

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

The International Treaty on Plant Genetic Resources for Food and Agriculture, referred to as the Plant Treaty, was approved on 3 November 2001 by Members of the Food and Agriculture Organization (FAO), headquartered in Rome, Italy. The FAO is an agency of the United Nations, headquartered in New York City, New York. The Plant Treaty established international standards for the conservation and exchange of plant genetic material between participating countries. Plant genetic material is a term for plant germplasm, the physical material used by plants to reproduce themselves, and the term connotes seeds, vegetative propagations, and DNA. Plant genetic resources are the collective genetic diversity of plant species in the laboratory, farm, and field. They are described as resources because of their value for food and agricultural purposes.

The Plant Treaty aimed to promote the conservation and sustainable use of plant genetic resources for global food security. Conservation includes both on-farm conservation and seed banks. A result of prolonged discussion within the FAO, the Plant Treaty established a principle of Farmers' Rights, which recognized farmers as holders of traditional knowledge and stewards of agricultural biodiversity. Next, the Plant Treaty established a multilateral system for open access to plant genetic materials. The open access policy is meant to encourage countries to establish laws on plant genetic materials that would assure the rights of both farmers and plant breeders.

The Plant Treaty established standards for fair and equitable access to plant genetic materials and benefits sharing between contracting parties. For access to plant genetic materials, the Plant Treaty established that seed banks and other international seed collections must provide facilitated access to the banks when a contracting party requests access. However, this provision does not apply to private organizations such as seed companies and pharmaceutical companies. The Plant Treaty covers the open exchange of materials that are exclusively for food use. According to the treaty, parties that commercialize and profit from products of plant genetic materials should share their profits by giving a percentage of the profits to a common fund that provides financial and technical support for farmers and local communities, especially in developing nations.

The FAO's International Undertaking on Plant Genetic Resources (1983) preceded the Plant Treaty. A voluntary agreement between FAO member states, the International Undertaking established a Commission on Plant Genetic Resources to oversee international collection and storage of plant genetic material. It aimed to protect the legal rights of plant breeders and didn't address farmers' rights. Scholars note that the International Undertaking did not have much impact on national policies because of its lack of legal force, and that it was ultimately ineffective. The International Undertaking aimed to improve international access to plant genetic materials, but it didn't foster a consensus about ensuring both plant breeders and farmers' rights. Later revisions to the International Undertaking in 1989 and 1991 attempted to address these concerns; however, the 1992 Convention for Biological Diversity overshadowed the International Undertaking. The International Undertaking still provided a framework for international oversight of plant genetic resources, on which the FAO began its negotiations for a new treaty. The International Undertaking formally existed until the Plant Treaty in 2001.

The Convention on Biological Diversity (CBD), signed by 193 countries in 1992 and enacted in 1993, was the first legally binding international treaty to address the international exchange of plant and animal genetic resources. The CBD established a framework for the conservation and sustainable use of biodiversity. It also created a system of access and benefit sharing for the global trade of plant and animal genetic resources. While the Plant Treaty is independent of the CBD, the Plant Treaty

reflects the CBD's principles of conservation, sustainable use of biodiversity, access to resources, and benefit sharing.

The CBD didn't address several issues of plant genetic resources for food and agriculture. First, the CBD gave special rights to the country of origin of the genetic material. In the case of agricultural crops, there is often no single country of origin as a result of thousands of years of breeding between plants. The CBD complicated the legal status of global seedbanks by asserting that the laws of individual nations governed the ownership of plant genetic resources. After years of debate, the world's largest and most diverse collection of plant genetic resources, held by the eleven Consultative Group for International Agriculture Research (CGIAR) Centers, was brought under FAO policy, which prohibited nations from claiming ownership of plant genetic resources, and which established CGIAR Centers as trustees of the collections. Additionally, the CBD did not address development and management of improved plant genetic material, or germplasm that is augmented through plant breeding, biotechnology, and other scientific techniques. Some consider improved plant genetic material as man-made biodiversity, as opposed to raw plant genetic material. After the CBD was passed, in 1993 the FAO set out to harmonize the International Undertaking with the gaps left by the CBD. An intermediate step was the creation of the Global Plan of Action for Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture in 1996, which was voluntarily adopted by 150 countries, and later contributed to language of the Plant Treaty.

Based on the precedents set by the FAO's International Undertaking and the Convention on Biological Diversity, the Plant Treaty established standards for the international exchange of plant genetic materials for food and agricultural uses. Unlike the CBD, which mandates exchange agreements between individual countries, the Plant Treaty is multilateral, meaning that agreements are multinational, where one decision applies to all participating countries equally. This multilateral agreement reconciles the global nature of plant genetic resources that the CBD lacked. For example, under the CBD, if the US wanted to develop a new drug based on a plant from Brazil, the US would first negotiate an agreement with Brazil for sharing benefits based on the sales of the final product. Under the Plant Treaty, if the US wanted to obtain plant genetic material from a seed bank in Brazil for an agricultural purpose, it would enter into an international agreement for use of that material, rather than a contract with Brazil. The multilateral agreement also addresses the difference between raw and improved plant genetic material, including domesticated crops that were difficult to cover under the CBD.

Negotiations on the Plant Treaty took place over seven years, beginning in 1993 as mandated at an FAO conference. While the main negotiators at the conference were the 192 member states of the FAO, the private sector, such as seed companies, also participated. Activist groups and non-governmental organizations were also involved, and some commentators note that the FAO was partial to the activist perspective. These negotiations included not just formal disagreements over the Plant Treaty, but long-standing conflicts over the intellectual property rights of plant genetic resources that began in the late 1970s. The Plant Treaty overcomes at least twenty-two years of disagreement between different organizations, countries, activists, and interest groups. As an agency within the United Nations, FAO had long pushed for the creation of an international network centralized within the FAO.

Chaired by scientist and FAO councilmember Monkombu Sambasivan Swaminathan, many of the negotiations over the Plant Treaty occurred between 1997 and 2001. An informal meeting of experts in Montreux, Switzerland, in 1999 between the chairman and his supporters influenced the final negotiations. Forty delegations participated in the FAO negotiations, while the US was conspicuously absent. Observers note that developed countries, such as those within the European Union, dominated the negotiations, and that most of the conflicts were between developed and developing nations, especially over intellectual property rights. Representatives from developing nations, such as India, argued that the Treaty negotiations could result in exploitation of plant genetic resources by developed nations. Consequently, in an attempt to accommodate all parties, some of the Plant Treaty's language is ambiguous about intellectual property rights.

Once ratified by forty member countries, the required number for enacting treaties, the Plant Treaty went into effect on 29 June 2004. As of 2012, 126 countries have signed and ratified the treaty, meaning that they are Contracting Parties of the Plant Treaty. To enforce the Treaty, The Governing

Body was created in 2004. The Secretary and Governing Body of the Plant Treaty are located within the FAO, headquartered in Rome, Italy. The FAO's Governing Body of the Plant Treaty has met about every two years. These meetings have addressed implementation of and compliance with the Plant Treaty, relationships with other international organizations, and the status of funds acquired through benefit sharing.

Some scholars have criticized what they claim is a somewhat limited list of crops actually covered by the Plant Treaty. Known as Annex I crops, thirty-five varieties of crops and crop families are included in the Plant Treaty. This list does not cover some agriculturally important crops, for example, soybeans, as China engaged in political conflicts with the US at the time of treaty negotiation and refused to include soybeans on the list. Many other countries withheld specific crops from the Annex as a bargaining tool, because the Plant Treaty negotiations required consensus among the member nations for every plant. Later negotiations have specified protocols for the exchange of non-Annex I crops from international seed banks.

The Plant Treaty created and enforced the Standard Material Transfer Agreement (SMTA), a mandatory, legally binding agreement between parties exchanging plant genetic materials, for example, when a plant breeder wants to access a specific seed variety that is stored at a seed bank. The initial treaty did not specify the SMTA, but left this specification to later meetings of the Plant Treaty's Governing Body. The first meeting of the Governing Body in Madrid, Spain, in 12 through 16 June 2006 established this SMTA. This legal agreement uses a mandatory template to outline standards of equal access for both the providers and recipients of plant genetic material. The SMTA does not address other aspects of intellectual property rights, such as whether exchanged plant genetic materials can be patented. Intellectual property rights vary from country to country, although the World Trade Organization's Trade-Related Aspects of Intellectual Property Rights in 1994 established a system of international property rights for plant varieties. Despite some resistance from private seed companies that disagree with the SMTA, thousands of plant genetic material transactions have occurred using the SMTA, and only a small handful of private parties have refused to abide by the SMTA.

The 2006 meeting of the Plant Treaty's Governing Body also formed an official relationship with the Global Crop Diversity Trust. The Global Crop Diversity Trust, headquartered in Bonn, Germany, contributes to the funding strategy of the Plant Treaty. Cary Fowler, who helped negotiate the Plant Treaty for the Consultative Group for International Agricultural Research (CGIAR), is the Special Advisor and former Executive Director of the Global Crop Diversity Trust. The Global Crop Diversity Trust helps administrate the Svalbard Global Seed Vault, located in Norway. The Svalbard Global Seed Vault, opened in 2008, is a long-term storage facility for plant germplasm, and has gained international recognition.

By 2013, some have described some of the impacts of the Plant Treaty on the international exchange of plant genetic resources. First, by establishing an international standard, the Plant Treaty clarified much of the legal uncertainty that may have caused a decreased exchange of plant genetic materials in the 1990s. Between 1992 and 2002, the exchange of materials had declined as some countries withheld their genetic resources from international exchange. Since the Treaty's ratification in 1993, the number of global exchanges of plant genetic material has increased. Furthermore, the Plant Treaty established the SMTA that facilitates the transfer of plant genetic resources from the CGIAR's seed banks, especially for crop research and development. Some scholars have said that the Plant Treaty's multilateral system is more effective for supporting access and exchange of genetic materials than the Convention on Biological Diversity. Others claim that benefits are still limited, as private corporations may take advantage of these resources. At the national level, there are still barriers to implementing the Plant Treaty. Some countries lack infrastructure or political impetus to set national policies around plant genetic resources.

Sources

1. Coupe, Stewart, and Roger Lewins. *Negotiating the Seed Treaty*. Warwickshire, UK: Practical Action Publishing, 2007.

2. Day-Rubenstein, Kelly, and Paul Heisey. "Plant Genetic Resources: New Rules for International Exchange." *Amber Waves* 1 (2003): 22-29.
3. Food and Agriculture Organization. "The International Treaty on Plant Genetic Resources for Food and Agriculture." Rome: Food and Agriculture Organization, 2009.
4. Fowler, Cary. "Accessing Genetic Resources: International Law Establishes Multilateral System." *Genetic Resources and Crop Evolution* 51 (2004): 609-620.
5. Fowler, Cary. "Regime Change: Plant Genetic Resources in International Law." *Outlook on Agriculture* 33 (2004): 7-14.
6. Global Crop Diversity Trust: A Foundation for Food Security. <http://www.croptrust.org/main/> (Accessed April 26, 2012).
7. Halewood, Michael, and Kent Nnadozie. "Giving Priority to the Commons: The International Treaty on Plant Genetic Resources for Food and Agriculture." In *The Future Control of Food: a Guide to International Negotiations and Rules on Intellectual Property, Biodiversity and Food Security*, eds. Geoff Tansey and Tasmin Rajotte, 115-40. London: Earthscan, 2008.
8. International Treaty on Plant Genetic Resources for Food and Agriculture, "Contracting parties to the Treaty." Food and Agriculture Organization. <http://www.planttreaty.org/content/members-contracting-parties> (Accessed March 23, 2012).
9. Moore, Gerald, and Elizabeth Goldberg, eds. "The International Treaty on Plant Genetic Resources for Food and Agriculture: Implementing the Multilateral System." *Bioversity International*. http://www.bioversityinternational.org/training/training_materials/international_treaty/treaty_module.html (Accessed March 24, 2012).
10. Moore, Gerald, and Witold Tymowski. *Explanatory Guide to the International Treaty on Plant Genetic Resources for Food and Agriculture*. Cambridge, UK: International Union for Conservation of Nature and Natural Resources, 2005.
11. Nijar, Gurdial Singh. "Food Security and Access and Benefit Sharing Laws Relating to Genetic Resources: Promoting Synergies in National and International Governance." *International Environmental Agreements: Politics, Law and Economics* 11 (2011): 99-116.
12. Raustiala, Kal, and David G. Victor. "The Regime Complex for Plant Genetic Resources." *International Organization* 58 (2004): 277-309.
13. Santilli, Juliana. *Agrobiodiversity and the Law: Regulating Genetic Resources, Food Security, and Cultural Diversity*. New York: Earthscan, 2012.
14. Vernooy, Ronnie. *Strengthening National Capacities to Implement the International Treaty on Plant Genetic Resources for Food and Agriculture: Report of the First Project Planning Workshop 6-10 February 2012: Rome, Italy: Bioversity International, 2012.*
15. Vezina, Anne, Suzanne Sharrock, and Emile Frison. "An International Treaty Vital for Future Food Security." In *INIBAP Annual Report 2002*, 30-33. Montpellier, France: INIBAP, 2003.