance and worldwide distribution of plant genetic resources; and 2) germplasm enhancement for subsequent breeding and adaptation to local agroecological conditions by national research systems. The CGIAR recognizes both Plant Breeders' Rights and the concept of Farmers' Rights, in accordance with the agreed interpretation of the International Undertaking on Plant Genetic Resources. Moreover, conservation of genetic resources by the centers, and research on their use is contributing to the goals of the convention on biological diversity presently in preparation.

A fundamental objective of the CGIAR is to ensure access to knowledge, technology and materials in the interests of the developing countries. The CGIAR reaffirms that the genetic resources maintained in the genebanks of the centers are held in trust for the world community. Materials from the genebanks at the centers will continue to be freely available, in accordance with the 1989 CGIAR Policy on Plant Genetic Resources.

Modern biotechnology is becoming an important tool for the work of the centers and their collaborators. Advances in its use offer the potential for the centers and their collaborators to increase productivity on agriculture, forestry and fisheries in developing countries. In a changing research environment, the centers need to collaborate with a wide range of agencies in both the public and private sectors which increasingly protect their inventions through holding intellectual property.

Centers do not seek intellectual property protection unless it is absolutely necessary to ensure access by developing countries to new technologies and products. The Centers will not seek intellectual property protection for income-generating purposes and will not view potential returns from intellectual property protection as a source of operating funds. Should exceptional cases arise where a center might receive a financial return, an appropriate means will be used to ensure that such funds are used for the conservation of genetic resources and related research.

On a case-by-case basis, the Centers carefully consider the advantages and disadvantages, and the costs and benefits before deeming it necessary to seek and maintain any form of intellectual property protection on their inventions. A center's decision reflects its own priorities and concerns as well as those of its collaborators and the nations with which it works. Such decisions are motivated by the need to 1) establish collaborative research with advanced laboratories; 2) ensure product development and distribution; or 3) forestall pre-emptive protection by others of CGIAR-generated technology. Any intellectual property rights acquired by a Center are exercised without compromising in any manner whatsoever the fundamental position of the CGIAR regarding the free access by developing countries to knowledge, technology, materials, and plant genetic resources.

**ANNEX III. SUGGESTED GUIDING PRINCIPLES OF THE INTERNATIONAL AGRICULTURAL RESEARCH CENTRES ON PLANT GENETIC RESOURCES AND RELATED INTELLECTUAL PROPERTY RIGHTS (Revised 21/3/93 by Center Directors Committee on IPR)**

Recognizing that policies related to plant genetic resources, intellectual property rights and biosafety are of considerable and increasing international interest and concern, the Directors General of the International Agricultural Research Centres (CG Centres) associated with the CGIAR System propose that the Centres would operate on the following principles:

- That the plant genetic resources maintained in the genebanks of the CG Centres are held in trust for the world community;
- That the CG Centres adhere to the principle of unrestricted availability of the plant genetic resources they hold in trust, including related information, on condition that the recipients will take no steps which limit their availability to other interested parties;
- That the CG Centres recognize both Plant Breeders' Rights and the concept of Farmers' Rights, in accordance with the agreed interpretation of the International Undertaking on Plant Genetic Resources;
- That the CG Centres consider that the naturally occurring genes are common property. Therefore, the CG Centres will not seek patent protection for such genes;
- That the CG Centres, in respect of novel biotechnological techniques, processes and other inventions developed by them, will consider seeking intellectual property protection only in those exceptional cases where necessary to ensure access to these technologies by developing country partners;
- That the CG Centres do not see the protection of intellectual property as a mechanism for securing financial return for their research efforts. If a Centre seeks intellectual property protection on an invention, any financial returns stemming from commercialization by others will be used for the benefit of developing countries including the conservation and use of genetic resources in developing countries;
- That the CG Centres will continue to follow host country guidelines concerning biosafety where they exist. Where this is not the case internationally recognized guidelines will be followed;
- That the CG Centres will ensure that their policies are consistent with the articles of the Convention on Biological Diversity adopted by the UN Conference on the Environment and Development in Brazil in June 1992.

ANNEX IV. SUMMARY OF COMMENTS RECEIVED ON DISCUSSION DOCUMENT ON INTELLECTUAL PROPERTY, BIOSAFETY AND PLANT GENETIC RESOURCES.

Comments from Non-Governmental Organizations.

In a dialogue on future collaboration between NGOs and IARCs in Latin America and the Caribbean, held at CIAT on 14-16 April 1992 the discussion document was extensively reviewed. The preliminary comments, presented by P.R.Mooney, Rural Advancement Foundation International (RAFI), may be summarized as follows. At this stage the document needs a statement indicating what problem the policy wishes to solve and the background to the current situation facing the CGIAR. There is also a need for a discussion of policy options other than a pro-IPR position and/or commentary why some options are preferable to others. The NGOs consider themselves unable to be associated with any center adopting a pro-IPR position and do not wish to be associated with any process whose purpose it is to make the best of a bad situation in adopting a pro-IPR policy.

It was further felt that if Centers were to adopt intellectual property practices they would be seen to be endorsing a system which is taking away rights from farmers in favor of breeders. In the NGOs view, publication of research results and Material Transfer Agreements are the best way to ensure the intellectual integrity of CGIAR and public sector research.

The NGOs do not believe that CGIAR or its Centers have to adopt practices that would support intellectual property protection over life forms. Their understanding of trusteeship is that there is no discernable line between genebank collections and research products and that, as much as trusteeship applies to the former it must also apply to the latter. In the same way CGIAR has approached FAO to confirm its trusteeship over genebank material, the approval of an intergovernmental body (or specific governments) is needed to determine if a pro-IPR policy is acceptable. If it were acceptable, CGIAR would also have to seek approval from such a body to establish how Centers should handle IPRs.

A meeting was held at Chiang Mai, Thailand, 12-14 November, 1992, entitled "Southeast Asian Conference on Rice, Food Security and Ecology". It was attended by NARS, SE Asian NGOs, IRRI, ICLARM and IBPGR. The meeting reached a good understanding on all issues, including IPR. The importance of a formal recognition of Farmer's Rights was stressed. There was agreement to recommend to negotiating parties in GATT and the Convention on Biological Diversity not to allow patents on life forms. Alternative measures to promote innovation should be encouraged.

Additional comments have been received from the International Centre for Information on Cover Crops, Tegucigalpa, Honduras. It notes that the IARC's are nominating themselves as protectors of the genetic resources that originally belong to the



countries where they are found and have been maintained. The IARC's may well have to play this role, but in order to truly represent the interests of the countries, a long process of consultation with a wide range of actors: governmental, NGO's and local organizations, should be carried out.

FEDE ARROZ, Santa fe de Bogota, Colombia, (a rice farmers association), suggests that there should be two different agreements for public and private institutions, to account for the differences stemming from non-profit and profit making, and from material which is common property, and that which must be protected. There should be agreements on finalized varieties and on key germplasm. It is up to the centers to establish standards which will prevent private institutions from patenting finalized varieties supplied by centers either directly, or through competent government bodies. Centers should inform government authorities of developing countries about germplasm delivered to private companies and they must keep sufficient stock to be able to supply other public and private bodies.

### Comments from Inter-Governmental Organisations.

The Commonwealth Agricultural Bureaux International (CABI), are in agreement with the broad principles and believe them to be appropriate for international institutions within or without the CGIAR.

The Center for Tropical Agricultural Research and Training (CATIE), Turrialba, Costa Rica, supports the policy document. It stresses the need to maintain plant genetic resources for the benefit of mankind.

The International Union for the Protection of New Varieties of Plants (UPOV) notes that the write up on Plant Variety Protection or Plant Breeders' Rights in Index B of the discussion document is somewhat misleading. It gives the impression that the right of the farmer to save seed is the exception rather than the rule, while the reverse is the case. UPOV suggests that this part be rewritten as follows: "A farmer is generally permitted to carry over a harvested crop to re-use for seed; under the 1991 version of the Convention, this is subject to national implementation. A breeder may use a protected variety for breeding purposes; under the 1991 version of the Convention, the permission of the owner of the protected variety may be required to market any modified form that has been changed so little as to constitute 'an essentially derived variety'. The 1991 version of the Convention only binds member States of UPOV which have expressly chosen to be bound by it."

UPOV further notes that the discussion document would seem to reflect, to some extent, what might be described as an antipathy to intellectual property in its various forms, linked, however, with a reluctant acceptance that from time to time it may be necessary to come to terms with the necessity to seek intellectual property protection or rights in relation to the intellectual property of others. It mentions that if a national program or center decided to protect particular plant material, it would be free thereafter to decide whether to seek a financial return, whether to grant a general royalty-free license or, possibly, to grant licenses which seek to influence the nature and quality of seed production and distribution.

The OECD considers that the discussion document appears clear and competent as regards its content. In broad terms the aims of promoting the conservation of germplasm and its beneficial exploitation, including the use of methods of modern biotechnology, are fully consistent with the founding aims of the OECD, and with more specific aims which OECD Member countries have repeatedly endorsed in OECD committees and in consensus decisions on approving various publications over the past ten years. Insofar as the policies of the IARCs are concerned, it is the business of their own governing authorities to define these.

The Secretariat of the FAO Commission on Plant Genetic Resources considers that the discussion document is well prepared and represents far reaching steps towards CGIAR policy on plant genetic resources. It notes that the definition of plant genetic resources used in the document is inconsistent with the one provided in Article 2 of the Undertaking. The

definition used in the Undertaking includes all categories of germplasm, while the discussion document is making a distinction between plant genetic resources and research products. The recognition or seeking of patents over plant genes is the most worrying; the CGIAR should not be involved in any process which might render difficult the downstream utilization for developing countries of plant genetic resources in its trust.

The discussion document states that the plant genetic resources are held in trust by International Centers for the world community. FAO considers that the implications of this need to be clarified. If this germplasm belongs to the world community, then the policy related to it should be defined with the representatives of the world community. This matter has been discussed during the last session of the FAO Commission on Plant Genetic Resources. It has been accepted that the interpretation of this concept should be further worked out between the Secretariat of the FAO Commission on Plant Genetic Resources and the International Centers as part of the proposals to place the plant genetic resources collections of the Centers under the auspices of FAO within the framework of the international network of base collections.

The Secretariat of the FAO Commission on Plant Genetic Resources considers that material transfer agreements as defined in the discussion document seem to be a very interesting new concept that deserves to be developed and its possible implications further analyzed. This is in line with the mechanisms proposed in the FAO draft International Code of Conduct for Plant Germplasm Collecting and Transfer; the concept may also be useful for the implementation of Farmers' Rights.

#### **Comments from Public Organisations.**

National Autonomous Institute for Agricultural Research (INIAP), Quito, Ecuador supports strongly the suggested principles as they establish clear policies which will give the developing countries access to modern research technology and will reinforce international activities on genetic resources at scientific and technical levels.

Institute of Agricultural Research (INIA), Santiago, Chili, deploras that CGIAR institutes are compelled to consider these issues, considering the restrictions resulting from this new trend of appropriating and commercializing everything. This will undoubtedly create major problems as far as free exchange of germplasm is concerned and will limit the possibilities of progress for national and international institutes. However, INIA endorses the ideas and definitions in the discussion document on intellectual property and germplasm collections. They can ensure the maintenance of the smooth exchange of germplasm, equipment and information between national and international institutes.

National Research Center on Cassava and Tropical Horticulture (EMBRAPA), Cruz das Almas, Brazil, agrees with the various issues discussed, but must adhere to Brazilian legal procedures on intellectual property.

The Department of Agriculture and Natural Resources and Development, Port au Prince, Haiti, considers the proposals and comments to be well balanced. The CGIAR Centers should maintain the right of direct transfer to public and private sector institutions. Obviously, in case of commercial use financial returns must be assured by the Centers.

Columbian Institute for Agriculture (ICA), Bogota, Colombia, agrees with the proposals made with the following reservations. Colombia is at present in the process of drawing up legislation on Genetic Resources, Intellectual Property and Biosafety. Moreover, Colombia also upholds the International Convention on Biodiversity adopted by the United Nations Conference on the Environment and Development (UNCED) in Rio de Janeiro in June 1992. These national and international rules have to be respected. With respect to the development of improved plant material International Centers must collaborate more closely with the concerned national authorities in arranging the supply and distribution of improved material, in accordance with the regulations prevailing in the host country.

ICA notes that genetic resources are fundamental to conventional improvement and biotechnological processes. Consequently, developed countries must have access to them through fair negotiations and agreements, not only with International Centers, but also with countries which supply or where genetic resources originated. This will guarantee greater participation by developing countries, as far as access to the latest technologies and their results is concerned, thereby somewhat reducing the technological gap between developed and developing countries.

Some countries within the Latin American region - such as Colombia - are in the process of drawing up relevant legislation. This effort deserves to be supported and promoted by the International Centres in order to favour the biotechnological development of both the IARCs and the host countries.

Countries of origin of genetic resources, or which supply these resources, must have unrestricted access not only to the IARCs' active collections, but also to base collections when necessary. This preferential treatment is a fair reward for the fact that they own a major part of the Earth's biological diversity.

The Bolivian Institute for Agricultural Technology (IBTA), La Paz, Bolivia, fully endorses the content of the discussion document.

Rice Research Institute, Thailand strongly agrees with proposals contained in the document. Plant genetic resources should be freely accessible for breeding purposes, and intellectual property of the Centers should not be applied to developing countries whose majority farmers are subsistence farmers. There have been intensive discussions in Thailand on Plant Breeders' Rights, without any definite outcome. Concern is expressed that implementation of PBR will increase costs of planting materials.

The Malaysian Agricultural Research and Development Institute (MARDI), recognizes that the documents cannot be all encompassing. It considers that the broad principles drawn up for IARCs are adequate, precise and comprehensive.

The Crop Experiment Station, Kyeonggido, Korea agrees with the CGIAR working document. IARCs should not seek intellectual property protection unless it is absolutely necessary for accelerating agricultural technology generation in developing countries.

The National Institute for Agricultural Research (INRA), Rabat, Maroc, notes that in general the broad principles are consistent with the Institute's aspirations, but suggests the need for further decentralization of IARC activities in the field of plant genetic resources.

#### **Comments from Private Organisations.**

Or Melhoramento de Sementas Ltda., a private seed company, Passo Fundo, Brazil, agrees with the content of the document, but is concerned about the definition of "breeding material under development". This is because of lack of confidence in public organizations to maintain good breeding programs. There is a need for an integrated research system to ensure effective cooperation between public institutions and private research companies. If IARC's would make breeding material only available to the public sector then they "work against the private sector and against a competitive development of agriculture of the developing countries". IARCs need to change this definition and should encourage adoption of intellectual property rights.

Plant Genetic Systems, Gent, Belgium, are pleased to see that IARCs will continue to adhere to the principle of unrestricted accessibility to the plant genetic resources they hold in trust, and that IARCs do not see the protection of IPR as a mechanism for securing financial return for their research effort.

J.K. Industries Ltd, Secundarabad, notes that the Centers would provide germplasm to organizations other than government authorities in developing countries under material transfer agreements. Even though certain justification has been given for this, it goes against the recognized basic principles of unrestricted access and free transfer of germplasm to government and non-government bodies. It would be sufficient to supply germplasm freely with a clarification/condition that the genes from such germplasm could be used again by the supplying center itself or by other organizations, be it government or non-government in any of their programmes. The breeding materials under development by the centers also should be supplied freely without any agreement.

#### **Comments from Individuals.**

Donald D. Duvick, Affiliate Professor of Plant Breeding, Iowa State University, welcomes the suggestion that any returns of IPR would be placed in an international fund for

conservation of plant and animal genetic resources. However, as noted, the fund's administration could be a problem -- no such body exists now, and it may be a long time before one is set up. Maybe there are other organizations that could use the money for the same purpose, or maybe the CG itself should set up an administrative body to put the "profits" to the intended use.

He further notes that in developing countries there will be great pressure for indigenous small companies to be able to get finished inbred lines directly from IARCs, rather than to go through their governments. Probably this is an area that will be changing rapidly in the next few years, with great variation among countries. To reserve the opportunity to flex with the changes may be the best goal for IARCs and the CG.

The suggestion that IARCs should put their germplasm collections under FAO auspices (re International Undertaking) seems rather far-reaching. Would this result, eventually, in an FAO claim of de facto ownership of the collections? Or would those in charge of the IARC collections merely subscribe to one of the lowest "informational" levels of "FAO auspices", as has been done by many countries for their national collections?

**ANNEX V. SUMMARY OF COMMENTS RECEIVED ON SUGGESTED GUIDING PRINCIPLES OF THE INTERNATIONAL AGRICULTURAL RESEARCH CENTERS ON PLANT GENETIC RESOURCES AND RELATED INTELLECTUAL PROPERTY RIGHTS.**

The following organizations expressed unreserved support for the guiding principles.

- National Autonomous Institute for Agricultural Research (INIAP), Quito, Ecuador.
- Fede Arroz, Santa fe de Bogota, Colombia.
- National Research Center on Cassava and Tropical Horticulture (EMBRAPA/CNPMPF), Cruz das Almas, Brazil.
- National Institute for Agricultural Research (INRA), Rabat, Maroc.
- Malaysian Agricultural Research and Development Institute (MARDI), Malaysia.
- Crop Experiment Station, Kyenonggido, Korea.
- Agricultural Research Station, ICI India Limited, Bangalore, India.
- Center for Tropical Agricultural Research and Training (CATIE), Turrialba, Costa Rica.
- Chinese Academy of Agricultural Sciences (CAAS), Beijing, People's Republic of China.
- National Institute of Agrobiological Sciences (NIAR), Tsukuba, Japan.
- Crops Research Institute (CRI), Kumasi, Ghana.
- Kenya Agricultural Research Institute (KARI), Nairobi, Kenya.
- National Root Crops Research Institute (NRCRI), Umudike, Nigeria.
- Ministry of Agriculture, Myanmar.
- Institute for Agricultural and Animal Research (IRAZ), Gitega, Burundi.
- Ministry of Agricultural Research, Harare, Zimbabwe.

- Ministry of Higher Education, Computer Service and Scientific Research, Yaounde, Cameroon.
- Ministry of Agriculture, Dar es Salaam, United Republic of Tanzania.
- Huran Rice Research Institute, People's Republic of China.
- National Institute for Agricultural Technology (INTA), Buenos Aires, Argentina.
- Center for Appropriate Technology, Tamil Nadu, India.
- Center for Application of Science and Technology for Rural Development, Pune, India.
- Nimbar Agricultural Research Institute, Phaltan Maharashtra, India.
- Ramakrishna Mission Lokasiksha Parishad, West Bengal, India.
- BAIF Development Research Foundation, Pune, India.
- Bolivian Institute for Agricultural Technology (IBTA), La Paz, Bolivia.
- National Institute for Forestry and Agricultural Research (INIFAP), Mexico.
- Faculty of Agricultural Sciences, University of El Salvador, San Salvador, El Salvador.
- National Fund for Agricultural Research (FONAIAP), Caracas, Venezuela.
- University of Costa Rica, Costa Rica.

In addition to the above, comments were received from the following organizations and individuals.

The Institute of Agricultural Research (INIA), Santiago, Chile, suggests that the principle which states that the CGIAR reconfirms that the plant genetic resources maintained in the genebanks of the IARCs are held in trust for the world community should be completed with the words "and made available to the world community." This to ensure that there is no ambiguity with respect to the availability.

The second principle states that the IARCs adhere to the principle of unrestricted accessibility to the plant genetic resources they hold in trust. INIA totally supports this principle, however, past experience shows that to adhere to the principle of unrestricted



access is not sufficient. That is why it is suggested changing the sentence in the following way: that the IARCs adhere to the principles of unrestricted accessibility and reciprocal exchange of the plant genetic resources they hold in trust.

The fourth principle states that the IARCs consider that naturally occurring genes are common property. Therefore, the IARCs will not seek intellectual property protection of such genes. INIA does not subscribe to this principle. Naturally occurring genes do not fulfill two of the three prerequisites necessary to validate the intellectual property right granted by an invention patent: novelty and innovation. Naturally occurring genes can only be discovered, that is to say they can only be made evident, and this process does not create anything new. They can only comply with the prerequisite of utility. Moreover, we think that this principle is too important to be tackled only as a simple recommendation. Therefore a more precise phrasing is suggested: the IARCs consider that naturally occurring genes are common property, therefore, they must not be patented.

The Colombian Institute for Agriculture (ICA), Bogota, Colombia, notes with respect to the second principle that the availability of genetic resources must be subject to the prevailing national provisions on the subject. Besides the Breeders' and Farmers' Rights, it is necessary to consider the rights of the country where the genetic resources originated or of the country which provides these resources, in accordance with the International Convention on Biodiversity, Article 15 and amendments which define the accessibility of genetic resources.

ICA also considers that neither naturally occurring genes nor microorganisms should be patented. However, as genetic resources are the fundamental base for developing new techniques or biotechnological processes, they should be protected in some way. It is appreciated that the IARCs follow standards and measures on biosafety as established in the host countries. Where there are no such measures, the IARCs should promote and support the establishment of national standards, in cooperation with relevant organizations in the host country.

The National University of San Marcos Institute of Veterinary Research for Tropical and High Altitude Zones (IVITA), Pucallpa, Peru, considers that the principles are complete and extensive. However, it suggests that the third principle should be extended to include researchers in general and not be limited to plant breeders only. It should be made clear whether a scientist who works in a research center is entitled to intellectual property right. It is necessary to acknowledge the work of individuals; in Peru, for example, researchers have created high yielding potato varieties.

The Agricultural Research Institute of Panama (IDIAP), Panama, Panama, endorses the guiding principles but would like to recognize institutional rights in addition to plant breeders' and farmers' rights.

Zamorano Pan-American Agricultural School, Tegucigalpa, Honduras, is in general agreement with the principles and hopes that this will be an additional step towards a widespread respect for naturally occurring genes as common property.

The Department of Plant Protection of the Service for Agriculture and Livestock, Santiago, Chile, agrees with the principles, but emphasizes the need to adequately consider the health of genetic material being exchanged and the respect of national quarantine regulations.

The Rice Research Institute, Bangkok, Thailand, notes that the export of rice seeds from Thailand is prohibited by Government Decree. However, exchange of small amounts for research work could possibly be arranged.

The Ministry of Agriculture and Food Industries, Socialist Republic of Korea, proposes that seeking intellectual property protection in exceptional cases should not be considered. All base collections as well as their duplicates that are held in trust in other countries should also be used in accordance with these principles.

#### **Comments from Individuals.**

C. Mastenbroek, Plant Breeder, Dronten, the Netherlands. notes that since plant breeding is undertaken by private persons and enterprises in an ever increasing number without any sponsoring by governments, institutions or foundations, legal protection of novel varieties (= cultivars) is equitable and economically necessary. It gives breeders control over the marketing of the outcome of their intellectual efforts and heavy investments. It is appreciated that CGIAR and its IARC's have come to recognize that fact.

He has no objections against including "inbred lines and breeder's lines" into the definition of plant genetic resources in general, but this should not mean - as was suggested by the relevant text of the initial FAO International Undertaking on Plant Genetic Resources that breeders should make their inbred lines (and other specific lines) available for storage in gene banks and thus for distribution to their competing colleagues. If breeders would be willing to make whatever material, produced by themselves, available for storage and distribution, it would be their decision on a voluntary basis.

At first sight it does not seem obvious to seek intellectual property protection to ensure accessibility of methods and techniques for developing country partners. Novel techniques, including biotechnological ones, will be free to be used by anyone, including developing country partners, in the absence of any exclusive legal protection. On second sight, however, the reasoning might be that with the help of legal proprietary rights the techniques will not be free to be used by interested parties in the developed world, whereas developing country partners may be allowed use free of charge (on the basis of a transfer agreement prohibiting divulgence to third parties?)

It should be noted that policing for infringements of titles of PBR and of Patents in general is difficult and thus costly. This would seem to be particularly true for technology patents.

The draft EC Plant Breeders' Rights Regulation rules that plant varieties are to be protected by PBR only. Personally I support that ruling to come into effect, because the extent of patent protection may vary from variety to variety, depending on the range of valid claims. This may cause an increased number of infringements by growers who are not used to give their attention to such matters. On the other hand, the effectuation of PBR is exactly prescribed by law, leaving no room for variations between varieties.

It should be borne in mind that a crucial precondition for granting exclusive patent rights is that the invention contributes something of economic value to the state of the art. This is understood to mean in plain words that a patented technology should be put into practice by the holder of the patent and/or third parties on a licence basis. So, a patented technique cannot be kept in a safe in order to prevent any use at all. If after publication of the grant of a technique patent colleagues observe that the technique in question is not put into practice by the patentholder, they may request the authorities to grant licences-by-law (then probably non-exclusive).

Obtaining plant variety protection presupposes meeting the demands of distinctness, homogeneity, stability and novelty. Since the IARC's like to distribute material for further local selection in the cooperating developing countries it would seem unlikely that this kind of "unfinished" material will meet those registration demands. If the IARC's themselves do not wish to finalize selections for application of protection, then appointed agents in countries, where protection will be applied for, will have to bring about the finishing touch. In case protected IARC-varieties become popular in one or more countries and produce a substantial royalty income, it would not surprise anyone if the IARC holder(s) of the title(s) would be tempted to use that money for helping finance research efforts, in particular when sponsors were decreasing their support.

ANNEX VI. DRAFT MODEL AGREEMENT TO PLACE THE CENTER COLLECTIONS OF PLANT GENETIC RESOURCES UNDER THE AUSPICES OF THE FAO INTERNATIONAL AGRICULTURAL RESEARCH CENTERS PROPOSAL

**Modified basic agreement for International Agricultural Research Centers**

PREAMBLE

The [Name of Center] (hereinafter referred to as the "Center"), supported by the Consultative Group on International Agricultural Research (hereinafter referred to as "CGIAR"), and the Food and Agriculture Organization of the United Nations (hereinafter referred to as FAO);

Considering the importance to humanity of protecting and conserving plant germplasm for future generations;

Considering the International Undertaking on Plant Genetic Resources adopted by the FAO Conference at its Twenty-second Session in 1983 (Resolution 8/83) and in particular Article 7 thereof; and the Annexes of the Undertaking adopted by the FAO Conference in 1989 and 1991;

Considering the Memorandum of Understanding Between the Food and Agriculture Organization of the United Nations and the International Board for Plant Genetic Resources (IBPGR) dated September 21, 1991, on the respective roles of the two organizations in establishing, maintaining and managing germplasm collections and setting standards for these collections;

Considering the strong support FAO, as one of the co-sponsors, has provided and continues to provide to the CGIAR;

Considering the importance of the plant germplasm collections held by the International Agricultural Research Centers (IARCs), supported by the CGIAR, as part of the global germplasm conservation strategy;

Considering that the CGIAR adheres to a policy on plant genetic resources which is based on trusteeship and the unrestricted availability of germplasm to bona fide users, that this policy has been followed from the outset and that it was officially recognized and published as the "CGIAR Policy on Plant Genetic Resources" (IBPGR, 1989).

Considering that the germplasm accessions have been either donated by individual countries or institutions to the IARCs, or collected in agreement with the countries concerned on the understanding that these accessions will remain freely available and that they will be

conserved and used in research on behalf of the international community, in particular the developing countries;

Considering that the Center will not seek intellectual property protection over any of the designated germplasm;

Considering that, as trustees, the CGIAR Centers have the obligation to manage the collections of plant genetic material on behalf of the international community, in particular the developing countries, conserve the designated germplasm in compliance with internationally accepted standards, duplicate it for safety, and make it freely available. The latter would include, where possible and necessary, mechanisms to avoid another party subsequently making the collections unavailable for research and breeding;

Considering that the CGIAR has encouraged the IARCs supported by it to place the designated germplasm under the auspices of FAO;

Considering that the Center has expressed the wish that its designated germplasm be recognized as part of the "International Network of Ex Situ Base Collections" under the auspices of FAO;

Have agreed as follows:

Article 1 BASIC UNDERTAKING

The Center undertakes to place under the auspices of FAO within the "International Network of Ex Situ Base Collections" the collections of plant genetic resources listed in the Appendix hereto (hereinafter referred to as the "designated germplasm"), and catalogued and published by the Center in print or machine-readable form under the terms and conditions set forth in this Agreement. The list of designated germplasm will be updated every two years as new accessions are added to the collection.

Article 2 TRUSTEESHIP

Subject to any applicable bilateral or multilateral international agreement, the Center shall hold the designated germplasm as trustee for the benefit of the international community, in particular developing countries, in accordance with the International Undertaking on Plant Genetic Resources.

Article 3 PREMISES

(a) The premises in which the designated germplasm is conserved shall remain the charge of the Center.

(b) FAO shall have a right of access to the premises at any time and the right to inspect all activities performed therein directly related to the conservation and exchange of the designated germplasm.

Article 4 MANAGEMENT AND ADMINISTRATION

(a) The Center shall continue to be responsible for the management and administration of the designated germplasm in compliance with internationally accepted standards.

(b) FAO may recommend action, if it considers such action to be desirable, in order to ensure the proper conservation of the designated germplasm.

(c) If the orderly maintenance of the germplasm collection of the Center is impeded or threatened by whatever event, including force majeure, FAO shall assist in the evacuation and/or transfer of the collections, to the extent possible. The cost of such an operation will be covered by the Center concerned.

Article 5 POLICIES

The Center will consult with FAO, other members of the CGIAR, and its partner organizations in developing countries prior to adopting any policy changes related to the conservation of, or accessibility to, the designated germplasm subject, however, to the provisions of Article 8 hereinafter.

Article 6 STAFF

(a) Staff responsible to manage and administer the designated germplasm shall be employed and remunerated by the Center.

(b) As and when deemed appropriate, FAO shall furnish technical backstopping on request by the Center.

Article 7 FINANCES

The Center shall remain entirely responsible for financing the maintenance of the designated germplasm.

Article 8 AVAILABILITY OF DESIGNATED GERMPLOSM AND INFORMATION

The Center undertakes to make the designated germplasm and its related information available, directly to users or through FAO, for the purpose of scientific research, plant breeding or genetic resource conservation, without restriction on mutually agreed terms.

Article 9

DURATION

This Agreement is concluded for a period of ten years and shall be automatically renewed for a further period of ten years unless notice of non-renewal is given in writing by either party not less than one hundred and eighty (180) days before the end of any ten-year period.

Article 10

TERMINATION

(a) Either FAO or the Center may terminate this Agreement at any time by giving notice to the other, one year in advance of the termination date.

(b) FAO and the Center shall, in such case, take all necessary measures to ensure the continued conservation and access to the designated germplasm.

Article 11

SETTLEMENT OF DISPUTES

(a) Any dispute concerning the implementation of this Agreement shall be settled by mutual consent.

(b) Failing mutual consent, such dispute may be submitted, at the request of either FAO or the Center, to an arbitral tribunal composed of three members. Each party shall appoint one arbitrator. The two arbitrators thus appointed shall designate by mutual consent the third arbitrator, who will act as the presiding arbitrator of the tribunal.

(c) If within two months after the receipt of a party's notification of the appointment of an arbitrator the other party has not notified the first party of the arbitrator he has appointed, the first party may request the Secretary-General of the United Nations to appoint the second arbitrator.

(d) If within two months after the appointment of the second arbitrator the two arbitrators have not agreed on the choice of the presiding arbitrator, such presiding arbitrator shall be designated by the Secretary-General of the United Nations at the request of either party.

(e) Unless the parties to the dispute decide otherwise, the tribunal shall determine its own procedure.

(f) A majority vote of the arbitrators shall be sufficient to reach a decision which shall be final and binding for the parties to the dispute.

Article 12

AMENDMENT

(a) FAO or the Center may propose that the Agreement be amended by giving notice thereof.

(b) If there is mutual agreement in respect of the amendment, the amendment shall enter into force on whatever date is set, and be reported to the next session of the Commission on Plant Genetic Resources.

Article 13

DEPOSITARY

The Director-General of FAO shall be the Depositary of this Agreement. The Depositary shall:

- (a) send certified copies of this Agreement to the Member Nations of FAO and to any other Government which so requests;
- (b) arrange for the registration of this Agreement, upon its entry into force, with the Secretariat of the United Nations in accordance with Article 102 of the Charter of the United Nations;
- (c) inform FAO Members Nations of:
  - (i) the signature of this Agreement in accordance with Article 14; and
  - (ii) the adoption of amendments to this Agreement in accordance with Article 12.

Article 14

COMING INTO FORCE

This Agreement shall come into force upon signature by the authorized representative of FAO and the Center.

United Nations Food and Agriculture  
Organization

(Name of Center)

by:

(signature)

By

(signature)

Date:

Date:

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APPENDIX

DESIGNATED GERMPLASM

- a) List of germplasm accessions covered by this agreement
- b) List of locations where material is held