



1600 20th Street, NW • Washington, D.C. 20009 • 202/588-1000 • www.citizen.org

The Impact of Increased Protection of Plant IPRs:

Strengthen the Rights of Breeders and Seed Manufacturers at the Expense of Traditional Farming Practices and Food Security in the Developing World¹

Summary

Increased protection of intellectual property rights (IPRs) on plants and plant-related inventions in the countries that maintain traditional farming practices will threaten the livelihood of farmers and farming communities in those countries. Such increased IPR protection also has the potential to harm food security in those nations.

Public Citizen urges industrialized nations and multinational seed corporations to desist from pressuring developing nations into ratcheting up their plant-related intellectual property protection. **Developing nations should be forced neither to make available patents on plants or plant-related inventions nor accede to the 1991 UPOV.** As the UN Special Rapporteur on the Right to Food recommends, states should be permitted to identify systems of intellectual property rights “best suited to their specific needs,” and states should be “supported by independent and participatory human rights impact assessments, in order to inform their choices.”²

Why Grant Plant Variety Protection or Patent Protection to Plants?

The development of new varieties of plants can be beneficial to certain nations and certain populations. As the United Nations’ Special Rapporteur on the Right to Food, Olivier DeSchutter, explained in his report on seed policies and the right to food,

[plant v]arieties that offer high yields when adequate conditions are present and when combined with appropriate inputs can limit the expansion of cultivated land and thus save virgin soils, which are a reservoir of biodiversity; certain varieties can have improved nutritional values, or specific disease resistance; and

¹ Public Citizen’s Global Access to Medicines Program. For more information, please contact Peter Maybarduk at pmaybarduk@citizen.org; Burcu Kilic at bkilic@citizen.org; or Hannah Brennan at hbrennan@citizen.org.

² Special Rapporteur on the Right to Food, *Report on Seed Policies and the Right to Food*, General Assembly, ¶ 41, U.N. Doc. A/64/170 (July 23, 2009) (by Olivier De Schutter) [Hereinafter “DeSchutter, *Report on Seed Policies*”]; see G. Dutfield, *Making TRIPS work for developing countries*, in *DEVELOPING COUNTRIES AND THE WTO: POLICY APPROACHES* (G. Sampson & W. B. Chambers eds., 2008).

certain crops can be developed which are suitable for saline, dry or other marginalized soils.³

Accordingly, the grant of intellectual property rights in the form of patents or plant breeders' rights is primarily justified by "the need to encourage such innovations, by allowing the patent-holder or the breeder to be rewarded for the investment made in the development of a new variety, following a model of commercial plant breeding typical of industrialized countries."⁴

However, it is important to analyze whether IPRs on plant varieties have been successful in accomplishing this goal, and, more importantly, whether the benefits associated with IPRs on plants outweigh their potential harms.

Harm to Small-Scale Farmers in Developing Nations

- In most developing countries, a significant proportion of the farming population consists of smallholders.
 - Worldwide, at least 1.5 billion individuals depend on small-scale farming for their livelihoods.⁵
- **For such farmers, saving, selling, and exchanging seed is pervasive and essential to the viability of their farming practices.**⁶
 - In developing countries, informal seed systems often account for 98% of seed supply.⁷
- Because both the 1991 UPOV and plant patents **prevent farmers from selling and exchanging protected seeds, such IPR provisions prevent farmers from cultivating and selling improved crops.**⁸
- The UN Special Rapporteur on the Right to Food has found that even when farmers in developing nations gain access to protected plant varieties, such access may be detrimental to them in the long term.

"[A]lthough commercial seed varieties may improve yields in the short term, their higher performance often has been a response to inputs (fertilizers) and to water availability, making it difficult for farmers unable to access to such inputs and conditions to reap their benefits. Those who acquire inputs with their own means, often encouraged to do so during an initial period of subsidized inputs, **may find themselves trapped in the vicious circle of debt as a result of a bad harvest and consequent**

³ DeSchutter, *Report on Seed Policies*, *supra* note 2, at ¶ 26.

⁴ *Id.* ¶ 26.

⁵ *Id.* ¶ 24.

⁶ BERNE DECLARATION, OWNING SEEDS, ACCESSING FOOD: A HUMAN RIGHTS IMPACT ASSESSMENT OF UPOV 1991 BASED ON CASE STUDIES IN KENYA PERU AND THE PHILIPPINES 7 (2014), *available at* http://www.bernedeclaration.ch/media/press-release/press/stronger_plant_variety_protection_may_threaten_the_right_to_food/.

⁷ *Id.*

⁸ *See id.* at 7, 14; GEOFF TANSEY, *THE FUTURE CONTROL OF FOOD* 41 (2008).

impossibility to reimburse input loans. This may occur particularly when they have switched to monocropping leading to revenues which may be higher in certain seasons but less stable across the years, and diminish resilience in the face of climate change. Second, commercial seed varieties may be less suited to the specific agroecological environments in which farmers work, and for which landraces (traditional farmers' varieties) may be more appropriate."⁹

- **Thus, even farmers that are able to purchase and cultivate protected plant varieties may not benefit in the long term.**
- As a recent report on the effect of plant IPRs on human rights explains,

"From a human rights perspective, restrictions on the use, exchange and sale of protected seeds could adversely affect the right to food, as seeds might become either more costly or harder to access. These restrictions could also affect other human rights, by reducing the amount of household income which is available for food, healthcare or education."¹⁰

Harm to Genetic Diversity and Implications for Developing Countries

- **Increased IP protection of plant varieties may skew incentives in the seed industry in ways that reduce genetic diversity among plants and harm developing nations.**¹¹
- Plant variety protection **does not** encourage breeding related to **minor crops** with small markets "because the likelihood of good returns on breeders' research investment is small even with the legal protection provided by [plant variety protection]."¹²
- Instead, IPRs for plant varieties **encourage breeding targeted at major crops** with significant commercial potential.
 - "It is conceivable, then, that [plant variety protection] may contribute to a trend whereby traditional diverse agro-ecosystems, containing a wide range of

⁹ De Schutter, *Report on Seed Policies*, *supra* note 2, at ¶ 24. The Special Rapporteur further explains that the coexistence between farmers' seed systems — "operating at local or community levels between farmers" — and commercial seed systems is problematic because "[f]armers often receive commercial varieties as part of a package that includes credit (often vouchers), seed, fertilizer and pesticide," and, "[i]n many cases, acceptance of such packages is the only way farmers can access credit in rural areas." *Id.* ¶ 36. Moreover, "traditional varieties circulating farmers' seed systems — and on which the vast majority of farmers in developing countries still rely for most crops — are often excluded from government-approved seed lists that countries maintain under their seed regulations, and they are seldom included in seed distribution programmes subsidized by governments. The end result is a progressive marginalization or disappearance of local varieties." *Id.* ¶ 36.

¹⁰ BERNE DECLARATION, *supra* note 6, at 7.

¹¹ De Schutter, *Report on Seed Policies*, *supra* note 2, at ¶ 24 ("[T]he expansion of surfaces cultivated with commercial seeds accelerates crop diversity erosion, as an increasing number of farmers grow the same crops, using the same, 'improved' varieties on their fields."); TANSEY, *supra* note 8, at 41; S. Ragavan, *To Sow or Not to Sow: Dilemmas in Creating New Rights in Food*, in *Agricultural and Biotechnology and Intellectual Property: Seeds of Change* 318, 323-24 (J. Kesan ed., 2007).

¹² TANSEY, *supra* note 8, at 41.

traditional crop varieties, are replaced with monocultures of single agrochemical-dependent varieties.”¹³

- Indeed, most of “mankind now lives off no more than 12 plant species, with the four biggest staple crops (wheat, rice, maize and potato) taking the lion’s share.”¹⁴
- Furthermore, because private multinational corporations are the primary beneficiaries of increased IPRs on plants,¹⁵ implementation of the 1991 UPOV or a system of plant patents **may orientate research and development towards the needs of farmers in rich countries, while neglecting poor farmers in developing countries.**¹⁶
 - For example, very little research has been directed towards developing new varieties of tropical maize, sorghum, millet, banana, cassava, groundnut, oilseed, potato or sweet potato.¹⁷ Increased protection of IPRs on plants may threaten the genetic diversity that is “vital” to the social and economic structure of developing nations.¹⁸
- **This reduction in biodiversity and crop availability has the potential to threaten food security in developing nations.**
- Many researchers have warned that increased protection of plant IPRs narrows the range of nutritious foods available in local markets.¹⁹
- The Special Rapporteur on the Right to Food has warned that:

“The oligopolistic structure of [breeders’] market **may result in poor farmers being deprived of access to seeds productive resources essential for their livelihoods, and it could raise the price of food, thus making food less affordable for the poorest.**”²⁰

- Accordingly, increased protection of IPRs on plants has the potential to threaten food security in nations where populations rely heavily on small-scale farming.

¹³ TANSEY, *supra* note 8, at 41.

¹⁴ De Schutter, *Report on Seed Policies*, *supra* note 2, at ¶ 38; José Esquinas-Alcázar, *Protecting crop genetic diversity for food security: political, ethical and technical challenges*, 5 NATURE 946 (2005); see also TIMOTHY SWANSON, GLOBAL ACTION FOR BIODIVERSITY 52 (2005).

¹⁵ Harbir Singh, *Plant Variety Protection and Food Security: Lessons for Developing Countries*, 12 J. INTELL. PROP. L. 391, 396 (2007) (“Data on the North American seed market revealed that in case of hybrid corn and soybean, top five companies account for 69% and 51% share, respectively. In case of cottonseed, Monsanto alone controls 84% of the market on account of its purchase of Delta and Pine Land.”).

¹⁶ De Schutter, *Report on Seed Policies*, *supra* note 2, at ¶ 34.

¹⁷ *Id.*

¹⁸ Ragavan, *supra* note 11, at 327.

¹⁹ De Schutter, *Report on Seed Policies*, *supra* note 2, at ¶¶ 26-27; Tansey, *supra* note 8, at 41; Ragavan, *supra* note 11, at 322-24.

²⁰ De Schutter, *Report on Seed Policies*, *supra* note 2, at ¶ 27.

Guatemala's Success Story

On September 4, 2014, the Congress of Guatemala repealed plant variety legislation that would have allowed Guatemala to accede to the 1991 UPOV. Local media and civil society organizations nicknamed the law the “Monsanto Law,” due to the seed giant’s interest in this legislation. The Guatemalan Parliament enacted the law in order to comply with its obligations under the Central American Free Trade Agreement (CAFTA), which was signed in 2005. The “Monsanto Law” would have provided a handful of transnational companies with exclusive rights to a number of important seeds. The law would have enabled plant



Lolita Chávez, Maya Quiché, outside the Constitutional Court in Guatemala City

breeders to patent any plant variety that was genetically modified by artificial selection, cross breeding, or genetic alteration for a 25-year term of protection for trees and vines and 20-year term of protection for all other crops.

The law would have threatened the livelihood of farmers in Guatemala, where about 70 percent of the population relies on small-scale agricultural activities. Mayan activist groups and civil society organizations argued that the new law violated the Constitution and the Mayan people’s right to traditional cultivation of their land in their ancestral territories.

According to the civil society organizations that opposed the law, the legislation was passed with 81 votes in favor—just one vote more than necessary to achieve ratification—without any consultation or debate. Civil Society groups allege that the Parliament took advantage of the distraction caused by the 2014 World Cup in Brazil.

Once passed, this legislation sparked massive protests from farmers’ organizations, indigenous movements, and civil society. Although the government initially ignored the protests and appeared to be more interested in engaging in superficial forms of relief, such as the provision of food aid, Guatemalan politicians eventually acceded to the demands of the protesters. On August 29, 2014, the Guatemalan Constitutional Court suspended the law, and it was repealed shortly thereafter. This case demonstrates the success that civil society groups can have when they rally to oppose laws that harm farmers’ rights and food security.



See more at: <http://www.bilaterals.org/?guatemala-repeals-plant-breeder>.

Unclear Gains in Biotechnical Research and Development

- Finally, it is unclear that more stringent protection of breeders' rights has led to significant gains in biotechnical research and development.
- As one researcher found:

“[T]he [Plant Variety Protection] Act of United States did not lead to any increase in experimental or commercial wheat yield. However, the share of US wheat acreage sown to private varieties has increased from 3% in 1970 to 30% in the 1990s, **implying that [Plant Variety Protection] Act served primarily as a marketing tool with little impact on excludability or appropriability.**”²¹

- As another commentator points out, “[e]mpirical evidence casts doubt on whether [plant variety protection] (as well as patents) does much to encourage investment in plant breeding except in just a few commercially important crop species such as wheat and soya bean and ornamentals.”²²
- **Thus, the gains to be had from increased protection of plant IPRs are less than clear.**

Trends in Plant Patents and Plant Variety Protection

- The UN Special Rapporteur on the Right to Food has decried the increasing pressure on low- and middle-income countries to adopt national legislation that complies with the 1991 version of the UPOV Convention.²³
- More specifically, **he has criticized free trade agreements that require the introduction of patent protection for plants or legislation implementing the 1991 UPOV.**²⁴
- A recent report from a network of NGOs, including the Third World Network and the Berne Declaration, echoed this criticism, noting that governments in industrialized nations regularly pressure developing countries into introducing stringent intellectual property protection for plants.²⁵

²¹ Singh, *supra* note 15, at 396; Alston Julian & Venner Raymond, *The Effects of the US Plant Variety Protection Act on Wheat Genetic Improvement* (EPTD Discussion Paper 62, International Food Policy Research Institute, 2000).

²² TANSEY, *supra* note 8, at 41.

²³ De Schutter, *Report on Seed Policies, Report on Seed Policies, supra* note 2, at ¶ 40 (“This convention prohibits the commercialization of varieties which are essentially derived from a PVP-protected variety (article 14 (5)), and farmers are now prohibited from exchanging or selling seeds saved from the harvest of protected varieties (article 15). In order to circumvent these limitations, developing countries where the function of traditional, farmers’ seed systems is most important both for the prevention of genetic erosion and for the livelihoods of farming communities should design sui generis forms of protection of plant varieties which allow these systems to flourish, even if this means adopting non-UPOV compliant legislation.”).

²⁴ *Id.* ¶ 18.

²⁵ BERNE DECLARATION, *supra* note 6.

Human Rights-Based Recommendations

A recent report from the Berne Declaration, Third World Network, Bread for the World, Community Development Trust, Development Fund of Norway, Misereror, and SEARICE made the following recommendations for nations considering the implementation of plant IPRs.²⁶ Public Citizen supports these recommendations:

- (1) Undertake a Human Right Impact Assessment before drafting a national Plant Variety Protection law or before agreeing to or introducing IP requirements in trade or investment agreements in the area of agriculture generally but more specifically on seeds.
- (2) Ensure that they abide by a transparent and participatory process that includes all potentially affected stakeholders, when drafting, amending or implementing Plant Variety Protection laws and related measures.
- (3) Consider the linkages between formal and informal seed systems when enacting Plant Variety Protection laws and related measures, and apply a differentiated approach for Plant Variety Protection to different sectors, in particular regarding the realization of farmers' rights to use, save, exchange and sell farm-saved seeds/propagating material.
- (4) Ensure that PVP laws and related measures do not restrict the implementation of other legal obligations and policies with regard to realizing farmers' rights, the protection of indigenous peoples' rights and traditional knowledge, sanitary or phytosanitary standards, or the protection and sustainable use of biodiversity (including the ability to take all measures necessary to prevent misappropriation of genetic resources and associated traditional knowledge).
- (5) Inform governmental agencies and others involved in seed policy about their obligations concerning the right to food, which should be taken into account when drafting national laws and when entering into agreements with other countries.
- (6) Assess the features and the importance of the informal seed sector, and make sure that any PVP laws and related measures contribute to supporting both the formal and informal seed sectors.
- (7) Implement measures for awareness-raising among decision-makers on the role of women, farmers, indigenous groups, [and] non-governmental organizations.

²⁶ BERNE DECLARATION, *supra* note 6, at 46.

Further Reading

BERNE DECLARATION, OWNING SEEDS, ACCESSING FOOD: A HUMAN RIGHTS IMPACT ASSESSMENT OF UPOV 1991 BASED ON CASE STUDIES IN KENYA PERU AND THE PHILIPPINES (2014), *available at* http://www.bernedeclaration.ch/media/press-release/press/stronger_plant_variety_protection_may_threaten_the_right_to_food/.

Special Rapporteur on the Right to Food, *Report on Seed Policies and The Right to Food*, General Assembly, U.N. Doc. A/64/170 (July 23, 2009) (by Olivier De Schutter), *available at* http://www.srfood.org/images/stories/pdf/officialreports/20091021_report-ga64_seed-policies-and-the-right-to-food_en.pdf.

LAURENCE R. HELFER, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTELLECTUAL PROPERTY RIGHTS IN PLANT VARIETIES INTERNATIONAL LEGAL REGIMES AND POLICY OPTIONS FOR NATIONAL GOVERNMENTS (2004), *available at* <http://www.fao.org/3/a-y5714e.pdf>.