

INTELLECTUAL PROPERTY RIGHTS AND THE INTERNATIONAL TREATY ON
PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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Control of plant genetic resources (PGRs) has been a crucible for sustained global conflict. That conflict arises because the world's plant genetic diversity is allocated unevenly among nation states; moreover, it has been dwindling at an alarming rate over the last few decades. These two forces have led governments and private parties to advocate conflicting strategies for conserving and using PGRs as the basis for developing new plant varieties, compensating farmers who preserve genetic diversity, and encouraging innovations in agriculture and biotechnology.

Dominating the PGR debate are disputes over intellectual property rights (IPRs). IPRs generate the necessary incentives for biotechnology firms and plant breeders to isolate and adapt the useful genetic information that lies buried within plants—but they create these incentives by granting monopoly powers. They thus allow intellectual property owners to restrict access to patented products and plant varieties by countries, farmers, and researchers who conserve plant genetic diversity and provide the raw materials for future proprietary innovations. A critical and contested issue for regulators, therefore, has been to define the boundary between biological materials that must remain in the public domain and those that can be privatized.

Debates over where to fix this boundary date back more than twenty years to the International Undertaking on Plant Genetic Resources, a declaration stating that all PGRs, including plant-related innovations, were part of the “heritage of mankind.”¹ The undertaking was only a nonbinding statement of principles, but even in that weak form it was opposed by the United States and some European governments, whose laws grant intellectual property rights in isolated and purified genes. Faced with increasing private control over PGRs, developing countries and nongovernmental organizations (NGOs) hoping to defend the global commons sought legally binding rules to delineate a clear boundary between public and proprietary genetic resources.

The result was seven years of contentious negotiations hosted by the UN Food and Agriculture Organization, leading to the creation of a new framework agreement—the International Treaty on Plant Genetic Resources for Food and Agriculture (the PGR treaty).² Finalized in November 2001, the same month in which the WTO launched its new round of trade talks in Doha, the PGR treaty has not yet entered into force, but it has already been signed or acceded to by eighty-five states—including the United States, all fifteen members of the European Union, and many developing countries.³

The most noteworthy feature of the PGR treaty is the novel mechanism it creates to facilitate the exchange of seeds and plant materials for research, breeding, and training. Specifically, the treaty establishes a new “multilateral system” to which states parties and their nationals will be granted “facilitated access.”⁴ The multilateral system is a

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¹ International Undertaking on Plant Genetic Resources, Report of the Conference of FAO, 22d Sess., art. 1, UN Doc. C/83/REP (1983).

² See International Treaty on Plant Genetic Resources for Food and Agriculture, *opened for signature* Nov. 3, 2001, available at <<http://www.fao.org/ag/cgrfa/IU.htm>> [hereinafter PGR Treaty].

³ List of participants to the International Treaty on Plant Genetic Resources for Food and Agriculture, at <<http://www.fao.org/Legal/TREATIES/033s-e.htm>> (last visited May 19, 2003). Seventeen states have ratified the agreement. Except for Canada, all of the fifteen ratifying states are developing countries. The PGR Treaty requires forty ratifications to enter into force.

⁴ PGR Treaty, *supra* note 2, arts. 10–13.

form of “limited common property”⁵ composed of the sixty-four food and feed crops that account for most human nutrition.⁶ In exchange for access to this communal treasury held in government and international seed banks, private parties creating commercial products that incorporate materials from the multilateral system must pay a percentage of their profits into a trust account.⁷ The funds in the trust account are to be used to promote benefit-sharing and conservation of PGRs, particularly by farmers in developing countries.⁸ These are important points of departure from the Convention on Biological Diversity (CBD), which recognizes the sovereign right of states to control the PGRs within their borders and to regulate their use through national access laws and bilateral contracts with seed and pharmaceutical companies.⁹

Although government negotiators reached consensus on the broad architecture of the new seed treaty, they differed sharply over the details. The drafters understood that the treaty’s success hinged on allowing private parties to commercialize innovations based on raw genetic materials acquired from the multilateral system. Only through such commercialization could sufficient revenue be generated to fund the treaty’s benefit-sharing and conservation goals. On the other hand, the multilateral system itself would be threatened if large parts of the seed treasury could be privatized through the grant of IPRs.

The core of the debate was whether to bar patenting of isolated and purified genes extracted from a seed placed in the common seed pool. After a heated final round of negotiations, governments adopted Article 12.3(d), which states that access is to be provided only on the condition that: “Recipients shall not claim any intellectual property or other rights that limit the facilitated access to [PGRs], or their genetic parts or components, in the form received from the multilateral system.”¹⁰ A brief review of the final stages of the treaty’s negotiating history is essential to decipher this cryptic text. Two clauses at the end of the article—“their genetic parts or components” and “in the form”—were included as separate bracketed text going into the final round of negotiations. Developing states that opposed patent protection sought to retain the first clause and delete the second, whereas the United States wanted to delete the first phrase and retain the second. As a compromise, the delegates voted to retain both clauses after defeating a proposal by the United States to delete Article 12.3(d) from the treaty altogether.¹¹

The critical issue for interpreting Article 12.3(d) is just how far a seed’s genetic blueprint must be modified before the resulting genetic material is no longer “in the

⁵ Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Takes, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 132 (1998) (defining “limited common property” as “property held as commons among the members of a group, but exclusively vis-à-vis the outside world”).

⁶ PGR Treaty, *supra* note 2, Annex I (listing thirty-five food and twenty-nine feed crops).

⁷ Payments are mandatory when the commercialized product has limits on its availability for use in further research and breeding, but voluntary when the product is freely available for such purposes. *Id.*, art. 13.2(d) (ii).

⁸ The PGR treaty provides for a variety of benefit-sharing mechanisms, among them exchange of information, access to and transfer of technology, capacity building, and the sharing of benefits arising from commercialization. *Id.*, arts. 13, 18.

⁹ UN Conference on Env’t & Dev., Convention on Biological Diversity, UNEP/Bio.Div./N7-INC5/4, reprinted in 31 ILM 818 (1992). As of December 2002, 187 states had ratified the Convention. See Parties to the Convention on Biological Diversity, available at <<http://www.biodiv.org/world/parties.asp>>.

¹⁰ PGR Treaty, *supra* note 2, art. 12.3(d). This same ban must be included in standardized material transfer agreements that all private parties seeking to access the multilateral system must execute. *Id.*, art. 12.4.

¹¹ For a discussion of the negotiating history, see Laurence R. Helfer, *Intellectual Property Rights in Plant Varieties: An Overview with Options for National Governments*, in FAO Legal Papers Online #31, at 51 (July 2002), available at <<http://www.fao.org/Legal/pub-e.htm>>.

form” received from the multilateral system. Most observers agree that a new plant variety or extracted genes as incorporated into such a variety would be sufficiently distinct to qualify for IPR protection. A more contentious question is whether merely extracting a gene from a seed is in itself a sufficient alteration of genetic material. Some NGOs active in negotiating the treaty have argued that the IPR ban extends even to isolated DNA fragments, but this approach conflicts with the position of the United States, the European Union, Canada, and Australia, which addressed the textual ambiguity by entering on the official negotiating record interpretive statements to the effect that nothing in the treaty conflicts with IPRs recognized under national laws and international agreements such as TRIPS.

One entity that may help to resolve these conflicting interpretations is the PGR treaty’s Governing Body, a new intergovernmental organization charged with implementing the treaty and monitoring states’ compliance efforts. Highlighted below are three of the many challenges the Governing Body will face in its first few years.

The most pressing issue is drafting “material transfer agreements.”¹² Those who receive PGRs from the multilateral system must sign contracts that specify permissible uses of the plant materials, but the terms of these contracts have yet to be negotiated, including such key issues as the scope of IPR protection in derivative products; acts of commercialization that trigger an obligation to contribute to the treaty’s trust account, and in what amount; and procedures for tracking compliance.¹³

A second challenge for the Governing Body is whether to expand the multilateral system. The PGR treaty covers only a selection of the world’s food and feed crops; other crops were excluded at the urging of biodiversity-rich states who hoped to reap unilateral gains through bioprospecting contracts and national access laws. But the treaty’s crop list is not static, and the Governing Body can propose amendments that expand the list. Whether member states will agree to such an expansion will turn on whether the treaty’s funding mechanisms generate tangible financial benefits for those developing states with the most to lose from relinquishing their claim to sovereignty over genetic resources.

A third and final issue is the incentives for private parties to opt in to the multilateral system. At present, the treaty covers only PGRs in international seed banks and PGRs controlled by governments, but it encourages private parties (such as universities, botanical gardens, and plant breeders) to contribute their own seed collections to the system. For private parties that do not contribute, the Governing Body may consider denying access to the communal seed treasury, a decision that could interfere with the research and breeding work of these private institutions.¹⁴

Each of these issues is likely to be contentious. It remains to be seen whether governments have the will to cooperate, both within the institutional framework of the PGR treaty and with other intergovernmental bodies, to preserve the global commons and the genetic diversity on which the world has come to depend.

¹² Material transfer agreements, sometimes referred to as biodiversity prospecting contracts, are agreements between national governments or indigenous peoples that own or control access to genetic resources and commercial entities seeking access to those resources. *See id.* at 10.

¹³ To aid the Governing Body in this drafting work, the Commission on Genetic Resources has convened a panel of experts to recommend terms to be included in a standard material transfer agreement. First Meeting of the Comm’n on Genetic Res. for Food & Agric. acting as Interim Committee of the Int’l Treaty on Plant Genetic Res. for Food & Agric., CGRFA-MIC-1/02/REP, App. D (Oct. 9–11, 2002), available at <<http://www.fao.org/ag/cgrfa/docsic1.htm>> (setting Terms of Reference for Expert Group on the Terms of the Standard Material Transfer Agreement).

¹⁴ PGR Treaty, *supra* note 2, art. 11.