Could it have been constructed another way?

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Introduction

The multilateral system of access and benefit sharing (multilateral system) did not spring whole and complete from the minds of the negotiators but, rather, was built upon a complex history of attempts to resolve a number of long-standing technical, institutional and political tensions between governments in regard to plant genetic resources for food and agriculture (PGRFA). The negotiations were the product of this history. The negotiations of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) drew together two conceptual frameworks for how access to plant genetic resources might be managed and how the benefits might be shared.¹ The first framework – the International Undertaking on Plant Genetic Resources for Food and Agriculture (International Undertaking) – had been developed in the agricultural sector (CPGR, 1989).² The second – the Convention on Biological Diversity (CBD) – was developed in the environmental sector.³ The focus of these two instruments was different, as were their provisions. The negotiations of the ITPGRFA, therefore, inherited a mixed set of conceptual tools that could be drawn upon in making provisions to regulate access and benefit sharing. The most significant of these came from the International Undertaking, which had a complex negotiating history behind it. The political pressure to conform the ITPGRFA as closely as possible to the CBD, however, was very strong.

I shall first consider the focuses that had developed in the negotiating history of the International Undertaking, and how these were addressed in its provisions. I shall then look at the concepts coming from the CBD, and how these related to the concepts that were embodied in the International Undertaking. I shall then isolate a number of key negotiating focuses at the time the negotiations of the ITPGRFA commenced and discuss how these defined and constrained the options that were open to the negotiators. In the course of the negotiations, as the structure of the ITPGRFA
was developed, choices had to be made among these options, and new concepts were
developed and embodied in the multilateral system as it was finally adopted. It would
be a mistake to assume that the current structure of the multilateral system was the
only possible one or even the optimal one. With the benefit of hindsight, I shall
consider whether the multilateral system could have been constructed in a more
effective and less complicated manner.

International Undertaking

The International Undertaking arose from tensions between developed and devel-
oping countries over PGRFA and specifically around the establishment of the *ex situ*
collections of the Consultative Group on International Agricultural Research
(CGIAR). This focus on *ex situ* collections remains a major focus of the ITPGRFA
and is reflected in the provisions of Article 15. Moreover, the CBD specifically
recognized – in Resolution 3 of the Nairobi Final Act – that ‘solutions to [the] out-
standing matter’ of ‘access to *ex situ* collections not acquired in accordance with this
Convention’ were to be addressed within the Global System for the Conservation
and Sustainable Use of Plant Genetic Resources for Food and Sustainable Agri-
culture, which was based on the International Undertaking.

The establishment in 1974 of the International Board for Plant Genetic Resources
(IBPGR) – as a project within the Food and Agriculture Organization (FAO) but, in
practical terms, independent, to promote and assist in the worldwide effort to collect
and preserve the germplasm needed for future research and production – had been
very effective, but it had, at the same time, created a perception in developing
countries that germplasm collected in their territories was passing outside their control.
This sense was aggravated by the extension of intellectual property rights over plant
varieties in developed countries – in particular, through the establishment in 1961 of
the International Union for the Protection of New Varieties of Plants (UPOV). Such
developments, developing countries felt, could block their access to the genetic
resources in international collections that had been collected in their territories as well
as to the products derived from them.

The matter came to a head in the twentieth conference of the Food and Agriculture
Organization of the United Nations in 1979. The concepts in play – all of which
remain central focuses of the ITPGRFA – were the ownership of plant genetic
resources, particularly those that had been collected by international institutions from
developing countries; the nature and security of *ex situ* collections; guarantees that
free exchange would continue; and the benefits that developing countries should
receive from these materials. The twenty-first conference in 1981 was also dominated
by continued and very tense discussions between the opposed developing and
developed countries. Its Resolution 6/81 stated:

> Considering that there is no international agreement for ensuring the conserva-
tion, maintenance and free exchange of the genetic resources of agricultural
interest contained in existing germplasm banks,
Convinced of the need for such an agreement …

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

The twenty-second conference in 1983 adopted the International Undertaking, in accordance with ‘the basic principles … according to which plant genetic resources should be considered as a common heritage of mankind and be available without restrictions for plant breeding, scientific and development purposes to all countries and institutions concerned’. It was the first comprehensive international agreement on any aspect of genetic resources for food and agriculture. The conference also established the Commission on Plant Genetic Resources (CPGR), which in 1995 became the Commission on Genetic Resources for Food and Agriculture (CGRFA). It met for the first time in 1985.

The International Undertaking was a non-binding instrument, to which states could adhere. However, eight developed countries expressed reservations on its adoption, and the CPGR then negotiated a series of agreed interpretations to overcome these objections and seek universality. The concepts in the International Undertaking itself, and those developed through the agreed interpretations, formed the major negotiating tools for the ITPGRFA and the subsequent construction of the multilateral system.

The objective of the International Undertaking was:

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

It promoted the exploration of plant genetic resources (Article 3); their preservation, evaluation and documentation (Article 4); access to them for the purposes of scientific research, plant breeding or conservation (Article 5); and the mobilization of financial resources ‘to place activities relevant to the objective of this Undertaking on a firmer financial basis, with special consideration for the need[s] of developing countries’. The mobilization of resources was to become a central focus of further negotiations involving the International Undertaking and a formal part of the ITPGRFA – in Article 13.2(d)(ii), as monetary benefit sharing deriving from the use of PGRFA under the multilateral system and in the more general context of Article 18 as ‘funding for priority activities, plans and programmes, in particular in developing countries’.
Tensions over the role of the IBPGR continued as:

[s]ome members considered that the present scientific and technical activities of plant genetic resources conservation and exchange as promoted by the IBPGR in collaboration with FAO were satisfactory, and that possible improvements should be sought within the existing system. The majority of members, however, considered that present activities were not sufficient and that they should be complemented in order to develop a global system on plant genetic resources. (FAO, 1983)

The report of the first meeting of the CPGR identified some of these tensions, which were to continue into the negotiations of the ITPGRFA and influence the construction of the multilateral system:

- There is an ambivalence between ‘plant genetic resources as a world heritage for the well-being of present and future generations of mankind’, as the assistant director-general opening the meeting put it, and national sovereignty: ‘The Commission agreed that the sovereignty of governments over their plant genetic resources should be respected and that reciprocity in the exchange process was included in the substance of the Undertaking.’
- The legal status of ex situ collections, and the importance of clarifying this status, was a key point: ‘The Commission noted that the present informal, bona fide system in germplasm exchange generally worked satisfactorily, but did not provide all legal guarantees many considered necessary to ensure unrestricted exchange of material from base collections.’ Countries disagreed as to whether or not a legal framework was needed. The commission recommended ‘ascertaining the right of ownership of plant genetic resources held by the organizations and institutions in the IBPGR network’.
- The need for assistance to developing countries was repeatedly stressed.

The search for universal support for the International Undertaking continued in the negotiations in the CPGR, and resulted in three conference resolutions embodying agreed interpretations of the International Undertaking. In 1989, the question of intellectual property rights – specifically plant varietal protection, under UPOV – was addressed. Resolution 4/89 recognized that ‘[p]lant Breeders’ Rights, as provided for under UPOV … are not incompatible with the International Undertaking’. It simultaneously recognized ‘farmers’ rights’, which it linked to an ‘International Fund for Plant Genetic Resources’ that the FAO had established but which had drawn only a few tiny contributions, and suggested more might be coming:

To reflect the responsibility of those countries that have benefited most from the use of germplasm, the Fund would benefit from being supplemented by further contributions from adhering governments, on a basis to be agreed upon, in order to ensure for the Fund a sound and long-term basis.
A further resolution in the same year, Resolution 5/89, defined farmers’ rights. In 1991, Resolution 3/91 clarified a number of points regarding sovereignty, intellectual property, access and funding:

- ‘Nations have sovereign rights over their plant genetic resources’;
- ‘ Breeders’ lines and farmers’ breeding material should only be available at the discretion of their developers during the period of development’; and
- ‘ Farmers’ Rights will be implemented through an international fund on plant genetic resources which will support plant genetic conservation and utilization programmes, particularly, but not exclusively, in the developing countries.’

The pressure from developing countries for the international mobilization of financial resources continued to mount, and in the context of the International Undertaking, unlike in the ITPGRFA, this pressure was directly linked to farmers’ rights. In response, the position of developed countries – that it was necessary to know the needs before being able to mobilize funds – was the prime reason for the preparation of the report on *The State of the World’s Plant Genetic Resources for Food and Agriculture* (FAO, 1997a) as well as the adoption of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture and the Leipzig Declaration (FAO, 1997b), in the context of the International Technical Conference on Plant Genetic Resources, which was held in Leipzig, Germany, on 17–23 June 1996. Such was the state of play at the beginning of the negotiations of the ITPGRFA.

Developments regarding the IBGPR and the *ex situ* collections of the CGIAR took another track, which also influenced the construction of the multilateral system. The matter came to a head in the third session of the CPGR in April 1989. Under continued pressure from developing countries in the Commission, the IBPGR attempted to assert its independence from the FAO by changing its formal status from an FAO project to an independent body and by moving from Rome to Denmark:

The Commission expressed concern with the Board’s decision to separate from FAO, particularly as a very large number of related matters appeared to have been inadequately studied. It considered that there had not been proper consultation with FAO … Many donors of funds, as well as donors of germplasm, expressed surprise and disappointment at not having been consulted with respect to the decision of the Board.

At stake was the ownership and control of the *ex situ* collections:

The question was raised as to whether [the members of the IBPGR’s Board of Trustees], who served in their personal capacity, might change cooperative arrangements that had been established by Governments in a matter that concerned the common heritage of mankind.

(*CPGR, 1989*)

Faced with the opposition of both developed and developing countries, a compromise was found whereby the IBGPR separated from the FAO and became the International
Plant Genetic Resources Institute (IPGRI), within the CGIAR, but remained in Rome. The IBPGR and the FAO agreed on a Memorandum of Programme Cooperation on 21 September 1990. The IPGRI was formally established on 9 October 1991, with its status being formally ratified by the Italian Parliament in March 1994. From this period on, tensions with the IPGRI progressively eased, and, during the negotiation of the ITPGRFA, the assistance of the IPGRI on a number of technical matters was increasingly sought and appreciated by the negotiators.

The question of authority over the ex situ collections remained. In accordance with Article 7 of the International Undertaking, the CPGR sought to establish an international network of ex situ collections under the auspices of the FAO. A number of countries expressed their willingness to bring their materials into this network, but nothing practical ensued. At its fifth session in 1993, the CPGR ‘welcomed the offer made by the International Agricultural Research Centres (IARCs) of the CGIAR to place their base and active collections under the auspices of FAO, and to receive policy guidance from the Commission on these collections’, and it ‘requested the Director-General to negotiate and, if satisfied, to conclude agreements with the CGIAR Centres’ (CPGR, 1993).

After some initial difficulties, these agreements were signed in October 1994. They committed the IARCs to ‘hold the designated germplasm in trust for the benefit of the international community, in particular the developing countries in accordance with the International Undertaking’ and ‘not [to] claim legal ownership over the designated germplasm, nor … seek any intellectual property rights over that germplasm or related information’. The IARCs ‘recognized the intergovernmental authority of FAO and its Commission in setting policies for the International Network’. The agreements also required the centres to ensure that the subsequent recipients of germplasm did not claim legal ownership or intellectual property rights over the germplasm (CGIAR, 2003). A material transfer agreement for use by the IARCs in releasing their materials was accordingly agreed with FAO, which resolved a matter that had been in discussion since the beginning: it stipulated in contractual form that intellectual property rights might not be claimed over any materials that had been provided by a country to the IARCs – in particular, landraces and farmers’ materials. The use of a material transfer agreement to regulate the exchange of materials under the International Undertaking was the template upon which the ITPGRFA’s multilateral system was subsequently developed.

CBD

The adoption of the text of the legally binding CBD on 22 May 1992, and its entry into force on 29 December 1993, posed a fundamental challenge to the processes underway in the FAO and added further elements to the mix from which the multilateral system was created. In April 1991, the fourth session of the CPGR hopefully ‘observed that FAO’s experience and its own, in developing various elements of the Global System on Plant Genetic Resources, might be of great value in the formulation and negotiation of a global legal instrument on biological diversity’. It ‘noted FAO’s active participation in the discussions at UNEP on the draft convention, including the
contribution of the FAO Working Group on Biological Diversity in drafting articles for inclusion in the legal instrument (CPGR, 1991). However, the CBD was negotiated in a non-agricultural forum, which, in fact, took no account of the input of the CPGR and the FAO. It was also a highly political process, reflecting tensions between developing and developed countries that were similar to those in the FAO over access and benefit sharing for biological diversity but with players from the environment and foreign ministries, not agriculture.

The agriculture sector suddenly found itself in a situation where its non-legally binding processes had been trumped by a legally binding instrument that had a scope that included all genetic resources, including agricultural genetic resources. Moreover, because the CBD was seen by many as a victory for developing countries, through the formal assertion of their sovereignty over their biological diversity – which, it was hoped, would bring them considerable financial benefits – a number of the leading countries in the context of the CBD initially expressed hesitation over supporting any further work on plant genetic resources in the FAO’s CPGR, when it had to do with access and benefit sharing. A fractioning of the portmanteau concept of ‘biological diversity’, in order to take into account the specificities of food and agriculture, could in this context be perceived as weakening the CBD. There was initial uncertainty as to whether further, separate work on access and benefit sharing on PGRFA would go ahead. If it did, where would it occur – in the FAO or the CBD – and would an instrument that resulted remain in the agriculture sector or become a protocol of the CBD?

There were two mandates available to those countries that wished to make progress in the agricultural sector: a recommendation in Agenda 21, which was adopted at the United Nations Conference on Environment and Development in Rio de Janeiro on 14 June 1992, to strengthen the FAO’s Global System for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Sustainable Agriculture (of which the International Undertaking was the keystone); and Resolution 3 of the Nairobi Conference for the Adoption of the Agreed Text of the CBD, which countries wishing to preserve a distinct role for the agricultural sector had obtained. This resolution:

Recalling that broadly-based consultations in international organizations and forums ha[d] studied, debated and achieved consensus on urgent action for the security and sustainable use of plant genetic resources for food and agriculture …

Urge[d] that ways and means should be explored to develop complementarity and cooperation between the Convention on Biological Diversity and the Global System for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Sustainable Agriculture … [and] further recognize[d] the need to seek solutions to outstanding matters concerning plant genetic resources within the Global System for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Sustainable Agriculture, in particular:

(a) Access to ex-situ collections not acquired in accordance with this Convention; and
(b) The question of farmers’ rights.
On this basis, and at the request of the CPGR, the twenty-seventh FAO Conference adopted Resolution 3/93, requesting the director-general:

- to provide a forum for negotiations among governments:
  - for the adaptation of the International Undertaking on Plant Genetic Resources, in harmony with the Convention on Biological Diversity;
  - for consideration of the issue of access on mutually agreed terms to plant genetic resources, including *ex situ* collections not addressed by the Convention;
  - as well as for the issue of realization of Farmers’ Rights.

The long and complex process that would lead to the creation of the multilateral system, as a cornerstone of the ITPGRFA, had begun. Would something like the legally binding ITPGRFA have come about without the shock administered by the adoption of the CBD? Answering this question raises the impossibility of predicting the past, but it is probable that the negotiations would have continued towards a non-binding and more technical set of arrangements for access and benefit sharing for food and agriculture. The existence of the CBD, and the possibility that the agricultural sector would lose all say in the management of genetic resources which are the basis of arable agriculture and of world food security, kick-started the negotiations and gave new impetus to processes at that stage underway in the CPGR – particularly for the development of *The State of the World’s Plant Genetic Resources* and the Global Plan of Action.

**The focuses of the negotiation of the multilateral system**

Major areas of controversy, which needed to be resolved in constructing the multilateral system, reflected both the prior negotiations in the CPGR, and the CBD and its implementation.

**Sovereignty, public goods and pooled goods**

From the very beginning of the FAO process, the sovereignty of countries over their plant genetic resources was recognized, but it was not felt to contradict their nature as a common heritage of mankind. With the coming of the CBD, many countries began to see sovereignty much more restrictively and often implemented sovereignty in national law as ownership, usually state ownership. Sovereignty itself – having been recognized in both processes – was never in dispute but, rather, the structure of the access provisions and the uses to which countries would allow the resources over which they had sovereignty to be put. The structures by which plant genetic resources were to be regulated were now seen to derive from a ‘common concern of mankind’ rather than from the ‘common heritage of mankind’.

There was a basic contradiction between the two sets of ideas that needed to be resolved. The ITPGRFA negotiations, like those of the International Undertaking,
stressed the value of exchange as well as the huge lost opportunity costs that would be incurred if exchange were bilateralized. From such a perspective, a reduction in exchange and use translated to a lower global agricultural production, greater crop vulnerability and increased global food insecurity. The difficulty of identifying individual agricultural genetic resources of unique value, in the context of repeated exchange, crossing and recrossing, suggested that there was little to be gained from impeding wide exchange. The reality of agriculture, and the thousands of years of exchange and re-exchange, made multilateral solutions an imperative. In the CBD, on the other hand, the value of genetic resources was seen as being derived from their uniqueness or, at least, from being able to market the unique access to, and use of, specific resources. Public, non-appropriable values resulting from exchange were outside such reasoning.

The ITPGRFA resolved this issue in Article 10.2, where it provides that, ‘in the exercise of their sovereign rights’, the contracting parties will establish the multilateral system and pool the resources to which this applies. This pooled good may then be managed in much the same way as an international public good over which individual sovereignty has not been exercised, nor national property created. Both the International Undertaking and the CBD addressed the de facto enclosure of genetic resources, which had previously been seen as a public good or a res nullus, of the physical good by systematic collecting and property in collections, and of products derived from these, under intellectual property systems. A key difference, however, was that the products of collecting, under the International Undertaking, remained available for use by others and continued to have the public good characteristic of non-exclusivity. The focus on ensuring the continuing availability and optimal use of public collections therefore remained a central part of the negotiations of the ITPGRFA, whereas in the context of the CBD the very existence of these collections was seen almost as a problem.

Under both instruments, the threat of the loss of genetic resources was recognized. The CBD, in the context of access and benefit sharing, assumes that ensuring appropriable value, by denying general access to genetic resources in order to merchandise unique access and use rights, would both provide an incentive to conserve and provide a flow of funds for conservation. There is no evidence that this process has been particularly successful. The ITPGRFA has addressed the threat of loss by providing an agreed legal framework for international collections and stressing the importance of conservation. It has, however, not made provision for any direct multilateral support for conservation, leaving such efforts to the contracting parties in their individual capacity and to the IARCs that hold the resources and their donors. Nor have the benefits of the multilateral system been applied to conservation. Despite this lack of direct financial support, a major achievement of the ITPGRFA has been the establishment of the Global Crop Diversity Trust, which is a new international organization and an essential element of the ITPGRFA’s funding strategy.

There were also crucial differences in regard to intellectual property. Access and benefit-sharing agreements under the CBD invariably assume that the products that are derived from access to the resources are brought under strong intellectual property protection in order to be able to exclude non-licensees. The treatment of intellectual
property in the International Undertaking, and subsequently in the ITPGRFA, has followed a different trajectory. Developing countries were initially concerned that materials that they had contributed to international collections could be subject to intellectual property claims. The initial aim was to prevent such claims from limiting access to these materials and, therefore, to maintain them as a public resource. For this reason, the material transfer agreement used by the IARCs following the October 1994 agreements required a recipient ‘not to claim ownership over the germplasm to be received, nor to seek IPR over that germplasm or related information’ (CGIAR, 2003). In fact, while materials provided by the IARCs should not be eligible for plant varietal protection, applications were on occasion filed (RAFI, 1998). Pursuant to this provision, the International Centre for Tropical Agriculture, supported by the FAO, successfully challenged a US patent over the ‘Enola bean’ on the grounds that no inventive step had been involved (Correa, 2009).

**Benefit sharing in general; monetary benefit sharing in particular**

The benefits foreseen by the International Undertaking were general and not linked to the exchange of any specific resource. The benefits would be the result of the free availability of plant genetic resources and the fact that the ‘plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes’. This concept has continued through to the ITPGRFA and is stated in Article 13.1: ‘The Contracting Parties recognize that facilitated access to plant genetic resources for food and agriculture which are included in the Multilateral System constitutes itself a major benefit of the Multilateral System.’ However, the scope of such benefit sharing has now been limited only to the crops listed in Annex 1 to the ITPGRFA.

Attempts to agree on the mechanisms of benefit sharing in the FAO forums had not come to fruition. The failure of the negotiators within the context of the International Undertaking to find ways to mobilize additional funds for the conservation and sustainable use of PGRFA, particularly in support of the needs of developing countries, predisposed the negotiations of the ITPGRFA to go down the more limited, contractual road opened by the CBD. This direction inevitably led to a single-minded focus on benefit sharing, in general, to the detriment of international arrangements for the sound management of the genetic resources themselves, and to a specific focus on the mandatory sharing of monetary benefits derived from commercial use, which became the almost exclusive topic of the negotiations and culminated in the negotiation of the Standard Material Transfer Agreement (SMTA) at the end of the first session of the Governing Body. This was despite the realization by most of the negotiators that monetary benefits were of less value in facing food security, hunger and climate change than the effective facilitation of wide exchange. It was also despite the tacit recognition that models of mandatory monetary benefit sharing were unlikely to yield much in the way of financial benefits. Its effects on the multilateral system as finally agreed are many. It has led to an enclosure of agriculture by the CBD to the detriment of the public good benefits of wider access.
The scope of the multilateral system

The scope of the ITPGRFA, as it is stated in Article 3, is ‘plant genetic resources for food and agriculture’, which is usually understood to mean all such resources. The scope of its major instrument, the multilateral system, is a sub-set of these resources. Whereas the International Undertaking had addressed all plant genetic resources of interest to food and agriculture, the adoption of the CBD as a binding international instrument that addressed genetic resources in general meant that the negotiation of the ITPGRFA had the task of identifying one by one the crops to which the multilateral system would apply and identifying the uses to which they could be put. Potential monetary benefits were balanced against access, with much horse-trading, and some countries manoeuvring to exclude crops for which they believed they had a national advantage. The limited set of crops in Annex 1 is the result. Although the possibility exists for the list to expand, the provisions of Article 19.2, which require decision by consensus, will be a major obstacle. This is clearly one of the areas in which different solutions could have been sought, either in terms of the structure of access or in terms of the contents of Annex 1.

The status of the ex situ collections

Although ownership of, and authority over, the IARCs’ ex situ collections had been one of the original bones of contention in the CPGR, the tensions around this question had abated by the time the negotiations began. (It remained, however, a sore point to the end with a very small number of countries.) The CGIAR had already accepted inter-governmental authority over these resources. A functioning international system would provide the IARCs with the freedom to operate and – it is still to be hoped – would open greater opportunities of collecting material than had been possible for some time. Since the CBD was not retroactive, these collections were outside its authority, which provided the basis for Resolution 3 of the Nairobi Final Act. FAO Conference Resolution 3/93 went well beyond these collections, in providing a mandate for negotiations on ‘access on mutually agreed terms to plant genetic resources, including ex situ collections not addressed by the Convention’ [emphasis added]. This resolution allowed the ITPGRFA to address, as well, the plant genetic resources held by governments and natural and legal persons, but the IARCs’ collections were the key focus throughout, and their mandate crops were therefore the backbone of Annex 1, as it was finally agreed.

The International Undertaking, and in particular the 1993 FAO-CGIAR in-trust agreements that were concluded within its framework, were key factors in the construction and scope of access and benefit sharing under the ITPGRFA. As a result of these agreements, it was from the beginning clear that the ITPGRFA needed to address all the plant genetic resources held by the IARCs. Since the IARCs also held limited collections of non-Annex 1 crops, provision was made for both in Article 15, with Article 15.1(a) applying to Annex 1 crops, as part of the multilateral system, and Article 15.1(b) applying to their holdings of other crops, with the obligation that the
non-Annex 1 materials held in trust by the IARCs should be distributed under a material transfer agreement that would contain substantially the same benefit-sharing provisions as the SMTA.

**Privatization**

The fact that there had been increasing privatization of genetic resources was a major influence in many different ways. In many countries, plant breeding had moved, or was moving, from the public sector to the private sector. Intellectual property – whether through plant variety protection or patents – was increasing, and the provisions of Article 27.3(b) of the Agreement on Trade Related Aspects of Intellectual Property Rights specifically required intellectual property protection for plant varieties. In addition, breeders were very jealous of their right to hold genetic material privately and under conditions of trade secrecy.

The privatization of genetic resources – earlier considered a *res omnium* or *res nullus* – was also at the heart of the CBD, which both recognized that biodiversity was a ‘common concern of humankind’ and put the onus for the conservation of genetic resources on the governments who had sovereignty over them. Most of the necessary funds were expected to come from the commercial use of these resources, and, for this to work, governments had to construct systems through which market forces could play a benign role and create virtuous cycles of use and reinvestment in conservation. The approach attempted to address the problem of what has been called ‘the tragedy of the commons’, namely that when a resource is a common property the tendency is for individuals to use it without re-investing in its maintenance. In some ways, the aim of the CBD in this regard could be described as an attempt ‘to privatize conservation’. The risk is a failure to create an effective market, while entrenching property rights for those few who have an interest in them. Within the context of the CBD, there is little evidence of important resources for conservation having been mobilized in this way.

Within the context of the ITPGRFA’s multilateral system, the resources that are expected to derive from monetary benefit sharing ‘should flow primarily, directly and indirectly, to farmers in all countries, especially in developing countries, and countries with economies in transition, who conserve and sustainably utilize plant genetic resources for food and agriculture’ (Article 13.3). However, the reworking of the International Undertaking’s material transfer agreement (which was intended to prevent privatization) to become the ITPGRFA’s SMTA (a contractual instrument intended to generate revenues from the private products of the use of PGRFA) is not likely to provide the resources necessary to safeguard and use the world’s plant genetic resources for food security and sustainable development.

Nor did the ITPGRFA make financial provision from these resources to support the crucial *ex situ* collections held by international institutions. The Global Crop Diversity Trust, which is an ‘essential element’ of the ITPGRFA’s funding strategy, as well as the Svalbard Global Seed Vault were developed through the initiative of individual donors, and are legally separate from the ITPGRFA but undoubtedly in support of its objectives.
The privatizing focus of the CBD was a major influence on the negotiations of the ITPGRFA as well as on the construction of the multilateral system. It effectively foreclosed the possibility of a more truly multilateral management of PGRFA by focusing on the commercial benefits only, through a contractual instrument (the SMTA) of private contractual law. The obsession with capturing private market values meant that much time and energy was dedicated to working out mandatory monetary benefit-sharing provisions, which were linked to the use of specific samples of plant genetic resources, incorporated into specific new commercial products protected by intellectual property rights, through the value of the actual sales of those products. The multilateral system is therefore an administratively complex, legalistic structure, geared towards capturing private market values to encourage the conservation and sustainable uses of these resources, without clear indication as to how this can be achieved. Since it seeks to draw funds from only a small proportion of the plant genetic resources used in commercial agriculture, it has not internalized the costs of managing plant genetic resources in its market prices, either to prevent their irreparable loss or to facilitate their use today. This failure has been a major impediment to creating a simpler system that is better suited to the situation on the ground.

**Weak negotiators**

A factor that is extraneous to the influences of both the International Undertaking and the CBD, but which should not be underestimated, is the relative weakness of the agricultural sector and, hence, the generally low level of authority of its negotiators. The lowly position of the Ministries of Agriculture in industrialized countries and the fact that many negotiators were primarily technical experts limited their mandates and negotiating authority. In many national circumstances, Ministries of Agriculture have been hard pressed to advance the distinct needs of agriculture in dealing with other ministries, particularly the Ministries of the Environment and of Trade, because of the importance accorded to the CBD and the higher status of other ministries and of intellectual property authorities in the national pecking order. These problems were thoroughly documented in the study *Why Governments Can’t Make Policy: The Case of Plant Genetic Resources in the International Arena* (Petit et al., 2001). The upshot has been that the negotiators have had a very limited ability to envisage solutions that would entail state obligations of any sort or that would require ongoing financial commitments. This situation has predisposed them to solutions constructed around private contracts that require no state obligations and promise benefits that do not come from state coffers, even if more parsimonious – and, in the long run, more economical and effective – solutions could have been found. The negotiators themselves were aware of this weakness, with for example the seventh session of the CGRFA drawing attention in 1997 to ‘the need for high-level political involvement in the negotiating process’.

**Farmers’ rights**

The concept of farmers’ rights was developed to recognize the specific nature of innovation within traditional farming systems, and they were defined in
Resolutions 4/89 and 5/89 of the FAO Conference, as agreed interpretations of the International Undertaking. They preceded the CBD, which does not consider agriculture in any specific way. The CBD, instead, puts the accent on the holders of traditional knowledge and the role of indigenous and local communities.

In the context of the International Undertaking, farmers' rights were not linked to individual samples of genetic material nor were they construed as property rights. FAO Conference Resolution 5/89 defined them as:

rights arising from the past, present and future contributions of farmers in conserving, improving, and making available plant genetic resources, particularly those in the centres of origin/diversity. These rights are vested in the International Community, as trustee for present and future generations of farmers, for the purpose of ensuring full benefits to farmers, and supporting the continuation of their contributions.

There have been different currents of opinion. In the case of India, and other countries that have enacted provisions based on its model, farmers’ rights have created a form of individual intellectual property over individual traditional resources. Moreover, the discussion of access and benefit sharing in the CBD forums has been increasingly linked to the provisions of Article 8(j), which provides that:

Each contracting Party shall, as far as possible and as appropriate: Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices.

This is a tough enough nut to crack in the context of access and benefit sharing under the CBD. In the context of the negotiations of the ITPGRFA, governments decided relatively early on to separate the realization of farmers’ rights from the construction of the multilateral system and to handle farmers’ rights in a separate Article 9, which does not foresee the establishment of intellectual property or quasi-intellectual property rights. Benefits to traditional farming communities are therefore construed as generalized, multilateral benefits, which are foreseen primarily under Articles 13.3 and 18.5 but also under Articles 4(d), 5(c), 6.2(b) and (c), and 13.2(b) (iii). This development of farmers’ rights on a multilateral basis was probably inevitable, if a truly multilateral system was to be established. It is now a major challenge for the ITPGRFA to ensure that multilateral benefits accrue to traditional farmers in the development of the ITPGRFA’s funding strategy.
Private contracts

A key and distinctive structural characteristic of the multilateral system is the management of access and benefit sharing under a private contract, the SMTA, whereby the provider of the goods that the contract regulates obtains no benefit from the contract. This is a complex way to manage a public or pooled good, and it has already piled innovation on top of innovation, including the SMTA itself, in particular the recognition within it of the right of the third party beneficiary – a concept that derives from common law – to enforce its contractual obligations.

As an element of the multilateral system, the third party beneficiary arose in the very late stages of the negotiations and is without any antecedent in either the International Undertaking or the CBD. It was a logical necessity once the decision had been taken to regulate access to, and the use of, a public or pooled good by a private contract between two parties, neither of whom has any beneficial interest in that contract since the benefits devolve on the ITPGRFA itself. Through the SMTA, the parties to it confer on the ITPGRFA a benefit that is distinct from legal ownership or control over the plant genetic resources that it supplies, and recognize the right of the third party beneficiary to take action to enforce the contract (see Chapter 8 by Gerald Moore in this volume).

A further element of the multilateral system is the fact that disputes arising from the SMTA are to be resolved, at the last instance, through international arbitration outside any national jurisdiction. This element, too, was innovative. The material transfer agreement used by the IARCs, in accordance with their 1994 agreements with the FAO within the context of the International Undertaking, similarly provided that disputes were to be settled by international arbitration outside any national jurisdiction. In the case of the agreements, the possible disputes to which this applied were between the IARCs and the FAO. The material transfer agreement under which plant genetic resources were distributed contained no dispute settlement provisions.

The many ways in which the SMTA has had to be tailored in order to serve as the keystone of the multilateral system have resulted in an instrument that, not surprisingly, has created considerable conceptual problems for the private sector, even for industry groups that strongly support the objectives of the ITPGRFA. Whether or not it will be effective in the long term in generating a flow of resources that are able to meet the expectations of the contracting parties remains to be seen.

Concepts from both the International Undertaking and the CBD lie behind the decision to base the most central functions of the ITPGRFA on such a contractual instrument. The existence of a material transfer agreement within the context of the International Undertaking (which was used by the IARCs in the context of the 1994 agreements with the FAO) predisposed negotiators to contractual solutions, although, in fact, this material transfer agreement had a rather different purpose – namely to prevent the misappropriation of farmers’ varieties that were being contributed to the international ex situ collections. Much more influential was the contractual approach used by many countries in the implementation of the CBD. While national sovereignty allows governments to make multilateral arrangements if they so wish, it is a fact that...
where governments have moved to regulate access to their national genetic resources, in the application of the CBD, they have almost exclusively done so through arrangements (a combination of permits and contracts) that give the recipient rights to exclusive access and use in exchange for being able to share in the profits from products marketed under patent rights. Biological diversity (often meaning genetic resources) is seen as a permanent and inalienable property of national governments, access to which is regulated by use-licenses.

The model for such arrangements was not taken from the agriculture sector but, rather, from pharmaceutical bioprospecting and the assumption that biodiversity was ‘green gold’. In this context, the CBD is a privatizing and enclosing instrument, and its application therefore turns on private law instruments and contracts between provider and bioprospector. What is usually envisaged is the discovery of a bioactive compound in an individual plant species, followed by the isolation, synthesis and patenting of the molecule and the generation of potentially huge profits. This activity has little to do with the realities of food and agriculture: the value in agriculture genetic resources lies at the intra-specific level, not at the inter-specific level – that is, value lies in the genetic diversity within a crop as the basis for the slow process of plant breeding and not in the bioactive molecules found within a particular species.

Individually negotiated contracts between provider and recipient on the pharmaceutical model are very difficult to combine with the realities of plant breeding. Recipients usually seek exclusivity, require providers not to make the material available to other recipients and hold and investigate materials under trade secrecy. Research results are secret, greatly reducing their contribution to the national and international good. The implications are grave for public agricultural research, which is crucial in meeting the needs of developing countries. Potential providers are loath to provide the public sector with access, and receivers starve the public sector of scientific information. Since the pharmaceutical model assumes a patented product, it pushes agricultural innovation towards patents and skews the research agenda away from traditional breeding, plant variety protection, smaller crops and the needs of the poor and developing countries. The result has been to accelerate the tendency that was already present within the agricultural sector of major countries to seek ever-stronger patent protection over seeds and planting materials.

The high transaction costs associated with negotiating, monitoring and enforcing individual contractual access and benefit sharing are a real disincentive to the wide and effective use of agricultural genetic resources. There are symptoms of a market failure in the pharmaceutical sector – that is, an unwillingness to make such contracts in situations of uncertainty, high transaction costs, alternative sources of the same materials and years of research before the potential value can be identified. In the agricultural sector, total or partial market failure is inevitable.

The adoption by the ITPGRFA of an SMTA, and the non-exclusivity of access to these materials, goes a long way towards resolving these problems. The multilateral system has been based on an individual, private sector, contractual instrument. It may not have been the simplest, or most efficient structure, but it is now necessary to create a coherent system around it.
A simpler solution

Could something better have come out of the long and tortured negotiations? The multilateral concepts developed in the negotiating history of the International Undertaking and the privatizing pressures that led to the CBD were at odds throughout the negotiations. Attempts to create a more generalized and open regime of access and benefit sharing for food and agriculture were seen by many developing countries to weaken their negotiating position in the context of the CBD. The failure of the International Undertaking’s process to have constructed a realistic system of benefit sharing, despite the intensive process of preparing and agreeing to *The State of the World’s Plant Genetic Resources* and the Global Plan of Action for the Conservation and Sustainable Use of PGRFA, substantially weakened the food and agriculture sector. Weak representatives of a relatively weak sector, therefore, had difficulty in thinking afresh and building a new agreement from the ground upwards. Put crudely, the nexus that needed to be addressed was how to conjugate individual property in seeds and crops with access to the genes they contain. What would trigger benefit sharing and who should pay? The conceptual tools coming from both the International Undertaking and the CBD—in particular, the contractual and privatizing elements—linked benefit sharing with individual accessions: a really simple system would have had to break the link between individual accessions and individual benefits.

Clearly, no regime could force all of the holders of genetic material of a particular crop to make it available to anyone who wanted it or to confer a right on someone to be able to demand such resources from anybody who had them. Property in a plant or seed cannot simply be overridden. Moreover, farmers and breeders have materials, which are both unimproved and improved, that they wish to keep for themselves. Without overriding property—physical and intellectual—it is, however, possible to stipulate the rights and duties of classes of persons and bodies in relation to access. The ITPGRFA has done so in a very limited way. Contracting parties are to make available all of the resources that are under their management and control and in the public domain. International institutions can agree under Article 15 to do so, and private persons are encouraged to do so. A more systematic approach would have required national legislation to implement an effective international framework that went beyond a private contractual instrument.

A more fundamental structural question is what triggers the obligation to share benefits: certain specified uses of any genetic resource of the crop in question, the fact that a specific sample or samples has been accessed, or a combination of the two? If a multilateral system is constructed in such a way that the sole trigger for benefit sharing is a specified use, then access becomes a practical matter of seeking agreements that make the largest amount of material available in the simplest way at the lowest cost. The fact of having accessed one specific sample or another of the crop would have no implication for benefit sharing. Since obligations would devolve from use only, there would be no legal need to know where or how such resources were accessed or exchanged after being accessed. The uses that trigger benefit sharing may then be dis-associated from access, and the promotion of wide access can be approached separately.
In fact, the experts of two countries at the Montreux Expert Meeting in January 1999 proposed such a system – that is, that access to all plant genetic resources be free, without contractual obligations, but that obligations to share benefits be triggered by the marketing of products that are not freely available to others for further research and breeding. Another country’s expert opposed this suggestion, on the grounds that ‘our plant breeders would never pay for resources they already have’, and the contractual basis of the multilateral system was the result.

The actual trigger for benefit sharing had to be decided. The simplest thing to do would have been commercialization of any product that is a PGRFA of a crop covered by the system. Benefits could also have been crafted to differ in differing circumstances, as is the case in the ITPGRFA, where a distinction is made as to whether or not commercialized products are available to others for further research and breeding. There are various possible ways to establish who should pay, and states could themselves make contributions to a benefit-sharing fund. They might raise the money in any way they wish. The simplest solution would have been to allow each contracting party to decide how to do so. Direct contributions by states were considered at various stages in the negotiations. For example, the draft text of what was then Article 14.2(d)(i) (bracketed), which resulted from the fourth intersessional meeting of the contact group in Neuchâtel, Switzerland, on 12–17 November 2000, read as follows (the details of the draft text are not important; the principle is):

Each Party to this Undertaking undertakes to pay, in accordance to the agreed Funding Strategy to be established under Article 16, an annual contribution representing *** percent of the value of the crops produced in its territory through the use of plant genetic resources for food and agriculture listed in Article 12 to this Undertaking where such crops are produced from or through plant genetic materials or related processes in respect of which IPR protection has been sought under its national legislation. For this purpose, the value of the crops shall be calculated on the basis of the hectarage of the crops harvested multiplied by the average national yield per hectare for those crops and the average ex-farm price for the current year.

Alternatively, users could be required to make payment directly, or the contracting parties could collect payments from the commercializers.

In structural terms, a system that delinks access from benefit sharing cannot be implemented through a private contractual instrument. It would require the contracting parties to legislate and create the obligation to share benefits by public, rather than private, law. It would require the state to enforce the execution of obligations. Many negotiators may simply have been unable to envisage state obligations because they were unable to obtain adequate negotiating authority due to the relative weakness of their ministries at home and were under pressure from the national authorities committed to the CBD to explore privatizing solutions in a context where the use of intellectual property rights in agriculture was expanding rapidly.
Two matters that would need to be considered are the perceived risk of ‘free-loading’ by states that are not contracting parties and the questions of non-food and agriculture uses. Again, there are a number of possible solutions. Upon entry into the markets of contracting parties, similar commercial products of non-contracting parties could be required to pay a levy corresponding to the payments originating from the commercializers of a contracting party. An SMTA that imposes the benefit-sharing obligations of the ITPGRFA could be foreseen, for use only when the gene banks in the contracting parties have supplied materials to users in non-contracting parties. The question of non-food and agriculture uses could be viewed in the same way that the ITPGRFA views them, as being outside its ambit. A wide reading of what is meant by agriculture – and agriculture traditionally includes the cultivation of crops for food, fibre, fuel and energy products, building material and a wide variety of other uses – would prevent the benefits of the use of crop plants of all types draining out of the benefit-sharing mechanisms of the ITPGRFA. There is anyway very little evidence of large profits being generated from non-food and agriculture uses of PGRFA.

The uses to which benefits should be put is a separate question. One of the failures of the ITPGRFA is that it has not sought, in any way, to internalize the costs of the conservation of plant genetic resources in the price of products within the multilateral system.

Solutions based on the delinking of access and benefit sharing, and of individual accessions to individual benefits, have the advantage of simplicity, transparency and low transaction costs, with no registration and no tracking of materials. They are also fully compatible with property rights. However, their greatest advantage is that they address in a generic manner the genetic resources of a crop rather than a specific sample of resources. The multilateral system, as it was developed in the negotiations, addresses only specific physical samples of genetic resources, not the genetic resources themselves. This fact creates a complex set of differing property rights over what is essentially the same material. Given that essentially the same material may have been acquired under any one of the sets of conditions, and that individual samples under different conditions may have been interbred, the implementation of the multilateral system is fraught with complexities and uncertainties. Box 13.1 illustrates a long-lived field containing an Annex 1 crop, from which samples have been collected at various times.

**Box 13.1**

Collected before the entry into force of the CBD (29 December 1993):

- held privately, unencumbered by any obligations;
- held in an IARC;
- distributed unencumbered before the October 1994 agreements with the FAO; and
- distributed after October 1994, but before the entry into force of the ITPGRFA, subject to the material transfer agreement implementing these agreements.
Collected after the entry into force of the CBD (29 December 1993) and before the entry into force of the ITPGRFA (29 June 2004):

- held privately, possibly under conditions imposed by the provider;
- held in an IARC under special conditions imposed by the provider:
  - may only be distributed under the special conditions imposed by provider:
    - distributed before October 1994: distributed unencumbered;
    - distributed after October 1994, but before the entry into force of the ITPGRFA: subject to the material transfer agreement implementing the FAO/IARC agreements and may now be distributed under the SMTA.

After the entry into force of the ITPGRFA (29 June 2004):

- may only be distributed by contracting parties and their institutions, as well as international institutions, under the SMTA.

Materials held privately by legal and natural persons:

- any natural or legal person may decide to distribute materials under the SMTA and
- any natural or legal person may also decide to distribute their materials under individual contracts outside the multilateral system.

**Could the multilateral system have been constructed in another way?**

There is no teleology in evolution. It does not function to achieve an end. Genes are recycled and reworked by the chance events of selection for functions different to those they originally played. Evolution is a ‘bricholeur’, making and patching and re-patching with the tools that come to hand. For very understandable reasons, the multilateral system was similarly cobbled together from earlier concepts, but there was no inevitability in the solutions that were finally adopted and there was a lost opportunity to construct a simpler and more efficient system.

Like an organism created by the hazards of evolution, the multilateral system nonetheless lives and works and has many defects of design due to the re-use of older organs for purposes for which they were not designed. The imposition of the SMTA, which removes individual negotiations from the equation and functions across national boundaries, is a real achievement. The contractual obligation it contains to resolve disputes regarding benefits by binding international arbitration strengthens it as a truly international instrument. However, the most innovative element of the
The multilateral system is undoubtedly the third party beneficiary, which for the first time in the management of an international public or pooled good provides the international community with a right to intervene in private contracts. The system would not otherwise be workable. If the fashion of managing international public goods through private instruments continues, the third party beneficiary is likely to become the fountainhead of a whole new form of international law. The complexities of the multilateral system will require substantial and sustained political will and commitment from the contracting parties to make the system work. We cannot, like Pangloss, simply assume that all is for the best in the best of all possible worlds. *Il faut cultiver notre jardin.*

**Notes**


**References**


