

THE EVOLUTION OF TAC'S POSITION ON INTELLECTUAL PROPERTY RIGHTS AND THE IARC'S: SOME NOTES FROM THE RECORD

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INTRODUCTION

The majority of the 13 International Agricultural Research Centres (IARCs) supported by the Consultative Group on International Agricultural Research (CGIAR) are involved in plant breeding research that ultimately leads to the development of improved varieties and hybrids. The IARCs are involved in both the provision of segregating material and improved cultivars to National Agricultural Research Systems (NARS). Increasingly they are emphasising the former, and embracing modern biotechnology in the process. This is leading to questions about the appropriate intellectual property policies the IARCs should follow to ensure that (i) they have access to advances in science from developed countries, while at the same time enabling NARS in developing countries to benefit from the incorporation of such advances into IARC programs, and (ii) the innovations arising from IARC research are not unfairly expropriated by institutions in developed countries to the exclusion of those in developing countries.

This paper attempts to catalogue the deliberations of the Technical Advisory Committee (TAC) of the Consultative Group on International Agricultural Research (CGIAR) during the 1980's on the question of the management of intellectual property rights. The aim is to inform the participants at the Workshop of the contemporary thinking of TAC on the issue as a prelude to the presentation of other papers which describe the policies of other institutions, and discussion of their implications for the IARCs.

THE EARLY 1980'S

In 1981 a group of consultants undertook a study on plant breeders' rights (PBR) and the implications for the IARCs, relations with NARS, and for plant genetic resources generally. This led to TAC's paper on PBR and the IARCs in August, 1983. The International Board for Plant Genetic Resources (IBPGR) had earlier commissioned a study that suggested PBR would not increase the risks of genetic erosion, but there was uncertainty about its effects on the movement of genetic material.

1. The author has relied on documents provided by the TAC Secretariat. However, the interpretations of these are his own and should not be regarded as having TAC endorsement.

TAC's major concerns at that Time were that,

- (i) if the IARC a did not register the if genetic material it could be appropriated by commercial firms under PBR as the IARCs currently had an open door policy, and donors may object to the use of their public funds if this appropriation occurred;
- (ii) if the IARCs registered their materials it could adversely affect their relationship with publicly-funded NARS in developing countries; and that
- (iii) an alternative was for the IARCs to move further upstream away from the developmen t of finished cultivars and thus avoid PBR problems, while retaining an open access and exchange policy.

TAC 26 in June 1981 considered the consultants' report in draft form. The report clarified that an IARC can distribute its materials to the private sector but could not at that time ensure its own PBR beyond its host country, as PBR only applied at the national level. Doubts were expressed about whether population breeding materials could ever acquire PBR due to their heterogeneity. The conditions of exchange of material received from IARCs between NARS that accepted PBR was also of concern.

The paper commissioned by TAC from Heuver, Hardon, and Fikkert on PBR and the IARCs (AGD/TAC; IAR/81 /25; Rev. 2, August 1982) contained the following conclusions:

- PBR mainly serves to stimulate bng run investments in private plant breeding and hence is of doubtful, relevance to developing countries;
- PBR is a national right, not a supranational title
- PBR, as described in the convention of the European Agency for Plant breeders' Rights (UPOV), applies to a combination of characteristics (distinct, uniform, stable, novel) not a single one, and to finished varieties;
- UPOV/PBR covers production for commercial marketing of the genetic material; it allows sale of seed by farmers and by other breeders, except for continuous use, as in hybrids;
- the IARCs in general should not become involved in producing finished varieties, although they recognize: (i) weak NARS may require the IARCs to do this, and (ii) as IARCs move upstream there will be less opportunity for them to benefit from PBR;
- there may be some danger if IARCs do not take out PBR that private companies may claim property rights to their varieties. To counter this the suggestion was for NARS to be made "successors in title" to varieties developed by the IARCS

(An issue worth consideration at this Workshop is the value and desirability of extending this succession in title to the joint registration of PBR by IARCs and NARS in countries where PBR is in force. The revenue so earned could be shared in an agreed and equitable manner between the institutions);

- adoption of PBR by developing countries may discourage hybrid development in favour of varieties, especially by the private sector, and hence benefit small farmers who prefer varieties to hybrids;
- the IARC's should not become involved in PBR as it requires resources and time and can distract them from their plant breeding tasks;
- as IARCs are publicly funded, there is a danger if they generated royalties from PBR that donors would reduce their core contributions accordingly;
- if NARS are *successors in title* to IARC's varieties, then under UPOV/PBR, in their own country they could have sole rights. Hence the real issue for IARCs is whether they want the revenue, as even without PBR protection finished varieties are reasonably well protected against pirating. Registration and protection without claiming royalties only to prevent others from getting exclusive rights is "cumbersome" , according to Heuver, Hardon, and Fikkert.

It seems to me that if the IARC's adopt a firm policy of not releasing finished varieties, the PBR issue for them is of low concern. The key question is the status of adoption of PBR in both developed and developing countries, which of necessity must provide an essential backdrop to discussion at the Workshop. Does the PBR issue disappear for the IARCs if the majority of developing countries have adopted PBR and the trend is for the remainder to follow?

The TAC Workshop on PBR and the IARCs in January 1982 considered the earlier draft of the Heuver, Hardon, and Fikkert paper. Let me cite from the Workshop's conclusions and recommendations:

General Considerations on Plant Breeding, Seed Production and PBR

- Even when the breeding of varieties, as well as seed production and distribution are in the hands of the government, there is need for a separate mechanism for testing and for enforcement of quality control;
- The introduction of PBR is a national decision, and a PBR scheme should be adjusted to national needs;
- In developing countries the role of the public sector is usually more important, in breeding and seed production

activities, and the relative importance of the distinctness, uniformity, and stability (DUS), standards may vary;

- The decision by a country to adopt a certain type of PBR legislation does not only depend on technical considerations. It is a political decision regarding the respective roles of the public and private sectors;
- The IARCs make their material preferentially available to the public sector in developing countries (government breeding programs). They also provide material to the private sector in developing and developed countries on request;
- The only level at which PBR could be awarded is at the level of the individual nation; an IARC could therefore, if it wishes, seek to obtain PBR at country level. This, however, would apply only to finished varieties, whereas increasingly the IARCs distribute segregating material and semi-finished varieties for use in the national programs;
- The IARCs have not felt it necessary nor desirable to apply for PBR on the finished materials which they produce;
- The major risk of appropriation of the IARC's material by third parties for commercial profit is essentially limited to the semi-finished varieties which the Centers distribute. The existing legislation on PBR in UPOV member countries does not allow the granting of a right with respect to segregating material nor to a finished variety which was not bred by the applicant, unless the applicant is the successor in title of the breeder. The IARCs should publicise more widely the information on the semi-finished and finished varieties which enter their international distribution networks. This will help prevent misappropriation of the IARC material;
- A party which had cooperated with an IARC and developed the finished variety in a particular country, on the basis of semi-finished material originating from an IARC, may wish to seek some kind of exclusive rights as regards the use of the variety for seed production, and the government of this country may wish to grant such rights. The participants to the Workshop recommended that, in this case, the granting of any rights on this variety should be confined to the territory of the country of the party referred to: in the view of the participants, the latter party should not have the right to apply for protection of the variety in another country;
- Recommend that the IARCs jointly develop, with the help of TAC, a code of ethics regarding the use of their material;
- since PBR do not exist in the developing world at this stage, there is no evidence that would suggest that the movement of germplasm among developing countries would be affected by the introduction of PBR in these countries.

However, considerable fear was expressed in this regard, especially for the free movement of semi-finished varieties.

Plant Breeders' Rights and Developing Countries

- The consensus of the Workshop was that the main priority in many developing countries in this field was the strengthening of their plant breeding and seed production capacities, including the related aspects of seed legislation. Several countries were taking a very cautious attitude with respect to PBR as long as their major infrastructure requirements and other regulatory controls were not established.
- There was no evidence that PBR would hamper the work of IBPGR and the IARCs in plant genetic resource conservation, nor accelerate genetic erosion;

The TAC in August 1982 then issued a statement on PBR and the IARCs, and I quote the important elements of that here:

TAC Statement on Plant Breeders' Rights and the IARCs

- TAC generally agrees with the recommendations and actions proposed in these reports;
- The IARCs make their material available preferentially to the public sector in developing countries (government breeding programs). They also provide material to the private sector in developing and developed countries on request. TAC approves of this open-door policy. TAC also fully supports the policy of the IARCs by which they do not wish to seek exclusive rights on the improved genetic material which they produce through their breeding programs;
- Risk of misappropriation of this material by private interests is essentially confined to semi-finished varieties. This risk and related problems associated with PBR can be avoided by the following actions:
 - The IARCs should establish full descriptions of these semi-finished varieties which they distribute and supplement this by the provision of small samples of seeds to some of these PBR offices as references for control;
 - National offices which grant plant varieties' certificates and breeders's rights should, in consultation with IARCs, elaborate their regulations and procedures so as to prevent such misappropriation;
 - The IARCs should review the contracts of employment of their own personnel to prevent their breeders from in seeking exclusive rights on the improved material;

- There is no evidence available as to whether or not PBR legislation would affect the freedom of movement of genetic material among developing countries, or between these countries and the IARCs. The committee notes that the reports of the consultants and of the Workshop concur in considering that the establishment of an appropriate infrastructure for seed production, seed legislation and variety control are essential prerequisites for the successful introduction of PBR. TAC, therefore, does not consider it appropriate to make recommendations as to the introduction of PBR in developing countries. These matters should be left to the governments concerned;
- It is essential that the IARCs include in their cooperative agreements with national programs appropriate provisions and conditions under which a party can seek and obtain exclusive rights on varieties originating from an IARC;
- TAC also recommends that the IARCs should establish criteria and procedures for their cooperation with private companies and formulate, after consultation with the national authorities concerned, similar conditions and agreements regarding private companies which seek access to the material of the IARCs;
- The risk of genetic erosion can be prevented by appropriate measures for the establishment, conservation, evaluation and use of genetic resource collections both at national and international level. The extension of PBR legislation may contribute indirectly to genetic erosion. Although no evidence is available so far to substantiate this concern, TAC suggests that this risk should be monitored.

The TAC 1982 statement was reconsidered by the TAC/Centre Directors Working Group on Plant Genetic Resources which was created at TAC 46 in 1988, but it was decided to postpone a decision on the issue pending discussions on UPOV in Europe, and related discussions.

THE LATE 1980'S

The issue of the management of plant genetic resources within the CGIAR system (ie. the responsibilities of IBPGR vis-a-vis FAO's Commission on Plant Genetic Resources) occupied a lot of TAC's time in 1988 and 1989. It culminated in a policy paper and a paper on operational and technical, issues.

An Inter-Centre Working Group on Plant Genetic Resources was created in 1988 to facilitate linkages and define responsibilities of the IBPGR and the IARCs in germplasm collection, storage and maintenance, research, duplicate collections and related topics.

It seems the TAC/Centre Directors working Group on Plant

Genetic Resources retains a watching brief on intellectual property rights - preferring to await the revision of legislation in the USA and the EC before coming to a firm policy stance.

The best I can do as a newcomer to TAC is to highlight points from various relevant recent TAC documents. The first is the paper: *The Role of Biotechnology in the CGIAR* (AGR/TAC: IAR/00/10 Rev. 1) August, 1988, TAC Secretariat, Rome. The aim in this paper was to guide the IARCs in responsible use of biotechnology. The major issues which emerged were as follows:

- the IARCs should establish their own linkages to advanced institutions to identify innovations of relevance to their mandates;
- a caution was made about possible adverse environmental consequences of genetic transformations using biotechnology;
- there was a need for codes of practice in biotechnology (eg. biosafety committees);
- the IARCs should avoid adverse equity consequences due to differential access of the results of biotechnology research to resource-poor farmers;
- the CGIAR should not create its own central biotechnology laboratory. Each IARC should establish its own links with advanced institutions on a collaborative or contractual basis. The IARCs should only have facilities for routine application of biotechnological innovations. TAC cautioned centres about possible adverse effects on developing countries of links to the private sector, which has many innovations emerging in biotechnology. But it was silent on a precise policy. It promised to review the policy adopted at TAC 27 in March 1982 in the Philippines, but has not done so as yet, as far as I can ascertain. TAC did not acknowledge that linkages with advanced institutions imply the need for explicit intellectual property protection. It would seem now is an appropriate time for TAC to reconsider intellectual property policy and management in the IARCs as events have overtaken them. This could be undertaken in the context of the priorities and strategies exercise TAC is currently engaged in;
- TAC cautioned Centres not to go headlong into biotechnology and discard conventional genetic improvement approaches.

Another TAC document was prepared in 1988 entitled: *Support by the CGIAR for Work on Plant Genetic Resources: Operational and Technical Issues and Their Policy Implications* (AGR/TAC: IAR/88/4 Sup.1) TAC Working Document, September 1988.

The salient points in the paper were:

- a focus on ways for the IARCs, including IBPGR, to improve cooperation on plant genetic resources, with respect to information, NARS relations data bases, research, plant health; quarantine, ownership of gene banks, duplicate collections, financial support of Genetic Resource Units (GRU), standardisation of GRU facilities, roles of IBPGR, FAO, IARCs;
- the TAC/Centre Directors Joint Working Group on Plant Genetic Resources was to oversee the strengthening of intercentre collaboration and relations with FAO;
- the only mention of intellectual property rights in the paper was a need for the IARCs to monitor legislative changes that might affect their freedom of action in interchange of germplasm and its exploitation in international breeding programs.

In October 1988 the CGIAR at International Centers Week adopted a policy statement on plant genetic resources. It emphasized:

- (i) the open-door policy with respect to the safe maintenance of germplasm and its availability to crop improvement programs;
- (ii) that joint IARC explorations and collection activities with NARS should be mounted whenever possible and materials and information should be shared with the collaborating country;
- (iii) that IARCs also have responsibilities for ensuring the establishment and maintenance of collections relevant to the improvement of their mandate crops;
- (iv) that IBPGR was to take a leading role in characterisation of germplasm and the IARCs were to cooperate in multiplication and evaluation, along with NARS;
- (v) that the CGIAR supports the development of international standards for genebank storage and computerised data bases and dissemination of information on, and supply of, germplasm from active collections;
- (vi) that the CGIAR encourages all countries to support unrestricted interchange of germplasm throughout the world.

The CGIAR policy was that collections assembled as a result of international collaboration should not become the property of any single nation but be held in trust for the use of present and future generations of research workers in all countries throughout the world.

There was no mention of PBR or patents in the 1988 policy statement.

TAC currently monitors the intellectual property rights issue through its membership of the donor group BIOTASK, led by Hans Wessels. The Dutch have recently issued a paper on *The Impact of Intellectual Property Protection in Biotechnology and Plant Breeding on Developing Countries*, dated September 1990. TAC has not explicitly considered this paper.

Its major findings are:

- PBR is now a fact of life in developed countries and in some developing countries. In Europe and Australia comparative field tests are needed prior to the granting of PBR. The US requires only descriptions;
- The US has patent protection over living organisms; Europe is rapidly moving towards this, with a draft by the EC currently under consideration; in Japan processes for developing plant varieties can be patented but plant varieties *per se* cannot;
- Industrialists the World Intellectual Property Organisation and national patent offices want patent protection for biotechnological inventions without restrictions. Agricultural organisations, UPOV and plant breeders generally oppose patent protection of plant varieties. These concerns amount to worries about the "privatisation of life";
- The current review of the UPOV convention aims however at:
 - (i) placing more restrictions on commercial propagation by purchasers of material protected by PBR to correct abuses;
 - (ii) increasing seed prices to farmers of commercial crops growing from farmers' produced seeds;
 - (iii) preventing breeders developing cosmetic varieties closely related to protected varieties;
 - (iv) extending the duration of PBR to 20-25 years. The UPOV convention will consider these in March 1991. They seem to be moving UPOV/PBR closer to patenting;
- There is a lot of sensitivity between developed and developing countries over the latter's failure to abide by intellectual property protection at the expense of the former. International trade and intellectual property protection are no longer a dichotomy but a nexus and are on the agenda of the Uruguay Round of negotiations under GATT.

The paper attempts to assess the implications for developing countries of introduction of (i) PBR (ii) PBR and Patents for biotechnology;

The paper concludes that:

- intellectual property protection is not appropriate in countries with little or no breeding and biotechnology research (This seems to ignore the role of intellectual property protection in promoting private investment in plant breeding and biotechnology);
- PBR can help a country with a reasonable breeding program, as it encourages public/private competition. It requires a good infrastructure - seed production and quality control, testing, distribution channels, legal and technical infrastructure;
- patent protection is appropriate only if there is a high level of R&D in biotechnology. *Granting of plant patents runs the risk that access to a common pool of plant genetic resources, essential to plant breeding, might become restricted. Hence patent protection of plant material may hinder agricultural development;*
- *PBR on plant varieties or patent protection for biotechnological inventions may provide public research institutes with additional funding and may protect their work against free commercialisation.* When public research institutions apply for intellectual property protection they need to be aware the private sector may oppose it because of unfair competition;
- adoption of intellectual property protection may speed up marginalisation of low-input farmers;
- exports from developing countries of PBR-protected varieties to originating countries can be adversely affected. However, if developing countries are prepared to pay a higher seed cost there may be no problem;
- *the CGIAR system has no need for legal protection through PBR and patent laws as practiced in developed countries;*
- most material released by the IARCs does not satisfy the UPOV DUS requirements;
- IARCs in future may need to seek legal protection of their intellectual property if they wish to access the intellectual property of the private sector who require protection in order to cooperate with the IARCs.

TAC did not consider the Dutch report in its recent deliberations but no doubt will, especially against, the background of the outcome of this workshop.

CONCLUSION

It is fair to say TAC has adopted a somewhat passive role on the issue of the management and protection of intellectual property rights arising from the research of the IARCs within the CGIAR. This is understandable in the context of the dynamic manner in which technological, legal, and institutional changes have been occurring in international agricultural R&D in the 1980s.

However, it would seem appropriate and timely for TAC to reexamine the subject with a view to formulating a policy for the system.