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Plant genetic resources, international protection

G. L. Rose

University of Wollongong, grose@uow.edu.au

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Plant Genetic Resources, International Protection

Gregory Rose

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A. Factual Background and Challenges

1. Plant genetic resources are the reproductive or propagating materials of plants that encode their unique characteristics and allow for their ongoing cultivation. The conservation and shared distribution of plant genetic resources for food and agriculture (‘PGRFA’) is fundamental to sustainable agriculture and has for decades been of international concern.

2. Plants that comprise humanity’s main food staples have their origins in the tropical and subtropical zones of Asia, Africa, and Latin America. However, these areas no longer monopolize PGRFA diversity. Thousands of years of human cultivation and exchange, coupled with enrichment of crop varieties by farmers, has led to extensive redistribution, refinement, and development of PGRFA. All of the regions originally rich in endemic PGRFA now also depend on crops from other regions for much of their food production.

3. The conservation of PGRFA is threatened both in the field (in situ) and in seed banks and botanical gardens (ex situ). In situ, natural plant habitats are being disrupted and traditional agricultural crops or farming methods are being displaced by uniform modern cultivars and methods. Ex situ, many germplasm stocks stored in seed banks need to be regenerated due to inadequate storage and degradation of stocks. A major engineering initiative to combat this threat is the World Seed Bank, a comprehensive seed collection stored in secure cold conditions near the North Pole, opened by Norway in 2008.

4. The International Treaty on Plant Genetic Resources for Food and Agriculture (‘IT PGRFA’)
provides a legal framework for the conservation and distribution of PGRFA. The IT PGRFA operates within the structure of the → Food and Agriculture Organization of the United Nations (FAO) and its Commission on Genetic Resources (‘CGRFA’), which provide fora to develop PGRFA policy at the international level.

B. International Treaty on Plant Genetic Resources for Food and Agriculture (2001)

1. Historical Development

5 After seven years of negotiation, the IT PGRFA was adopted by the 31st session of the Conference of the FAO on 3 November 2001. The IT PGRFA came into force on 29 June 2004. As of March 2011, there were 127 parties, indicating widespread recognition of its value.

6 To comprehend certain key features of the IT PGRFA, it is essential to understand the context of its development. The IT PGRFA is, in important parts, a combination of the characteristics of two legal instruments addressing PGRFA that pre-date it: the International Undertaking on Plant Genetic Resources for Food and Agriculture (‘International Undertaking’); and the Convention on Biological Diversity (‘CBD’) (→ Biological Diversity, International Protection). These two instruments, adopted, respectively, under the auspices of the FAO and the → United Nations Environment Programme (UNEP) have different priorities and characteristics.

(a) International Undertaking on Plant Genetic Resources for Food and Agriculture (1983)

7 The International Undertaking was adopted by the FAO Conference in 1983 and, until the adoption of the IT PGRFA, was the legal cornerstone of the FAO Global System for the Conservation and Sustainable Use of PGRFA. It was a voluntary instrument. Since the adoption of the IT PGRFA, it remains technically operative but functionally defunct.

8 The Undertaking was aimed at ensuring that PGRFA are conserved, utilized, and made available for plant breeding and scientific purposes (Art. 1). It included provisions dealing with the exploration and collection of PGRFA (Art. 3); preservation, evaluation, and documentation of PGRFA in situ and ex situ (Art. 4); unrestricted access to and availability of PGRFA (Art. 5); international cooperation in conservation, exchange, and plant breeding (Art. 6); and international coordination of gene bank collections and information systems (Art. 7).

9 Some → developing countries were dissatisfied with the Undertaking’s institution of open international access to PGRFA located mostly within their own boundaries. They perceived it as an unfair deal, especially in light of the imposition upon them of royalties payable to commercial biotechnology corporations in developed countries for pharmaceutical and agricultural products refined from those freely accessed PGRFA. Consequently, subsequent resolutions (i) asserted the sovereign rights of countries over their local PGRFA; (ii) clarified that free access did not necessarily mean free of charge; and (iii) limited the scope of free access. These resolutions were adopted as Annexes I, II, and III to the Undertaking.

10 Ultimately, however, the Undertaking did not explicitly endorse the notion of an international obligation to share with PGRFA source countries the commercial benefits flowing from the development of those resources. Instead, the notion of ‘farmers’ rights’ was conceptualized. Farmers’ rights were set out in the Annexes to the Undertaking, as a collectively held benefit allocated to traditional farmers mostly in developing countries in reward for their past work in the conservation and development of PGRFA. However, these rights were not allocated directly to individuals; the ‘international community’ was designated as trustee of those rights for past and future generations of farmers’ (Annex II).

(b) Convention on Biological Diversity (1992)

11 The CBD was adopted in 1992, and formally recognizes the sovereign rights of countries of origin to restrict the access of others to their native genetic resources. Its objectives are the conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits of genetic resources (Art. 1).

12 The coverage of genetic resources under the CBD is broader than the Undertaking or the IT PGRFA. Those latter instruments apply solely to plant genetic resources, while the CBD access provisions apply to all genetic resources (Art. 2), with the exception of human genetic resources (Second Meeting of the Conference of the Parties to the Convention on Biological Diversity [COP 2] [6–17 November 1995] ‘Decision II/11: Access to Genetic Resources’ para 2). However, the CBD does not cover the removal of genetic resources from countries of origin prior to the CBD coming into force on 29 December 1993, nor acquisition from countries that are not countries of origin and which are not, at the time of removal were not, parties to the convention (Art. 15.3). Most PGRFA which are held outside the country of origin, such as seeds in established gene banks and plants in botanical gardens, were acquired prior to the CBD coming into force and, therefore, are not covered by it. This temporal gap is filled by the IT PGRFA.

13 The CBD refers to contracting parties reaching mutually agreed terms, based on → prior informed consent (Art. 15). The CBD requires the ‘sharing in a fair and equitable way [of] the results of research and development and the benefits arising from the commercial and other utilization of genetic resources’ (Art. 15.7). Accordingly, the CBD is geared towards the negotiation of bilateral genetic resources access arrangements. In contrast, the IT PGRFA adopts a multilateral standard for access arrangements.
(c) Plant Genetic Resources Treaty

14 FAO Resolution 7/93: Revision of the International Undertaking on Plant Genetic Resources ([22 November 1993] UN Doc C 93/REP, 25) acknowledged the necessity of revising the International Undertaking. In particular, it recognized the need to harmonize the International Undertaking with the CBD, to facilitate access to PGRFA which remained outside the scope of the CBD, and to address the controversial issue of ‘farmers’ rights’.

2. Objectives and Scope

15 The objectives of the IT PGRFA are

the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security. (Art. 1.1)

16 The scope of the IT PGRFA is defined in Art. 3, which simply provides that ‘[t]his Treaty relates to plant genetic resources for food and agriculture’. ‘Plant and genetic resources for food and agriculture’ are defined as ‘any genetic material of plant origin of actual or potential value for food and agriculture’ (Art. 2). The term genetic material means ‘any material of plant origin, including reproductive and vegetative propagating material, containing functional units of heredity’ (Art. 2). The meaning of ‘food and agriculture’ is not defined.

3. Content and Special Issues

(a) Conservation and Sustainable Use of Plant Genetic Resources

17 Art. 5.1 IT PGRFA encourages contracting parties to: survey and inventory PGRFA; promote the collection of threatened PGRFA; promote or support the efforts of farmers and local communities to conserve on-farm PGRFA and in situ wild plants; cooperate to promote the development of a system of ex situ conservation; and monitor the maintenance of collections of PGRFA. Contracting parties are also encouraged to minimize or eliminate threats to PGRFA (Art. 5.2).

18 In a similar vein, Art. 6.1 commits contracting parties to develop and maintain measures that promote the sustainable use of PGRFA. Art. 6.2 provides guidelines for such measures, which ‘may include’ agricultural policies that promote diverse farming systems, research which conserves biological diversity, broadening of the genetic base of crops, and so on.

19 Arts 5 and 6 on conservation and sustainable use are phrased in soft language, such as ‘subject to national legislation’, ‘where appropriate’, ‘as appropriate’, and ‘may include’. Thus, these provisions give substantial national discretion in their domestic implementation.

20 Art. 14 refers to the FAO Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture that is required to be implemented to meet the objectives of the IT PGRFA. Funding for its implementation is linked to a Funding Strategy (Art. 18.1) that was adopted at the first meeting of the Governing Body (Res 1/2006) and has been elaborated by four Annexes—on priorities, criteria, procedures, and reporting—adopted at subsequent meetings. An equitable share of proceeds from the commercialization of PGRFA accessed under the Multilateral System flows into a Benefit-sharing Fund that forms a key financial source for the Funding Strategy (Arts 13.2 (d) (ii), 13.5). Applicants for funding need not be States but must submit their proposals for funding through the national authorities of eligible contracting parties.

(b) Multilateral System of Access and Benefit-sharing

(i) Access

21 Access to PGRFA under the Multilateral System is primarily limited to an agreed list of food crops and forages, forming Annex I of the IT PGRFA (Art. 11.1). Annex I of the IT PGRFA covers 35 food crops and 29 forages. Although it covers 80% to 90% of crops most vital to world food security, it excludes many, such as soybeans, groundnuts, sugar cane, wild relatives of cassava, and tomatoes, all of which could be expected to be on a list constructed with food security in mind. While the broad scope of the IT PGRFA would permit the future addition of species to Annex I, the Annex is an integral part of the IT PGRFA (Art. 24) and any amendment to the Annex must be decided by the IT PGRFA’s Governing Body by consensus (Art. 23.3). Given the heated nature of negotiations on this issue, unanimous consent to new additions by all contracting parties seems unlikely in the near future.

22 The Multilateral System covers only those materials held in the public domain under the management and control of the contracting parties (Art. 11.2), or those found in the ex situ collections of the International Agricultural Research Centres (‘IARCs’) (Art. 11.5). The 11 IARCs are gene banks that hold over 650,000 samples and conduct agricultural research. They form the core of the Consultative Group on International Agricultural Research (‘CGIAR’). The CGIAR itself is a body established in 1971 and supported by the World Bank (→ World Bank Group) with approximately US$ 500 million to promote international agricultural research. It operates as a Consortium in partnership with governments, civil society organizations, and the private sector. In
contrast to those public domain or IARC plant genetic materials, Annex I species held ex situ in private collections and non-Annex I species, if located either in situ or in non-CGIAR collections, are simply not yet covered by the Multilateral System.

23 The Annex I species covered within the Multilateral System are those located: in situ (Arts 11.2, 12.3 (h)); ex situ and collected prior to entry into force of the IT PGRFA (Arts 11.2, 15.1 (a)); and ex situ and collected subsequent to entry into force of the IT PGRFA (Art. 15.1 (a), 15.2). In addition to Annex I crops, other PGRFA held within the IARCs may also be embraced within the Multilateral System. Those are PGRFA not listed in Annex I but that were collected by the IARCs prior to the IT PGRFA’s coming into force (Art. 15.1 (b)); Conversely, PGRFA not listed in Annex I but collected after the coming into force of the IT PGRFA (and therefore also after the CBD) may be made available in accordance with the terms on which they were acquired under the CBD or ‘other applicable laws’ (Art. 15.3).

24 Facilitated access under the Multilateral System is to be provided through material transfer agreements (‘MTAs’) (Art. 12.4). A Standard MTA was adopted in 2006. It defines the rights and obligations of the provider (Art. 5 Standard MTA) and recipient (Art. 6 Standard MTA), and designates a third party beneficiary to act on behalf of the IT PGRFA Governing Body (Art. 4.3 Standard MTA).

25 The provisions of the standard MTA build upon the access conditions listed in Art. 12.3 IT PGRFA. For the provider, the terms relate primarily to access, which is to be accorded expeditiously, without a charge exceeding the minimal cost, and consistently with international and national laws protecting intellectual and other property rights (Art. 5 (a), (b) and (d) Standard MTA). The recipient is bound, for example, to use or conserve the accessed material only for the purposes of research, breeding, and training for food and agriculture (Art. 6.1 Standard MTA), and may not claim intellectual property or other rights limiting access to the accessed material (Art. 6.2 Standard MTA).

(ii) Benefit-sharing

26 Art. 13 IT PGRFA provides that benefits accruing from PGRFA accessed through the Multilateral System shall be shared fairly and equitably. The sharing of benefits flowing from access to other PGRFA outside the Multilateral System is not covered by the IT PGRFA.

27 The sharing of benefits through the Multilateral System shall occur through exchange of information, transfer of technology, capacity building, and the sharing of monetary and other benefits of commercialization (Art. 13.2), taking into account the CGRFA Global Plan of Action on PGRFA. Each mechanism is carefully qualified, especially technology transfer, in connection with protections for intellectual property rights (Art. 13.2 (b) (iii)).

28 The fourth mechanism allows for private commercial development of PGRFA accessed by a recipient through the Multilateral System, but requires that an equitable share of the commercialized benefits then be paid into a public purpose PGRFA fund (Art. 13.2 (d) (ii)). Payment is mandatory where the commercialized product is not for food or feed or is not available ‘without restriction to others for further research and breeding’ (Art. 6.7 Standard MTA). Alternative payment schemes are set out (Arts 6.7, 6.11, Annexes 2–4 of the Standard MTA).

(c) Intellectual Property Rights

29 Intellectual property rights (‘IPRs’) over PGRFA have the potential to negate the benefit-sharing concept that underpins facilitated access. Art. 12.3 (d) IT PGRFA and Art. 6.2 Standard MTA stipulate that recipients of material under the Multilateral System shall not claim IPRs that limit facilitated access to the PGRFA or their genetic parts or components, ‘in the form received’. Much turns on the latter phrase. Notably, the opportunity to patent derivatives remains (which would trigger the benefit-sharing obligations under Part IV of the IT PGRFA).

30 Future interpretation concerning IPRs over PGRFA will be influenced by future developments under the → Agreement on Trade-Related Aspects of Intellectual Property Rights (1994) (‘TRIPS’). Art. 27 TRIPS requires that patents be made available and protected by all members. Some exceptions are allowed for living organisms, including plants (Art. 27.3 TRIPS), although members are still required to ‘provide for the protection for plant varieties either by patents or by an effective sui generis system’ (Art. 27.3 (b) TRIPS). Art. 27.3 (b) of TRIPS was scheduled for review in 1999, but negotiations have since stalled and remain unsettled.

(d) Farmers’ Rights

31 In Art. 9.1 IT PGRFA, the contracting parties recognize the contribution that local farming and indigenous communities (→ Environment and Indigenous Peoples) have made, and will continue to make, to the conservation and development of PGRFA.

32 However, the language of the ‘farmers’ rights’ provision is highly qualified to describe aspirations rather than embodied rights held directly by individual farmers. It limits the ‘rights’ with voluntary language (ie, ‘each party should’, ‘as appropriate’, and ‘subject to national legislation’) (Art. 9.2). Although the provision urges a modest international programme for realizing the objectives of the system of farmers’ rights, all discretion is left to the State of origin. The ‘rights’ to participate in decision-making and benefit-sharing, as well as the protection of traditional knowledge, are
qualified as explicitly subject to national needs and priorities (Art. 9.2). Art. 5.1 (c) vaguely provides that parties shall support ‘the efforts of indigenous and local communities’ to promote in situ conservation of wild crop relative and wild plants for food production’. Therefore, ‘farmers’ rights’ is ultimately a symbolic phrase.

33 The IT PGRFA provides that the proceeds of benefit-sharing should flow primarily to developing country farmers for the conservation and sustainable utilization of PGRFA (Art. 13.3). This objective is also prioritized in the financing strategy adopted by the Governing Body at its first session (Annex 1 of the Funding Strategy). However, the fund would be small if financed only by payments tithed from PGRFA patent profits under Art. 13.2 (d) (ii). Successful implementation depends on other sources of financial resources for the fund, such as resources provided by relevant international bodies and voluntary contributions from contracting parties (Art. 2.1 Funding Strategy).

4. Implementation and Compliance

34 The Governing Body of the IT PGRFA is comprised of all contracting parties (Art. 19.1), each of which has one vote (Art. 19.4). Its primary function is to promote the full implementation of the IT PGRFA through decision-making on policy direction and guidance, action plans and cooperation, and funding and budgets (Art. 19.3). All decisions are to be made by consensus, which, as formulated, means unanimity (Art. 19.2). As unanimity is difficult to achieve, this may drive decisions on implementation of the IT PGRFA down to the lowest common denominator.

35 Art. 21 IT PGRFA required the Governing Body at its first meeting, held in 2006, to consider and approve procedures and mechanisms addressing compliance, non-compliance, monitoring, and the offering of advice or assistance. It has been agreed that these will be ‘simple, cost-effective, facilitative, non-adversarial, non-judicial, legally non-binding and co-operative in nature’ (Resolution 2/2009: Procedures and Operational Mechanisms to Promote Compliance and to Address Issues of Non-Compliance’ [1–5 June 2009]). Draft procedures and mechanisms remain to be finalized at the fourth Governing Body meeting in 2011.

36 As between parties, the IT PGRFA’s dispute resolution provisions provide no compulsory binding decision-making procedure to resolve disputes, but the parties are to seek solutions by negotiation and are compelled to undertake compulsory conciliation as a default (Art. 22).

C. Evaluation and Perspectives

37 The IT PGRFA is the fundamental instrument in the legal framework for the conservation and distribution of PGRFA. Its focus is on a traditional FAO concern—food security. Thus, it provides for the exchange of most PGRFA at negligible cost. Its central strength, the Multilateral System of Access and Benefit-sharing, builds on the CGIAR seed bank network, the International Undertaking’s system for PGRFA exchange, and the Global Plan for Conservation and Sustainable Use of PGRFA.

38 The IT PGRFA also inherits qualities from the CBD: it is premised on national sovereignty over plant genetic resources, on conditional access to them, and on benefit-sharing of their proceeds, albeit on a multilateral basis, and it is legally binding.

39 The IT PGRFA leaves several gaps to be filled. With regard to the Multilateral System, these include important access and benefit-sharing questions, such as the adequacy of the current list of crops and forages, the possible future inclusion of non-Annex I or non-CGIAR holdings, and the uncertainty of scope for intellectual property rights on products derived from accessed PGRFA. Shortcomings also remain concerning implementation of in situ conservation and a meaningful compliance system.

40 Nevertheless, the IT PGRFA is the only global sustainable agriculture treaty and is a major edifice for the international protection of plant genetic resources. It operates to ensure the availability of PGRFA, to simplify their transfer, to promote fairness in benefit-sharing, and to direct some benefits towards PGRFA conservation. The ongoing challenge for its parties will be to ensure efficient and effective exchange of PGRs through the Multilateral System and conservation through the Global Plan of Action.

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International Treaty on Plant Genetic Resources for Food and Agriculture.

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