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Searching for flexibility

Why parties to the 1978 Act of the UPOV Convention
have not acceded to the 1991 Act

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Executive Summary

In recent decades, the enactment of stronger intellectual property (IP) rights legislation for plant varieties has proven highly contentious in many countries. The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization that actively promotes IP rights on plant varieties, known as plant variety protection (PVP) or plant breeders' rights (PBRs). Two versions of the UPOV Convention coexist today, the 1978 Act and the 1991 Act. While there is no legal obligation to do so, countries that are party to the 1978 Act have been under pressure from the plant breeding industry and some governments – notably the US and the EU – to adhere to the 1991 Act, which emphasizes the rights of plant breeders over those of farmers. However, several countries have so far resisted doing so. This study examines the reasons behind their reluctance.

This question is relevant because there are significant differences between the 1978 Act and the 1991 Act. The 1991 Act of the UPOV Convention took effect in 1998. Influenced by the development of patents on biotech plant varieties, it strengthens PBRs and approximates them to those of a patent holder.

The 1991 Act broadens the scope of PBRs in myriad ways: it extends protection to all plant genera and species; it lengthens the term of protection; it expands the types of acts that are granted exclusive protection; it extends protection to “essentially derived varieties”; and it expands the scope of the breeder's exclusive rights to harvested material and, optionally, to the products made from them. The 1991 Act also restricts farmers' rights to save and exchange seeds, firstly by extending the types of acts for which plant breeders enjoy exclusive protection, and secondly by introducing only a limited and optional “farmer's exception.” The farmers' exception is restricted to a farmer's own use, which means that farmers are prohibited from exchanging or selling seeds harvested from protected varieties. The farmers' exception must also “be within reasonable limits and safeguard the legitimate interests of the breeder.”

As of February 2021, 75 countries and two intergovernmental organizations – the African Intellectual Property Organization (OAPI) and the European Union – were members of UPOV. Of these, 60 were signatories to the 1991 Act, and 17 were signatories to the 1978 Act. For this exploratory study, we selected nine countries out of these seventeen. They are: Argentina,

Brazil, Chile, Colombia, Ecuador, China, New Zealand, Norway and South Africa. This selection reflects the fact that most UPOV 78 members are located in Latin America, as well as our wish to have at least one country in each region of the world.

The nine countries discussed in this study have not acceded to the 1991 Act although they have been party to UPOV 78 for 20 to 40 years. In Norway, following public consultations, the government dropped a bill to amend the PVP legislation and decided to remain party to UPOV 78 because it offers a better balance between PBRs and farmers' rights. In New Zealand, the government will "give effect" to UPOV 91 under the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), but will remain a party to the 1978 Act to protect the rights of the Māori (Indigenous Peoples of Aotearoa New Zealand). In Colombia, the Constitutional Court has declared the law ratifying Colombia's accession to UPOV 91 to be unenforceable because it violated the fundamental rights of Indigenous and Afro-Colombian communities, and because the latter ought to have been consulted prior to its adoption.

Several common threads underlie these decisions. First, this study reveals how each country, in its own way, needs flexibility in how it regulates PVP – a flexibility severely restricted under the 1991 Act. Second, the study shows the extent to which strengthening PBRs has been controversial. Third, and relatedly, the study demonstrates that by far the most contentious aspect of the strengthening of PBRs has been its implications for farmers' rights and peasant seed systems. Fourth, the study reveals the extent to which countries are under pressure to join UPOV 91 through bilateral and regional trade agreements. Fifth, the study shows that some countries have not acceded to the 1991 Act because doing so would exacerbate existing conflicts with other legal norms – both internally (e.g., the Constitution) and externally (e.g., the FAO Plant Treaty, UNDPOP).

Understanding why parties to the 1978 Act do not accede to the 1991 Act despite pressure to do so is especially relevant for countries which are not yet members of UPOV. Indeed, since 1999, countries joining UPOV can only accede under the 1991 Act. Or, alternatively they can remain outside UPOV and develop legislation suited to their needs and circumstances. Countries that are not members of UPOV are mostly from the Global South – Africa, the Middle East, Central Asia, South Asia and Southeast Asia. In these countries, a majority of people live in rural areas and peasant seed systems play a vital role in food production and agrobiodiversity conservation. It is therefore all the more important that they adopt PVP laws that support peasant seed systems, rather than PBRs laws tailored to the interests of the commercial plant breeding industry.

Countries that are in the process of developing PVP legislation should take heed of the experiences of countries already party to UPOV 78. If there is one lesson to be learned, it is the importance of retaining flexibility to adapt PVP laws to national needs and circumstances. Instead of joining UPOV, these countries can develop PVP laws that balance plant breeders' rights with farmers' rights, and that support peasant seed systems, and the conservation and sustainable use of agrobiodiversity.

1

Introduction

In recent decades, the enactment of stronger intellectual property (IP) rights legislation for plant varieties has proven highly contentious in many countries. The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization that actively promotes IP rights on plant varieties, known as plant variety protection (PVP) or plant breeders' rights (PBRs). Two versions of the UPOV Convention coexist today, the 1978 Act and the 1991 Act.¹ While there is no legal obligation to do so, countries that are party to the 1978 Act have been under pressure from the plant breeding industry and some governments to adhere to the more stringent 1991 Act. However, several countries have so far resisted doing so. This study enquires into the reasons behind their reluctance.

This question is relevant because there are significant differences between the 1978 Act and 1991 Act. The 1991 Act of the UPOV Convention took effect in 1998. Influenced by the development of patents on biotech plant varieties, it strengthens PBRs and approximates them to those of a patent holder. The differences between the two acts have been analysed extensively.² Here is a brief summary of the main differences:

- **Genera and species to be protected** – Under UPOV 78, countries can establish a list of plant varieties eligible for PBRs protection. Under UPOV 91, PBRs must extend to all plant genera and species.
- **Types of acts that require the authorization of the breeder** – The types of acts covered by PBRs are expanded. Under UPOV 78, the exclusive rights of the plant breeder extend to production for purposes of commercial marketing, offering for sale and marketing of a plant variety propagating material. Under UPOV 91, the exclusive rights of the plant breeder also extend to production and reproduction (multiplication)³, conditioning for the purpose of propagation, exportation, importation and stocking.
- **Duration of the breeders' right** – The minimum period during which a plant breeder enjoys exclusive rights is extended from 15 years under UPOV 78, to 20 years under UPOV 91 (and from 18 to 25 years for trees and vine varieties). Moreover, providing exclusive rights during the provisional period

between the filing of an application and the granting of a certificate, which was optional under UPOV 78, becomes mandatory under UPOV 91.

- **Exceptions to the breeder's right: research and breeding** – UPOV 91 states that PBRs do not extend to acts done for experimental purposes (that is, research), something that was implicit under UPOV 78. Both acts also include an exception that allows breeders to use a protected plant variety as a source of variation to develop new plant varieties without the authorization of the plant breeder. However, UPOV 91 extends protection to a newly created category, "essentially derived varieties" (EDV), meaning that an EDV cannot be commercialized without the authorization of the rights holder of the variety from which it was derived. The concept of EDV is problematic for two reasons. First, all new varieties are essentially derived from some combination of existing varieties, making it technically difficult to determine exactly when a variety stops being an EDV. Depending on how it is interpreted, this provision could potentially restrict the breeder's exemption.⁴ Second, critics argue that the concept of EDV implies a double standard: it applies when a protected variety is used as the initial source of derivation, but not when a farmer's variety is the initial source of derivation.⁵
- **Exceptions to the breeder's right: farmers** – Under UPOV 78, farmers are implicitly allowed to use, save and exchange a protected variety without the authorization of the breeder, provided they do not market the propagating material commercially. Under UPOV 91, farmers' rights to use farm-saved seeds or propagation material become a limited "optional exception" subject to national legislation. The farmers' exception is restricted to a farmer's own use, which means that farmers are prohibited from exchanging or selling seeds harvested from protected varieties. The farmer's exception to save seeds must also "be within reasonable limits and safeguard the legitimate interests of the breeder." It is ultimately up to each country to determine how these terms are to be interpreted. However, UPOV argues that the optional exception should be limited to certain crops and should not extend, for example, to asexually propagated horticultural crops such as ornamentals,

fruits and vegetables.⁶ For the crops where the exception applies, UPOV argues that there should be limits based on size of holding, crop area or crop value. UPOV also argues that large farmers should pay royalties for farm-saved seeds.⁷ (In this study, I distinguish between a broad “own use” exception along the lines of UPOV 78, and a restricted “own use” exception along the lines of UPOV 91.) In addition, the 1991 Act introduced an exception for private and non-commercial use, but this exception is interpreted extremely narrowly by UPOV.⁸ This type of use was already implicitly allowed under UPOV 78.

– **Scope of the breeder’s right (harvested material)** – Under UPOV 78, PBRs extend to a plant’s reproductive or vegetative material. Under UPOV 91, these rights are extended to har-

vested material obtained through the unauthorized use of protected varieties, and optionally to the products of harvested material if the breeder has not had the opportunity to exercise their rights. This means that a farmer could have to pay royalties on harvest in cases where the breeder did not authorize the use of a protected variety.

Understanding why countries party to the 1978 Act are reluctant to accede to the 1991 Act is especially relevant for countries that are not yet members of UPOV. Indeed, since 1999, countries no longer have the option to join UPOV under the 1978 Act – they must join the 1991 Act.⁹ Countries that were already members of UPOV under the 1978 Act in 1999 are not legally obliged to accede to the 1991 Act. In practice, however, they are under



pressure to do so by some countries and trading blocs: the United States, the European Union, the European Free Trade Association (EFTA)¹⁰, Australia, Canada, South Korea and Japan all make joining UPOV 91 a condition for signing bilateral and regional trade and investment agreements.

As of February 2021, 75 countries and two intergovernmental organizations – the African Intellectual Property Organization (OAPI) and the European Union – were members of UPOV. Of these, 60 were signatories to the 1991 Act, and 17 were signatories to the 1978 Act.¹¹ It is noteworthy that only three countries in the Global South – Kenya, Panama and Ukraine – have moved from UPOV 78 to UPOV 91.¹²

The majority of countries in the Global South that have joined UPOV have done so to fulfill their obligations under the 1995 WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). At the time, only a handful of industrialized countries provided for PBRs, and UPOV only had some twenty members. The vast majority of countries in the Global South and many countries in the Global North exempted plant varieties from IP protection based on the premise that the free circulation of plant varieties and knowledge was in the public interest. The TRIPS Agreement marked a turning point in that it became compulsory for all its members to provide some form of PVP. Industrialized countries, whose seed industry stood to benefit from strong PBRs, maneuvered to get countries to meet the TRIPS PVP requirement by joining UPOV.¹³ While the TRIPS Agreement stipulates that countries must provide some form of IP protection for plant varieties, it leaves considerable leeway as to how this should be done. By joining UPOV, countries effectively gave up the possibility of developing a *sui generis* legislation adapted to their needs and interests. This also meant they implemented stronger IP requirements than required by the TRIPS Agreement (known as TRIPS-plus). As a result, UPOV increased its membership from 19 countries in 1990, to 75 countries and two organizations (EU and OAPI) in 2021.

The majority of remaining signatories to the 1978 Act are in Latin America: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Nicaragua, Paraguay, Uruguay, and Trinidad and Tobago. Of the remaining UPOV 78 members, three are in Europe (Italy, Norway and Portugal), two in Asia and the Pacific (China and New Zealand) and one in Africa (South Africa).¹⁴ All but four are in the Global South.¹⁵ For the purpose of this exploratory study, we selected nine countries out of seventeen. They are: Argentina, Brazil, Chile, Colombia, Ecuador, China, New Zealand, Norway and South Africa. This selection reflects the fact that most UPOV 78 members are located in Latin America, as well as our wish to have at least one country in each region of the world.

Part I of the study is devoted to the nine case studies. For each country, I present the current legal framework governing PBRs. I then discuss recent debates and mobilizations surrounding amendments to the PBRs legislation and accession to UPOV 1991, with a focus on actors and socio-political processes. Finally, I briefly outline some of the legislative implications of acceding to UPOV 91. This is not an exhaustive list of all the legislative changes that would be required. Rather, it focuses on the aspects that have proven more controversial because of their implications for farmers' rights and peasant seed systems:

- Genera and species to be protected
- Types of acts protected
- Duration of PBRs
- Harvested material
- EDV
- Exceptions to PBRs

In Part II, I discuss what can be learned from a comparative reading of the case studies, highlighting both the diversity of scenarios and a number of common threads, in particular the search for flexibility in how countries regulate PBRs. In the conclusion, I return to the central question underlying this study, namely why parties to UPOV 78 are reluctant to accede to the 1991 Act, and draw broader implications for countries that are not yet UPOV members.

It must be noted that the way countries regulate IP in plant varieties varies. It is common for countries to regulate seed production and marketing under a seed law, and to have a separate piece of legislation, distinct from the country's IP or patent law, regulating IP rights in plant varieties – known as a plant variety protection (PVP) or plant breeders' rights (PBRs) law. This is the case for Brazil, Chile, New Zealand, Norway and South Africa. However, there are exceptions. Argentina and China regulate PBRs under their seed laws; and Ecuador regulates PBRs under its IP law. As for Colombia, PBRs are governed by a regional Decision of the Andean Community, supplemented by a series of decrees and resolutions at the domestic level. In this study, the focus is on countries' PBRs legislation. Seed laws and patent laws are only discussed in so far as they are directly relevant to IP in plant varieties.¹⁶

The present study is exploratory in nature. A number of in-depth interviews were conducted between March 2020 and April 2021 with academic researchers, legal scholars, NGO representatives, public servants and industry representatives (see Appendix I for a list of interviews).¹⁷ In addition, the following people generously agreed to read and give feedback on specific sections: David Jefferson, Pablo Lapegna and Diego Silva. The author wishes to thank all participants for their time and contribution. They are in no way responsible for any errors or omissions. Unless specifically stated otherwise, the analysis and interpretations are entirely the author's.

2

Country Case Studies

2.1 Argentina

OVERVIEW OF THE LEGAL FRAMEWORK

Argentina was the first country in Latin America to regulate IP on plant varieties by passing the Law on Seed and Phytogenetic Creations (hereafter “Seed Law”) in 1973.¹⁸ As its name indicates, the law encompasses both the quality dimension (seed production, certification and commercialization) and the IP rights dimension (that is, PBRs protection). In 1994, Argentina ratified the 1978 Act of the UPOV Convention. A number of decrees and amendments to the Seed Law have been introduced over the years, but these have not restricted the exceptions to the exclusive rights of plant breeders established in 1973, namely the farmers’ exception, the research exemption, and the right of the state to declare the public use of certain varieties in the national interest.¹⁹

The Seed Law is largely based on UPOV 78. Article 27 guarantees to all farmers the right to save seeds for replanting on their properties and for their own use, with seeds being defined as any plant organ intended for sowing or propagation. In 1991, the regulation of the Seed Law was amended and some elements of UPOV 91 were introduced – such as the types of acts covered and a minimum term of protection of 20 years – even though Argentina remained a member of UPOV 78.²⁰ In 1996, Resolution 35 specified the conditions under which farmers could exercise the right to save seeds granted under Article 27 of the Seed Law.²¹

A comment on Argentina’s patent law is warranted here because it is intricately linked to the debates around the Seed Law and farmers’ right to save seeds. In countries such as Canada and Brazil, the exclusive rights of patent holders on biotechnological traits have been extended to the whole plants in what amounts to the “virtual patenting” of plants. In Argentina, in contrast, the patentability guidelines and the jurisprudence point to a more rigorous application of the patentability require-

ments regarding inventive steps and to the exclusion of patents over plant varieties.²² In 2000, the Argentine Supreme Court ruled that Monsanto’s Roundup Ready genetic trait did not match the novelty requirement and was therefore in the public domain.²³ In 2005, the Argentine Patent Office rejected Monsanto’s application for a patent on Roundup Ready technology on the grounds that the material could generate a full plant and was therefore not eligible for protection under the Patent Law, but rather under the Seed Law and UPOV 78. This decision was confirmed on appeal in 2015, and by the Supreme Court in 2019.

DEBATES AROUND PLANT VARIETY PROTECTION

In Argentina, debates around the Seed Law have been closely linked to the expansion of genetically modified (GM) Roundup Ready soybeans, the country’s main export commodity. Soybean producers have made use of the rights afforded by Article 27 of the Seed Law to save and replant Roundup Ready soybeans.²⁴ Contrary to neighbouring countries in the Southern Cone, farmers in Argentina have also largely disregarded Monsanto’s attempts to collect extended royalties on harvested seeds through private contracts signed by farmers upon the purchase of GM seeds. In this context, the associations representing seed companies and plant breeders (ASA and ARPOV, respectively) and the US government have exerted considerable pressure on the government of Argentina to amend the Seed Law to strengthen IP rights over seeds and extend royalties to harvested seeds.²⁵

Repeated unsuccessful attempts have been made to amend the Seed Law since the early 2000s. All these proposals implied adhering to UPOV 91 by restricting the right to save seeds, for example by limiting the area that farmers could cultivate with saved seeds, or by restricting to family agriculture the right to

save seeds without royalty payments.²⁶ In 2012, the Ministry of Agriculture announced that it was preparing a new bill to amend the Seed Act. The bill was explicitly aimed at protecting investors and coincided with the launch of the new Intacta soybean variety developed by Monsanto. The bill was not made public, but a leaked draft showed that it included several UPOV 91 provisions.

Until 2012, the Agrarian Federation of Argentina (FAA) – which represents small and medium farmers, a majority of them soybean producers – was the main organization mobilizing against amendments to the Seed Law. The broadening of the debate over the Seed Law in 2012 marked a turning point, seeing the formation of a broad coalition of peasant and Indigenous organizations and socio-environmental NGOs.²⁷ The coalition launched a petition campaign against the bill and garnered the support of 500 civil society organizations (CSOs) and 3500 individuals.²⁸ Under public pressure and in an election year, the government announced in 2013 that it would not introduce the bill in Parliament. This coalition subsequently launched three campaigns²⁹ culminating in a multisectoral alliance against the “Monsanto Seed Law” in 2016.³⁰

There were renewed attempts to amend the Seed Law and strengthen IP rights over seeds in 2016. The centre-right government of President Mauricio Macri introduced a bill that, among other things, would have limited a farmer’s right to save seeds for replanting to three years after the seeds were originally purchased. The bill provided a limited exception for Indigenous people and family farmers. The bill also strengthened the authority of the National Seed Institute (INASE) to monitor farmers’ properties and increased sanctions in case of infringement.³¹ ASA presented its own bill, which would have substantially amended the Seed Law and subjected each use of a seed to the payment of royalties, with no limits or exceptions.

At the other extreme, the FAA presented a bill in which seed saving would have been freely allowed except for producers who

market more than 1500 tons. The FAA bill was based on the idea that seed saving is a farmer’s right – not a privilege or exception. While the seed bill was debated in Congress, an alliance of peasant, Indigenous and family farming organizations organized a large seed event (called *Semillazo*). The event included a public hearing in the Chamber of Deputies, as well as a seed exchange fair and public talks outside Congress. In 2019, the alliance convened a Sovereign and Popular Agrarian Forum where seed issues in general, and amendments to the Seed Law in particular, figured prominently. In the end, none of these bills made it through Congress. This was due, in part, to the strong social mobilization against the bills and, in part, to the fact that the ruling party did not have the necessary votes to turn the bill into law.³²

There has been less pressure to amend the Seed Law under the centre-left government of Alberto Fernández, elected in 2019, than under its predecessor. However, the coalition in power is a broad and heterogeneous alliance, of which some groups close to business interests are in favor of making limited changes to the Seed Law.³³

As a member of the Mercosur trade bloc along with Brazil, Paraguay and Uruguay, Argentina has also been under pressure to adhere to UPOV 91 through the European Union-Mercosur Free Trade Agreement (FTA). The EU proposal included an obligation for the parties to ratify the 1991 UPOV Convention. However, this proposal was dropped from the agreed text, which allows countries to protect PBRs under either the 1978 or the 1991 Act of the UPOV Convention.³⁴ The fact that the position of the Mercosur prevailed is noteworthy because UPOV 91 has become a standard provision in bilateral and multilateral trade agreements and investment treaties negotiated by the EU.³⁵

As of 2020, the Seed Law (1973) remains for the most part unchanged, and Argentina has not acceded to UPOV 1991. This is remarkable in view of the significant pressures to which the country has been subjected as one of the top three GM crop producers worldwide.

Box 1

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

If Argentina were to join UPOV 91:

- The exclusive rights of the plant breeder would be extended to harvested material, including entire plants and parts of plants, obtained through the unauthorized use of propagating material of the protected variety, unless the breeder has had a reasonable opportunity to exercise their rights in relation to the original propagating material;
- The concept of EDV would be incorporated, potentially restricting the scope of the breeders’ exemption;
- The farmer’s exception under Article 27 of the Seed Law would be subordinated to safeguarding the legitimate interests of the plant breeder. The right to save seeds would be restricted according to certain criteria (particular crop or species, area planted, etc.). Seed saving would become conditional on the payment of royalties, except for some limited categories such as Indigenous people and small farmers if an exception is included to this effect.

2.2 Brazil

OVERVIEW OF THE LEGAL FRAMEWORK

Brazil became a member of the UPOV in 1999, just before doors were closed to the 1978 Convention. Two years earlier, in preparation for joining UPOV, Brazil passed the Plant Variety Protection (PVP) Act.³⁶ Like many other countries at the time, Brazil thus opted to meet its obligations under Article 27.3(b) of the WTO TRIPS Agreement by becoming a member of UPOV.³⁷

The PVP Act (1997) was drafted with the explicit objective of adhering to UPOV and is closely modelled on the 1978 Act. One exception is the concept of EDV, which is taken from the 1991 Act.³⁸ Article 10 of the PVP Act regulates exceptions to the plant breeder's rights. It recognizes farmers' rights to keep and plant seeds for their own use, except for sugarcane. Farmers are not deemed to infringe upon PBRs if they (1) store and plant seeds obtained from a protected variety for their own use; or if they (2) use or sell the product of their harvest as food or raw material (except for reproductive purposes). Small rural producers can also multiply seeds from protected varieties to give away or exchange, but only in dealings exclusively with other small rural producers.³⁹

DEBATES AROUND PLANT VARIETY PROTECTION

The Brazilian Industrial Property Code of 1945 provided for the possibility of protecting IP in plant varieties, but it depended on the enactment of special regulations, which never occurred.⁴⁰ The first real attempt to introduce PBRs legislation in Brazil took place under the military dictatorship in the mid-1970s. The bill was sponsored by the International Plant Breeders (a group owned by the Dutch-British conglomerate Royal Dutch Shell), the Brazilian Seed Producers Association (ABRASEM), the Ministry of Agriculture and the Brazilian Agricultural Research Corporation (EMBRAPA). The bill, however, met with considerable opposition from agronomists and members of Congress, and was eventually dropped in the name of food security and of the national interest.⁴¹

Twenty years went by before PBRs legislation was back on the table. The introduction of plant variety protection legislation in the wake of the TRIPS Agreement in the mid-1990s again generated extensive social and parliamentary debate.⁴² The bill was supported by ABRASEM, the National Agricultural Confederation (CNA), EMBRAPA and by the companies that were soon to set up the Brazilian Plant Breeders Association (BRASPOV). Opposition to the bill was led by members of the Workers' Party and CSOs supporting family agriculture and agroecology. These groups could not stop the bill from being passed, but secured the inclusion of the farmers' exceptions under Article 10.⁴³

Since 2007, repeated attempts have been made to amend the PVP Act. During the second term of President Lula da Silva (2006–2010), the executive branch drafted a comprehensive bill at the initiative of the Ministry of Agriculture.⁴⁴ After being ap-

proved by the Inter-ministerial Group on Intellectual Property (GIP), created in 2001 to coordinate the federal government's IP policy, the bill was sent to the Presidency. However, the Presidency never introduced the bill in Congress, supposedly due to opposition from sectors of the influential Rural Caucus.^{45, 46}

This bill proposed an extensive revision of the PVP Act, including both norms and administrative procedures, and would have brought the Brazilian PVP Act closer to UPOV 91.⁴⁷ The bill proposed restricting to small farmers the "own use" exception available to all farmers under the PVP Act, in the same way as only small farmers have the rights to give away and exchange seeds. Several provisions of the bill aroused opposition from the Rural Caucus, namely those restricting large farmers' right to save seeds for replanting, extending protection to harvested material, extending the duration of protection and strengthening sanctions. Moreover, the Rural Caucus wanted to limit the prerogatives of the Ministry of Agriculture over the registration of plant varieties, something that was not included in the bill.

Between 2007 and 2018, seven bills were introduced in Congress to amend the PVP Act, but none passed.⁴⁸ These bills were more limited than the bill of the Ministry of Agriculture. While the bills varied in the particulars, they shared the same underlying goal of expanding the scope of PBRs and restricting the use of saved seeds. Only one bill ran counter to the others: a Member of Congress from the Workers' Party proposed amending the PVP Act to explicitly prohibit dual protection of a plant variety by PBRs and patents; and to stipulate that royalties could only be collected upon the sale of seeds, as opposed to harvested grain. The author of the bill argued that this was in compliance with Brazil's obligations as a signatory to the TRIPS Agreement and to UPOV 1978, and that it would promote food security and the interests of farmers.⁴⁹

In Brazil like Argentina, the debate over PBRs has become intertwined with the issue of seed saving and royalties on GM crops, especially Roundup Ready soybeans. Soybean is not amenable to hybridization, and farmers can save seeds from their harvest for replanting. In response, biotech companies, led by Monsanto, implemented a system whereby farmers who save seeds from Roundup Ready soybeans must pay royalties when they bring their harvest to the grain elevator. This system, however, is controversial, and the legality of charging royalties on harvested grain from GM cultivars based on the Patent Act has been challenged in the courts.⁵⁰ Industry efforts to amend the PVP Act to restrict the "own use" exception and extend PBRs to harvested material must be understood in this context.

The bill that came closest to being approved by the Chamber of Deputies was Bill N° 827/2015, sponsored by one of the leaders of the influential Rural Caucus.⁵¹ This bill was the object of extensive debates in the Chamber of Deputies in 2016–2017 and revealed profound disagreements. There were four subsequent versions of the original bill.⁵² The following discussion is based on the fourth, which incorporates the different proposals made in the course of the discussions and would have substantially

amended the PVP Act. This substitute bill significantly strengthened PBRs compared to the original. It included a number of controversial proposals from the Rural Caucus. First, it extended PBRs to the harvest, and made seed saving conditional on the breeder's authorization and the payment of royalties. Second, it proposed the creation of Cultivar Management Groups (GGC) comprised of three sectors – plant breeders, seed producers and farmers. These groups would be responsible for determining the rate of royalties and how these royalties are spent. This proposal, however, proved politically controversial, legally shaky, and tricky to implement.⁵³ Third, the substitute bill significantly restricted the small farmer's exception compared to the PVP Act. Under Article 10 (iv) of the PVP Act, small rural producers can multiply seeds from protected varieties to give away or exchange among themselves. In the substitute bill, they were no longer allowed to exchange or giveaway seeds. The criterion to be considered a small rural producer became more restrictive and could be further restricted by the GGCs. Moreover, the farmer's exception did not apply to vegetables, ornamentals, trees, fruits, vines and coffee, even for Indigenous peoples, extractivists and *quilombola* communities.⁵⁴ Fourth, the substitute bill proposed strengthening sanctions in case of infringement.⁵⁵

The substitute bill became so controversial that it was opposed by both small farmers' organizations and part of the Rural Caucus. Seven national entities representing agribusiness, agricultural cooperatives, seed producers, plant breeders and

the grain industry issued a letter calling on the commission to reject the bill.⁵⁶ The Ministry of Agriculture also issued a statement in favour of rejecting the bill on both legal and technical grounds.⁵⁷ In spite of concerted efforts to find a way out of the impasse, the different sectors failed to reach a consensus and the bill was permanently shelved.

In summary, efforts to amend the PVP Act foundered on the conflicting interests of plant breeders, seed producers and farmers. The most controversial provisions concern the scope of PBRs, exceptions to PBRs and sanctions. The plant breeding industry seeks to expand the scope of PBRs, in line with UPOV 91, and restrict "own use" provisions. Family farming organizations are opposed to amending the PVP Act because they fear that this will result in restricting the farmers' exceptions under Article 10. Large rural producers are not in principle opposed to amending the PVP Act, but they want to retain the right to save seeds and firmly oppose strengthening sanctions. Given the repeated failure to amend the PVP Act, it seems unlikely that Brazil will accede to UPOV 91 in the near future.

Brazil is part of the European Union-Mercosur FTA. As we have seen in the last section, the EU would have liked to include an obligation to join UPOV 91, but Mercosur countries (Argentina, Brazil, Uruguay and Paraguay) negotiated the option to remain party to either the 1978 or the 1991 Act. On the part of Brazil, this position was motivated by the lack of domestic consensus on these issues.

Box 2

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

If Brazil were to join UPOV 91:

- The scope of protection would be extended to all plant genera and species;
- The types of acts protected would be extended from producing for commercial purposes and offering for sale or marketing propagating material to encompass production and reproduction (multiplication), conditioning for the purpose of propagation, exportation, importation and stocking;
- The term of protection would be extended from 15 to 20 years (from 18 to 25 years for trees and vine varieties);
- The exclusive rights of the plant breeder would be extended to harvested material, including entire plants and parts of plants obtained through the unauthorized

use of propagating material of the protected variety, unless the breeder has had a reasonable opportunity to exercise their rights in relation to the original propagating material;

- The farmer's exception under Article 10 of the PVP Act would be subordinated to safeguarding the "legitimate interests" of the plant breeder. The right to save seeds would be restricted according to certain criteria (particular crop or species, area planted, etc.). Seed saving would become conditional on the payment of royalties, excepting limited categories such as Indigenous people and small farmers if an exception is included to this effect. Small rural producers would lose the right to exchange and giveaway seeds among themselves.

2.3 Chile

OVERVIEW OF THE LEGAL FRAMEWORK

Chile introduced PBRs in 1977, when General Pinochet issued a Decree creating a national registry for IP in plant varieties or cultivars.⁵⁸ As of 2021, PBRs are governed by the PBRs Act passed in 1994 and its Regulations.⁵⁹ In 1996, Chile became a member of UPOV under the terms of the 1978 Act.

The PBRs Act (1994) is based on UPOV 78 but includes some UPOV 91 provisions. Hence, protection extends to all plant genera and species. The list of the types of acts covered by PBRs is also more extensive than under UPOV 78: it includes production of propagating material of the variety; sales, offering for sale or display for sale; marketing, import or export; repeated use of the new variety for the commercial production of another variety; and the use of ornamental plants or plant parts with a view to the production of ornamentals plants or cut flowers. The law contains a farmers' exception that allows farmers to save protected seeds for use on their own farms without infringing PBRs. "On no account, however, may such material be advertised or transferred by any legal title as seed".⁶⁰

A bill aimed at amending the PBRs Act in line with UPOV 91 has been lingering in Congress since 2009. This bill is discussed in the next section.

DEBATES AROUND PLANT VARIETY PROTECTION

Chile is an important producer and exporter of fruit crops, notably grapes, apples and apricots. Fruits represent the vast majority (75%) of PVP certificates issued in Chile; the remainder are agricultural crops (16%), flowers (8%) and trees (1%).⁶¹ The Chilean Fruit Exporters Association (ASOEX) and the National Seed Producers' Association (ANPROS) are the main supporters of Chile's accession to UPOV 91.

Chile's relationship to UPOV 91 is both common and unusual. It is common in that Chile, like many other countries in the Global South, has been under pressure to accede to UPOV 91 through bilateral and regional trade agreements. In the 2000s, Chile signed bilateral FTAs with the United States, Japan and Australia, all of which required that Chile adhere to UPOV 91 by January 1, 2009.⁶² What is unusual, however, is that Chile failed to ratify UPOV 91 by that date. In fact, as of May 2021, Chile had not complied with the UPOV 91 requirement of these three trade agreements.

In January 2009, the government of Michelle Bachelet introduced a bill in Congress to amend the PBRs Act and bring it into line with the requirements of the UPOV 1991 Act.⁶³ Opponents dubbed the bill the "Monsanto Law" (*Ley Monsanto*) to bolster their argument that the bill attended to the interests of the multinational seed industry.⁶⁴ Peasant and Indigenous organizations – foremost among them the National Rural and Indigenous Women's Association (ANAMURI) launched a broad public debate on the bill and UPOV 91. Opponents organized demonstrations and internet-based information campaigns, gave interviews on

radio and TV programs, held information sessions in rural communities and universities, and met with members of Congress.⁶⁵

The PBRs bill was approved by the lower house of Congress in 2010, and by the Agricultural Commission of the Senate in 2013. However, following her re-election for a second term in 2014, President Michelle Bachelet fulfilled her campaign promise to withdraw the bill. An official statement explained why: "In the previous government, we introduced the draft bill on Plant Breeders, known as the 'Monsanto Law.' The original purpose of the bill was to promote technological development in order to increase the productivity and competitiveness of the agricultural sector, with due protection of Chile's biological and genetic heritage. Since then, we have had new information and witnessed a debate on whether this law is relevant and the risks it could entail. We are going to review the bill, listen to all opinions, and safeguard and respect food sovereignty and traditional seeds; we are going to protect our resources, and our small and medium producers".⁶⁶

In parallel, a bill to ratify Chile's accession to UPOV 91 was also introduced in Congress. When the Chilean Congress approved this bill in May 2011, 17 senators petitioned the Constitutional Tribunal to declare the bill unconstitutional. In their petition, the senators raised concerns over the impact of the bill on farmers' rights and over the lack of consultations with affected communities, as mandated by the Constitution. CSOs – including ANAMURI, La Via Campesina (LVC) and the Chilean chapter of the World March of Women – actively participated in the public hearings. The Constitutional Court dismissed the case, opening the way to Chile's accession to UPOV 91.⁶⁷ However, President Sebastián Piñera (2010–2014) never signed the UPOV 91 bill into law. In a year leading to elections, the bill had become politically sensitive. In any case, ratifying UPOV 91 without amending the PBRs Act would amount to ratifying a convention without fulfilling its requirements.⁶⁸

During her second term in office (2014–2018), President Michelle Bachelet made a renewed effort to break the deadlock around the PBRs Act by formulating executive branch proposals with the stated aim of achieving a balance between the protection of PBRs and the protection of traditional varieties. At ANAMURI's suggestion, the bill was also identified as a priority by the Commission on the Plant Breeders and Livestock Heritage Law, which was part of the Civil Society Council of the Ministry of Agriculture (CoSoc⁶⁹). The Commission, comprising representatives of peasant organizations as well as of the fruit and seed industries, was tasked with formulating recommendations. It met seven times during 2016–2017.⁷⁰

For the most part, the bill remains unchanged and includes all the requirements of the 1991 Act. The main difference is the addition of a new chapter on the valorization and protection of traditional varieties (Art. 56–70). This involves the creation of a national registry of traditional varieties. According to the Ministry of Agriculture, this would prevent the private appropriation of traditional varieties by establishing their prior existence.

The Ministry of Agriculture had also included a provision on access to genetic resources and a requirement to disclose the origin of genetic resources. This provision was removed from the bill on the advice of the UPOV Secretariat, however. It stated that no additional requirement for the registration of a plant variety could be included in the legislation other than the basic four criteria provided for in the UPOV Convention (namely, new, distinct, uniform and stable, or DUS).⁷¹

In the modified draft bill, the farmer's exception reproduces the wording of the optional exception available under UPOV 91.⁷² Article 48 specifies that there are no limits to the quantity of seeds that small farmers can save from harvested crops cultivated from legally acquired plant varieties. However, these rights are limited to potatoes, cereals, vegetables and other seed-propagated species to be determined in the Regulations. When CoSoc closed its work in 2017, ANAMURI stated its opposition to the bill, in particular the provision on the farmers' exception – which restricts farmers' rights in relation to the PBRs Act – and the provision on the creation of a national registry for traditional varieties.⁷³

In March 2018, days before handing the presidency to Sebastián Piñera, Michelle Bachelet signed the Comprehensive

and Progressive Agreement for Trans-Pacific Partnership (CPTPP) with ten other countries of the Asia-Pacific region. The CPTPP makes it compulsory for parties to ratify or accede to UPOV 91 by the date of entry into force of the Agreement for that Party.⁷⁴ As of January 2021, Chile's ratification was pending approval by the Senate.⁷⁵

In short, for over a decade, Chile has not complied with the obligation, under bilateral FTAs with the US, Japan and Australia, to amend its PBRs legislation and join UPOV 91. The US continues to exert pressure on Chile to amend its PBRs Law and to implement UPOV 91. Indeed, this is one of the reasons why the US Trade Representative has placed Chile on the US Priority Watch List.⁷⁶

It is noteworthy that public opposition has succeeded in blocking the PBRs bill despite significant trade and economic pressure, and under three administrations of both left-wing and right-wing persuasions for whom passing the PBRs bill was a priority. A modified version of the PBRs bill will eventually be reintroduced in the Senate. The high level of awareness built around these issues in the past decade and the anti-privatization wave of social protest that has swept across Chile in 2019–2020 suggest that the bill will continue to be the object of debate.⁷⁷

Box 3

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

If Chile were to join UPOV 91:

- The term of protection would be extended from 15 to 20 years (and from 18 to 25 years for trees and vine varieties);
- The exclusive rights of the plant breeder would be extended to harvested material, including entire plants and parts of plants, obtained through the unauthorized use of propagating material of the protected variety, unless the breeder has had a reasonable opportunity to exercise their rights in relation to the original propagating material;
- The concept of EDV would be incorporated, potentially restricting the scope of the breeders' exemption;
- The farmers' exception allowing farmers to save seeds for replanting on their farm would be restricted, as evidenced by the PBRs bill currently being developed which limits this right to certain crop varieties.

2.4 Colombia

OVERVIEW OF THE LEGAL FRAMEWORK

PBRs have been regulated in Colombia since 1993 by Decision 345 of the Andean Community.⁷⁸ Decision 345 is based on UPOV 78, but includes several elements of the 1991 Act. Key articles on the scope of PBRs and exceptions to PBRs use the same language as UPOV 91.⁷⁹ Decision 345, for example, extends PBRs to EDV and harvested material. In 1995, Law 243 incorporated Decision 345 into the Colombian legislation and ratified UPOV 1978.⁸⁰ The following year, Colombia became a member of the UPOV under the terms of the 1978 Act.⁸¹

Law 243 is complemented by a series of resolutions. Farmer's rights over protected varieties, for example, are defined by Resolution 3168, adopted in 2015.⁸² Article 22 of the Resolution allows farmers to save the product of their harvest to sow the seeds on their property, but sets limits on the size of the area replanted and on the amount of seeds for some crops: 5 hectares (one ton) for rice; 10 hectares (800 kilos) for soybean; and 5 hectares (60 kilos) for cotton. An explanatory paragraph specifies that the farmer's exception is regulated for these three crops because they are the short-cycle crops currently protected by PBRs in Colombia. This paragraph also specifies that the farmer's

exception does not apply to fruit varieties, ornamental plants, forest trees and transgenic crop varieties.

DEBATES AROUND PLANT VARIETY PROTECTION

Colombia is the world's fourth largest producer of coffee and the second largest exporter of flowers. Other important agricultural products include bananas, rice, tobacco, corn, sugarcane, cocoa beans, oilseed and vegetables. Of particular interest to the plant breeding industry is the production of flowers for export. In 2013, 44% of total applications for PBRs originated in the Netherlands, mostly for ornamentals.⁸³ The Colombian Seed and Biotechnology Association (ACOSEMILLAS) is the main organization representing the seed industry and lobbying for stronger plant variety protection.

Up until the mid-2000s, the Colombian Agricultural Institute (ICA)⁸⁴ promoted the use of certified seeds, but farmers freely used, saved and exchanged seeds.⁸⁵ This started to change around the time the United States and Colombia launched negotiations on a bilateral trade agreement, in 2004. The US-Colombia Trade Promotion Agreement was signed in 2006 and entered into force in Colombia in 2012. Under the agreement, Colombia committed to ratifying UPOV 91.⁸⁶

In 2006, the Colombian Penal Code was amended to introduce penalties for the infringement of PBRs.⁸⁷ According to Article 306, "any person who ... infringes PBRs, which are legally protected or similar to the point of confusion to a right legally protected" can incur a prison sentence of up to eight years and a fine of up to 1500 minimum monthly wages.⁸⁸ In addition to hefty penalties, the wording of the article – "legally protected or similar..." – was highly problematic. This amendment to the Penal Code went unnoticed at the time. However, around 2012, it came to the attention of *Grupo Semillas*, a non-governmental organization founded in 1994 to support indigenous, Afro-Colombian and peasant organizations on a range of issues including seeds, biodiversity and food sovereignty. In 2013, *Grupo Semillas*, together with 80 peasant and Indigenous organizations and rural and environmental NGOs, launched the Free Seeds Network of Colombia (RSL), a network of grassroots organisations committed to seed sovereignty.⁸⁹

Grupo Semillas and the RSL filed a challenge to Article 306 of the Penal Code in the Constitutional Court, on the grounds that extending PBRs to varieties similar to those legally protected violated the rights of Indigenous and peasant communities, since it is common for public and private breeders to use farmers' varieties in the public domain in their own breeding work. In its ruling, the Court ruled in their favour and overturned part of Article 306.⁹⁰ The controversial wording ("similar to the point of confusion to a right legally protected") was deleted so that Article 306 now refers simply to legally-protected PBRs.

In 2010, the Colombian government passed Resolution 970 in fulfilment of its obligation to ratify UPOV 91 under the US-Colombia trade agreement.⁹¹ This decree, however, went beyond the requirements of UPOV 91. Among other measures, it prohibited "farmers from saving, producing, commercializing, sharing free of charge and/or using seeds not registered or certified by [ICA] without its authorization".⁹² The decree also introduced

draconian conditions for seed production, storage and certification, and allowed farm inspections and the prosecution of farmers.⁹³ ICA then used this decree to seize seeds that it alleged had been grown from non-certified seeds, and to press charges against farmers and national seed companies for violating Resolution 970. Resolution 970 is an umbrella regulation that covers seed certification, PBRs and biosafety norms.

Some scholars argue that ICA justified the confiscations by the violation of certification norms because these were less controversial than PBRs and biosafety norms in the context of the introduction of GMOs.⁹⁴ The confiscated seeds (rice, cotton, potato, corn and grass) were destroyed or in some cases altered so that they could be used as animal feed but not as seed.⁹⁵ These actions provoked a popular backlash.⁹⁶ The repeal of Resolution 970 joined a larger list of demands that culminated in a nationwide agrarian strike that garnered wide public support. In September 2013, under significant pressure, the government announced that it would suspend Resolution 970 for two years.

In this tense social climate, and months before President Barack Obama was due to visit Colombia to sign the bilateral trade agreement, Colombia passed Law 1518 in 2012 to accede to UPOV 91. During the constitutionally-mandated court review of the law⁹⁷, RSL submitted a petition and intervened before the court to argue that the law should be declared unconstitutional because it violated the rights of Indigenous and Afro-Colombian communities over their seeds, agrobiodiversity and agricultural practices and knowledge. RSL also invited several national and international experts to submit legal opinions as *amicus curiae*. In its ruling, the Constitutional Court declared Law 1518 to be unenforceable because it violated the fundamental rights of Indigenous and Afro-Colombian communities, and because the latter ought to have been consulted prior to its adoption.⁹⁸ The ruling thus effectively stopped Colombia from joining UPOV 91. However, this was a bittersweet victory for RSL since domestic legislation based on UPOV 91 was not substantially modified in the wake of the constitutional court ruling.⁹⁹

In 2015, Resolution 970 was replaced by Resolution 3168. The latter, however, did not bring substantial changes.¹⁰⁰ The new resolution clarified that it only applied to certified seeds. However, by stipulating that only certified seeds could be used legally, the resolution indirectly made peasant seeds illegal. Peasant seeds were thus left in a legal void. According to the director of *Grupo Semillas*, the government would like to regulate peasant seeds, but is wary of doing so because it knows that any bill would have to go through a constitutionally mandated consultation where it would be met with considerable opposition.¹⁰¹ For the same reason, the government has not conducted the public consultations on Law 1518 mandated by the Constitutional Court. On the other hand, there is less pressure to ratify UPOV 91 because the current legal framework – Decision 345 and Resolution 3168 – already goes a long way toward UPOV 91. Moreover, ICA has been applying UPOV 91 standards even though there is no legal obligation to do so.¹⁰² For this reason, CSOs have raised concerns over the 2012 transfer to ICA of jurisdiction over PBRs infringement, which turns ICA into a kind of specialized court for PBRs.¹⁰³

In the meantime, the trade agreement with the US continues to impact Colombian policy.¹⁰⁴ In December 2018, Colombia was

one of a handful of countries that abstained from voting on the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP)¹⁰⁵ on the grounds that some elements of the declaration contravened its trade and IP commitments – an indirect reference to the US–Colombia Trade Promotion Agreement.¹⁰⁶ Colombia is on the United States Watch List, and explicit reference is made to Colombia's failure to ratify UPOV 91 in the 2019 Special 301 Report.¹⁰⁷

In sum, Colombia's accession to UPOV 91 has been stopped through a combination of massive grassroots mobilization and judicial action. The agrarian strike of 2013 led to the suspension

of Resolution 970, and the legal challenges to Article 306 of the Penal Code on PBRs infringement and to Law 1518 on UPOV 91 have been successful. Because there is no formal recognition of farmers' rights, and strong resistance to the concepts of peasant rights and food sovereignty on the part of the Colombian government and institutions, Grupo Semillas and RSL have resorted to lawsuits before the Constitutional Court to defend the rights of Indigenous and Afro-Colombian communities over agrobiodiversity. Colombia, however, offers a cautionary tale of how a country can implement UPOV 91 standards at the domestic level regardless of whether or not it is a signatory of the 1991 Act.

Box 4

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

Colombia has not ratified the UPOV 91 Act, but it has implemented several of its provisions domestically, including concerning the extension of protection to all genera and species, the types of act that are protected, the duration of protection, and the extension of protection to harvested material and EDV. The Colombian legislation even goes beyond UPOV 91 in some respects. The farmer's exception, for example, is more restricted than required under UPOV 91.

Even if some UPOV 91 provisions have already been incorporated into the domestic legislation, ratifying UPOV 91 would create an environment more conducive to the implementation of some of the stronger and more controversial provisions, such as the extension of the exclusive rights of the plant breeder to harvested material.¹⁰⁸ Being bound by the 1991 Act would also limit Colombia's options to amend its domestic legislation.

2.5 Ecuador

OVERVIEW OF LEGAL FRAMEWORK

Like Colombia, Ecuador's domestic legislation on plant variety protection is bound by its membership in the Andean community and its regional framework for PBRs, Decision 345.¹⁰⁹ Ecuador joined the UPOV Convention under the 1978 Act in 1997.

Following the election of the left-wing populist Rafael Correa to the presidency in 2007, Ecuador adopted a new constitution institutionalizing food sovereignty. Under the 2008 Constitution, the state has the obligation to promote the conservation and recovery of agricultural biodiversity and related ancestral knowledge, along with the use, conservation and free exchange of seeds.¹¹⁰

In the past decade, Ecuador proceeded to revise its IP and seed legislation and adapt it to the new constitution. Since 2016, PBRs are legislated domestically under a new IP law – the *Ingenios* Act, which replaced the IP Act (1998).¹¹¹ Implementing norms for the *Ingenios* Act were adopted in 2020.¹¹² The PVP provisions of the *Ingenios* Act by and large comply with Decision 345 and UPOV 1978, incorporating some elements from UPOV 91 and some *sui generis* provisions.¹¹³

The *Ingenios* Act introduces some limits to PBRs. First, it shortens the term of protection from 20 to 15 years for all spe-

cies, and from 25 to 18 years for vines and trees.¹¹⁴ Second, it expands the grounds on which compulsory licenses may be granted by the government for the exploitation of plant varieties without the authorization of the right-holder. Previously, these were limited to "exceptional cases of national security or public interest." Under the *Ingenios* Act, compulsory licences can also be granted in situations of emergency and anticompetitive practices.¹¹⁵ Third, the conditions under which the exclusive rights of the breeder are "exhausted" would effectively permit the parallel importation of protected plant varieties.¹¹⁶ Parallel importation refers to the importation by a government or a third party of an IP-protected good from another country where it is sold at a more affordable or competitive price. Parallel importation does not require the consent of the right-holder as long as certain conditions are met.

Under the *Ingenios* Act, farmers can make personal use, exchange, or sell within the "traditional communitarian agricultural sphere" protected plant varieties without the authorization of the breeder, as long as these acts are performed for non-profit purposes.¹¹⁷ The farmer's exception excludes fruits, ornamentals and trees – sectors of special interest to commercial breeders. As was the case with the IP Law (1998), the *Inge-*

ngios Act extends protection to the products of the harvest, in line with UPOV 91.¹¹⁸

The following year, Ecuador enacted a new Law for Agrobiodiversity, Seeds, and the Promotion of Sustainable Agriculture (hereafter “Seed Law”).¹¹⁹ This law establishes a clear distinction between “conventional” (i.e. commercial) and “non-conventional” (i.e. peasant) seed systems.¹²⁰ While the former is based on seed certification and subject to State regulation, the latter are to be managed autonomously and collectively under multiple modalities.¹²¹ The Seed Law guarantees the free use, production, promotion, conservation and exchange of peasant seeds, including native and traditional varieties. The law also establishes an individual and collective right to the free production, conservation, commercialisation, exchange and access to all classes of native, traditional, and certified seed.¹²² Moreover, the law obligates the State to “preserve, produce, regenerate, conserve, revitalise, distribute, promote and facilitate the use, free exchange, and consumption, in a sustainable manner, of agrobiodiversity, and native and campesino seeds.”¹²³

Both the *Ingenios* Act (*Código de Ingenios*) and the Seed Law (*Ley Orgánica*) are “organic laws”, which in Ecuador are at the top of the hierarchy of laws, just below the Constitution and international treaties.¹²⁴

DEBATES AROUND PLANT VARIETY PROTECTION

Agriculture in Ecuador is divided between large-scale industrial production for export – mostly bananas, cacao, coffee and ornamental plants – and small-scale production of food crops on family farms.¹²⁵ Over 90 per cent of plant breeders’ certificates in Ecuador are for flowers, especially roses and carnations. In contrast, the vast majority of seeds sown by peasants and family farmers are saved on farm, obtained through exchanges with neighbouring communities or acquired in local markets and seed fairs.¹²⁶ In this context, the debates and mobilization around farmers’ rights to seeds have focused on the Seed Law rather than on the *Ingenios* Act. While this study is primarily concerned with PVP, in the context of Ecuador it is important to discuss the Seed Law because it has direct implications for farmers’ rights to seeds.

Peasant and Indigenous organizations participated directly in the Constituent Assembly that drafted the 2008 Constitution, a process rooted in the rejection of the prevailing neoliberal policies and agroexport economic model.¹²⁷ In 2009, Ecuador became one of the first countries to enact a Law on Food Sovereignty.¹²⁸ This Law established a Food Sovereignty Commission (COPISA) with a mandate to facilitate discussions and make proposals concerning the implementation of the Food Sovereignty Law.

One of COPISA’s most important initiatives was the Seed Law. For two years, COPISA worked with over 500 CSOs, notably peasant and Indigenous organizations, to develop a proposal, one of whose key objectives was to guarantee the free flow and exchange of peasant seeds, as guaranteed by the Constitution.¹²⁹ The participatory rule-making process involved public comments, roundtable discussions and public hearings, and culminated in the presentation of a draft law to the National Assembly in 2012. However, this draft law did not progress beyond the first reading.

Four years later, another bill was introduced in the National Assembly with the support of the Food and Agriculture Organization (FAO) and the participation of the Ecuador Seed Association (ECUASEM).¹³⁰ This draft largely ignored the work of COPISA. Two provisions, in particular, were unacceptable to peasant and Indigenous organizations. The first declared that native seeds were a strategic resource and belonged to the State. The second imposed the compulsory registration of all seeds and seed producers.¹³¹ During the pre-legislative consultation on the proposed Seed Law, the Seed Guardians Network called on Indigenous and peasant organizations as well as CSOs to take part in the public consultation and oppose these provisions.¹³² The mobilization succeeded: the draft law was modified to declare seeds the cultural heritage of the peoples of Ecuador, and to create two parallel seed systems – conventional and non-conventional.¹³³

The Seed Law, passed in 2017, is nonetheless the object of multiple challenges before the Constitutional Court. While most of the challenges concern the last-minute addition by President Correa of a controversial provision allowing research with GM seeds and crops, the Seed Guardians Network has filed a more comprehensive challenge concerning fifteen articles of the law, including the fact that submitting peasant seeds to phytosanitary norms contradicts the state obligation to guarantee their free use, conservation and circulation. The Seed Guardians Network also argues that the National Council for Seeds created under the Act should include representatives of peasant and Indigenous organizations as well as small and organic producers.¹³⁴ As of January 2021, the Court had accepted the petition but had not yet ruled on the case. In the meantime, the Seed Law Regulations were approved in March 2020.¹³⁵ The Seed Guardians Network has criticized the Regulations for adding restrictions to the circulation of peasant seeds, for example by stating that peasant seeds must meet phytosanitary standards, and that they must be certified in order to be commercialized in the conventional system.¹³⁶

At the external level, Ecuador is negotiating trade agreements with the US and the EU that include provisions related to PVP and UPOV. In 2016, Ecuador joined the EU trade agreement with Colombia and Peru. The Agreement stipulates that “The Parties shall cooperate to promote and ensure the protection of plant varieties based on the [UPOV Convention], as revised on 19 March 1991.”¹³⁷ A footnote was added to specify that, at the time of signature, UPOV 1978 was in force in Ecuador. The European Union interprets this provision as requiring parties to ensure protection under UPOV 91. Other observers, however, argue that an obligation “to cooperate” is not the same as an obligation “to ensure.”¹³⁸

In 2018, Ecuador also signed a trade agreement with the European Free Trade Association (EFTA), composed of four non-EU European countries – Iceland, Liechtenstein, Norway and Switzerland. In contrast to the EU FTA, this agreement states that parties must ratify the UPOV 91 Convention “unless the Party concerned is already a member of [UPOV] 78 and chose not to accede to the 1991 Act”.¹³⁹ This does not create a new obligation for Ecuador, since it is already a UPOV member.

Finally, following the election of President Lenín Moreno in 2017, Ecuador resumed the negotiation of a trade agreement with the US that had been suspended in 2006. In February 2020,

the two countries announced that they were about to reach an agreement, but the Covid-19 public health crisis put a halt to the negotiations.¹⁴⁰ The text of the agreement has not been made public, but the US has systematically pushed for UPOV 91 in its bilateral trade agreements. Moreover, flower exports and IP rank high on the trade agenda.¹⁴¹

The new Constitution, the *Ingenios* Act and the Seed Law seek to achieve a better balance between the rights of farmers

and those of plant breeders, and have to some extent strengthened peasant seed systems and the preservation of agrobiodiversity. The impact of these laws will ultimately depend on a combination of factors, including the multiple challenges to the Seed Law and Regulations before the Constitutional Court, the social and political crisis, the election of a conservative neoliberal president (Guillermo Lasso) in April 2021, and the trade negotiations between Ecuador and the United States.

Box 5

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

Ecuador's *Ingenios* Act and Seed Law are compatible with the 1978 Act. If Ecuador were to adhere to UPOV 1991, it would need to amend the *Ingenios* Act in substantial ways.¹⁴²

If Ecuador were to comply with UPOV 91:

- Under the *Ingenios* Act, the scope of protection is extended to all plant genera and species, provided “that the cultivation, possession or utilisation thereof is not prohibited for reasons of human, animal or plant health, food sovereignty, food security and environmental security” (Art. 471). This proviso would not be accepted under UPOV 1991;
- The types of acts protected would be extended from producing for commercial purposes, offering for sale or marketing propagating material to encompass production and reproduction (multiplication), conditioning for the purpose of propagation, exportation, importation and stocking;
- The term of protection would be extended from 15 to 20 years, and from 18 to 25 years for trees and vine varieties;
- Protection would be extended to EDV;
- The broad farmers' exception in the *Ingenios* Act would be severely restricted. UPOV 1991 only allows seed saving for replanting on a farmer's own property. The *Ingenios* Act exception for seed saving, exchange and non-profit sales in the context of ancestral agricultural practices or in a traditional community agricultural setting would likely not be allowed;
- The *Ingenios* Act includes a provision allowing for the parallel importation of plant varieties. This would not be allowed under UPOV 1991;
- When a variety has been obtained from genetic resources originating in Ecuador or the Andean Community, the *Ingenios* Act allows for PBRs to be nullified if the applicant does not provide an ABS agreement. UPOV does not accept disclosure of origins and ABS requirements as a condition for the grant of PBRs.¹⁴³

2.6 China

OVERVIEW OF THE LEGAL FRAMEWORK

China joined UPOV under the 1978 Act in 1999, two years before becoming a member of the World Trade Organization. PBRs are governed by the Regulations on the Protection of New Varieties of Plants, promulgated in 1997 and last amended in 2014 (hereafter “PVP Regulations”).¹⁴⁴ In addition, a chapter on PVP was added to the Seed Law when it was revised in 2014. As a result, PBRs are now regulated under both the Seed Law and the PVP Regulations.

The PVP Regulations are largely based on UPOV 78. Article 10 allows farmers to use the propagation materials of a protected variety they harvested for their own use or for self-propagation on their own holdings; Article 11 allows for the use of compulsory licenses for the exploitation of new plant varieties in the national or public interest. The PVP Regulations are comple-

mented by a set of implementation rules and by the judicial interpretations of the Supreme People's Court.¹⁴⁵

The revised Seed Law adopted in 2015 establishes State sovereignty over germplasm resources.¹⁴⁶ Any research activity or commercial use of germplasm involving foreign entities is conditional on approval by the competent state authority (Art. 11). One of the main changes consisted in the addition of a chapter on the protection of new plant varieties (Chapter 4). Portions of the PVP Regulations were thus incorporated into the Seed Law. Article 25 states that the State will establish a new PVP system. Article 26 determines that a PVP certificate can be denied if a new plant variety violates the country's laws or regulations, or if it harms the public interest or the environment. Article 28 establishes the types of acts covered by PVP protection in line with UPOV 78. Article 29 provides for a research exception and allows farmers to reproduce or use the propagating materials of a

protected variety. Article 30 provides for the use of compulsory licences in the national interest or public interest.

In 2016, the Chinese government announced the revision of the PVP Regulations as part of a broad overhaul of its IP legislation.¹⁴⁷ As of January 2021, the revision process was ongoing. A Consultation Draft of the revised PVP Regulations is discussed in more detail in the next section.

DEBATES AROUND PLANT VARIETY PROTECTION

China is a major agricultural producer and the world's largest seed market, with an estimated 12.5 million tonnes of seeds planted annually.¹⁴⁸ Applications for plant variety protection have increased significantly in recent years, and China is the country that processes the highest number of PVP applications worldwide (28.5%).¹⁴⁹ According to a survey by China Agricultural University, the shift toward commercial seed varieties in recent years is rapidly displacing traditional varieties and knowledge, and undermining peasant seed systems.¹⁵⁰

Two main organizations defend PVP in China: the China National Seed Association (CNSA) and the China Seed Industry IP Union (CSIU). The China National Seed Trade Association (CNSTA) is also increasingly concerned about the protection of trade-related IP rights. CNSA was founded in 1980 and is part of the International Seed Federation (ISF). CSIU was created more recently (2010) and brings together public agricultural institutions and private companies. As its name indicates, CSIU focuses on the IP dimension of the seed industry.¹⁵¹

The process of amending the Seed Law started in 2013 and lasted three years. It aroused considerable interest and debate nationwide among the seed and plant breeding industry, agricultural universities, research institutions and civil society groups. In the early draft, the whole text of the PVP Regulations was incorporated into the Seed Law, with the addition of the concept of EDV, taken from UPOV 91. This draft, however, met with significant opposition: the PVP provisions were narrowed down to five articles, and EDV was removed from the text. One provision of the Seed Law that had been deleted from the early version of the revised draft was also reintroduced at the initiative of farmers' groups (Art. 37).¹⁵² It establishes that "the left-over conventional seeds self-propagated and used by farmers can be sold and exchanged on the market without a seed production and business license" (Art. 37). According to Zhu, "conventional seeds normally refer to non-hybrid seeds but the provision does not differentiate the category of conventional seeds that are harvested by farmers from the seeds bought from seed companies and the category that is cultivated by farmers themselves".¹⁵³

Shortly after the adoption of the revised Seed Law, China started revising the PVP Regulations. In February 2019, a draft bill was released by the Ministry of Agriculture and Rural Affairs for public comments (hereafter "Consultation Draft").¹⁵⁴ The Consultation Draft considerably strengthens PBRs compared to the current PVP Regulations (1997). Here is a summary of the main changes:

- **Scope of protection** – Compared with the PVP Regulations, the Consultation Draft extends the scope of protection in four

different ways. First, by deleting the mention that protection extends to an act done "for commercial purposes", the draft extends PBRs to the non-commercial sphere. Second, while the PVP Regulations only extend protection to production and sale, the Consultation Draft extends protection to production, reproduction or sale, export or import, acquisition, storage and transportation. Third, in the Consultation Draft, PBRs can also be enforced on harvested material, as opposed to seeds only. Fourth, these rights can be enforced on the direct produce made from the harvest of a protected variety. The first three provisions are mandatory under UPOV 91. The fourth is an optional provision whose implementation is open to question since it implies being able to identify the protected variety in a processed product.

- **EDV** – The protection afforded to a plant breeder extends to varieties that are essentially derived from a protected variety. However, China is seeking to develop its own, less ambiguous, definition of EDV integrating the use of molecular markers.¹⁵⁵
- **Exceptions** – The farmers' exception contemplated in the Consultation Draft is more restrictive than in the PVP Regulations because it puts limits on the amount of seeds that can be saved for replanting. Article 13 of the Consultation Draft restricts the scope of the farmers' exception by specifying that the quantity of propagating materials from protected varieties that can be saved by farmers for self-propagation and self-use should not exceed a "reasonable amount."
- **Genera and species to be protected** – Under the PVP Regulations, the list of plant genera or species for which protection can be sought is determined by public authorities. In contrast, the Consultation Draft extends protection to all genera and species of plants, with the proviso that plant varieties that violate laws and regulations or endanger social and public interests and the environment shall not be granted protection (Art. 14).
- **Duration** – In line with UPOV 91, the term of protection is extended from 15 to 20 years for plants; and 20 to 25 years for vines, fruit trees, forest trees and ornamentals.
- **Innocent infringement** – The Consultation Draft includes a provision concerning the innocent infringement of PBRs by farmers. Article 58 stipulates that a farmer who unknowingly infringes PBRs is not held liable to pay compensation if he can identify the source of the breeding material. In other words, the farmer bears the responsibility of stopping the infringement, but is not liable to pay compensation (the original provider, however, may incur tort liability). This is a recognition that many poor farmers may not be aware that they are committing an infringement and may not have the financial means to pay compensation.

It is important to note that amendments to the PVP Regulations will have no effect on the IP provisions of the Seed Law since regulations are subordinate to laws. For this reason, some experts believe that it would be preferable to adopt a comprehensive PVP Law to replace both the PVP Regulations and the PVP chapter of the Seed Law.¹⁵⁶

On the external level, China entered into its first trade agreement with a European country, Switzerland, in 2013.¹⁵⁷ Switzerland is not a member of the European Union, but it is party to UPOV 91. The FTA includes the commitment to adhere to

the 1978 UPOV Convention. However, the articles of the FTA on the scope of – and exceptions to – PBRs generally use the wording of the 1991 Act.¹⁵⁸ Both parties also commit to cooperate on the extension of protection to EDV, another feature of UPOV 91.¹⁵⁹

China is also part of the Regional Comprehensive Economic Partnership (RCEP) signed by 15 countries of the Indo-Pacific region in November 2020.¹⁶⁰ Under the RCEP, multilateral agreements on IP fall into three categories: those that must be obligatorily ratified; those that parties shall endeavour to ratify; and those that are optional. UPOV 91 falls into the third category. Leaked negotiation texts showed that Japan and South Korea advocated making UPOV 91 an obligation under the Agreement, but yielded to pressure from farmers' and civil society organizations in the region.¹⁶¹

Finally, at the regional level, China is a member of the East Asian Plant Variety Protection (EAPVP) Forum, established in 2007 with the explicit goal of cooperating to establish "effective PVP systems consistent with the UPOV Convention".¹⁶²

As shown by the revision of the Seed Law and PVP Regulations, there is a clear political will on the part of the Chinese government to strengthen plant variety protection.¹⁶³ In addition

to the overhaul of the domestic IP legislation, the government has set up a centralized system of IP courts and tribunals to harmonize the interpretation and application of IP laws, and has invested in variety testing facilities.¹⁶⁴ The Supreme People's Court also announced in 2020 its intent to issue judicial interpretations to guide legal decisions in cases involving PBRs infringement.¹⁶⁵

Some observers believe it is only a matter of time before China officially joins UPOV 1991.¹⁶⁶ However, according to a legal scholar, Chinese officials "reportedly want legislation in line with the 1991 UPOV convention but do not want to actually accede to the 1991 UPOV convention" in the near future.¹⁶⁷ In other words, China could become a de facto member of UPOV 91 without actually becoming a signatory to the 1991 Act.¹⁶⁸ This would allow China to experiment with stronger norms of plant variety protection domestically without becoming externally bound by an international convention. A 2017 study by the government agencies responsible for PVP reveals a number of concerns about the impact of joining UPOV 91, including the lack of clarity in the definition of EDV and whether UPOV 91 may harm small farmers and small businesses.¹⁶⁹

Box 6

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

It is important to bear in mind that the Consultation Draft may still undergo changes. If China adopts the Consultation Draft in its 2019 version, the amended PVP Regulations will be in line with UPOV 91 in terms of the genera and species to be protected; scope of PBRs (types of acts, harvested material, EDV), exceptions to PBRs (acts done privately and for non-commercial purposes; farmer's exception) and duration of PBRs.

If China were to join UPOV 91, the IP chapter of the Seed Law would also need to be revised. The farmers' excep-

tion allowing farmers to use and reproduce the propagating material of a protected variety would be restricted. Another provision that does not seem to be in line with UPOV 91 is that stipulating that plant varieties violating laws and regulations, or endangering social and public interests and the environment, shall not be granted protection (Art. 14). Indeed, the 1991 Act does not provide for any such exceptions. The types of acts covered by PVP protection would be expanded in line with the 1991 Act.

2.7 New Zealand

New Zealand introduced plant variety protection legislation in 1973.¹⁷⁰ In 1981, the country joined UPOV under the 1978 Act, and a new Plant Variety Rights (PVR) Act was passed in 1987.¹⁷¹ The PVR Regulations were revised the following year.¹⁷² The PVR Act (1987) has remained in effect for over three decades with only minor amendments. A new PVR Bill was introduced in Parliament in May 2021.

The PVR Act grants exclusive rights to produce for sale, and to sell, propagating material of a protected variety (Section 17.1). Since 1994, plant variety rights can be granted on any cultivated

variety except alga.¹⁷³ The PVR Act grants protection for 20 years in general, and for 23 years for "woody plants", e.g., grapevines, large shrubs, roses, trees and rootstocks (Section 14.2). The exclusive rights of the breeder can be restricted in the public interest during a state of national emergency as long as the breeder is adequately compensated (Section 17). Regarding exceptions to the exclusive rights of the breeder, any person may: 1) propagate, grow or use a protected variety for non-commercial purposes; 2) use any variety for breeding, to hybridise and produce a new variety (the breeder's exemption); and 3) use propagating materi-

al from a protected variety for human consumption or other non-reproductive purposes (Section 18). The use of farm-saved seeds is allowed for seed-propagated varieties. There is no specific exception for experimental use, but such use would not infringe the rights of the breeder since it is not for commercial purposes. In summary, the PVR Act is generally in line with UPOV 78, except for the general term of protection of 20 years and the extension of PBRs to any plant variety except *alga*.¹⁷⁴

Also relevant to discussions of PVP in New Zealand is the Treaty of Waitangi, signed in 1840 between the representatives of Māori tribes and the British Crown. The Māori understanding of the Treaty, which has been confirmed by the Waitangi Tribunal, is that it guarantees the tribes' absolute collective authority over their tangible and intangible domains, including Indigenous fauna, flora and related knowledge.¹⁷⁵ The Treaty of Waitangi and its interrelationship with the PVP Act and UPOV 91 are discussed in more detail in the next section.

Finally, New Zealand, like Chile, is part of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). Under the CPTPP, New Zealand committed to either accede to UPOV 91 or adopt a *sui generis* PVP system that would "give effect" to UPOV 1991 while complying with obligations under the Treaty of Waitangi by December 2021. To fulfill this trade deal commitment, a new PVR bill was introduced in Parliament in May 2021.¹⁷⁶

DEBATES AROUND PLANT VARIETY PROTECTION

Agriculture is New Zealand's largest industry. It is driven by dairy and sheep farming, but also includes a significant production of cereals, horticultural crops and wine grapes. New Zealand's main trading partners – Australia, the US, Japan, the EU and Canada – are party to UPOV 91.¹⁷⁷ The New Zealand Plant Breeding and Research Association (NZPBRA) and the New Zealand Grain & Seed Trade Association (NZGSTA) contend that the country could be put at a disadvantage if it does not adhere to UPOV 91.¹⁷⁸ However, an independent economic analysis commissioned by the government in the context of the PVR Act review concluded that "there is no evidence that New Zealand is currently missing out on new plant varieties either through foreign breeders not bringing their IP here, or through domestic research and development being hampered by insufficient return on investment in breeding programmes".¹⁷⁹ Rather, the impetus for amending the legislation is to implement the government's obligations under the Treaty of Waitangi as well as under the CPTPP.¹⁸⁰

In New Zealand, the debate around plant variety protection has been intertwined with two processes: at the national level, the Wai 262 claim before the Waitangi Tribunal; and, at the international level, the Trans-Pacific Partnership trade negotiations.

A review of the PVR Act began in the late 1990s, and mainly focused on whether New Zealand should accede to UPOV 91. However, the review process was put on hold in anticipation of the release of a major report of the Waitangi Tribunal due to concerns that UPOV 91 would violate the Treaty of Waitangi.¹⁸¹

The Waitangi Tribunal was established in 1975 to investigate possible breaches by the government of its obligations under the Treaty, but had no power other than to make recommenda-

tions. In 1991, six New Zealand tribes filed a claim – known as Wai 262 – with the Tribunal for the recognition and protection of the Māori *kaitiaki* relationships with *taonga* species and of Māori traditional knowledge (*Mātauranga*). In Māori culture, *kaitiaki* refers to the concept of guardianship over the natural world, and *taonga* refers to a treasured possession, whether tangible or intangible.

Wai 262 claimants argued that the government of New Zealand had a responsibility to guarantee these rights under the Treaty of Waitangi. The Wai 262 Claim encompasses a range of issues – from Māori arts and design to the genetic engineering of native flora and fauna – and draws on several international instruments including the UN Declaration on the Rights of Indigenous People (UNDRIP) the UN Convention on Biological Diversity (CBD) and the International Labour Organization (ILO) Convention 169. For the purpose of this study, I focus on Wai 262 as it relates to the PVR Act and to UPOV 91.

The Waitangi Tribunal issued its final report in 2011, after more than three decades. With respect to PVP, the Tribunal stated:

(...) while Māori have no proprietary rights in *taonga* species, the cultural relationship between *kaitiaki* and *taonga* species is entitled to reasonable protection. We support the Crown's proposed changes to the Plant Variety Rights Act, but recommend that any new PVR legislation also include a power to refuse a PVR if it would affect *kaitiaki* relationships with *taonga* species. In order to understand the nature of those relationships and the likely effects upon them, and then to balance the interests of *kaitiaki* against those of the PVR applicant and the wider public, the Commissioner of PVRs should be supported by the same Māori advisory committee that we recommend becomes part of the patent regime.¹⁸²

Another decade passed before the government announced in 2020 that it would set up a "whole-of-government" process known as *Te Pae Tawhiti* ("Our Future"), to address the recommendations of the Wai 262 Report.¹⁸³

In addition to claim Wai 262, the review of the PVR Act was further delayed by the 2008 launch of the Trans-Pacific Partnership (TPP) negotiations. Indeed, a requirement to accede to UPOV 91 was being negotiated at the insistence of the US. In 2017, New Zealand ratified the TPP and resumed the PVR Act review process. The following year, the trade agreement – renamed Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) following the withdrawal of the US – was signed.

The CPTPP Agreement includes an obligation to become a party to the UPOV 1991. However, an Annex specific to New Zealand – Annex 18-A – stipulates that within three years of the date of entry into force of this Agreement (that is, by December 2021), New Zealand must either (a) accede to UPOV 91; or b) adopt a *sui generis* plant variety rights system that gives effect to UPOV 1991. Paragraph 2 stipulates that this should not "preclude the adoption by New Zealand of measures it deems necessary for the protection of indigenous plant species in fulfilment of its obligations under the Treaty of Waitangi, providing that such measures are not used as a means of arbitrary or unjustified discrimination against a person of another Party." Paragraphs 3 and 4 concern the relationship between Annex 18-A and the dispute settlement provisions of the Agreement.¹⁸⁴ A general "Treaty of Waitangi exception" clause has been included in every trade

agreement signed by New-Zealand since 2000. However, it is the first time such an exception has been explicitly set out in relation to the UPOV Convention in a trade agreement worldwide.

The TPP/CPTPP negotiations were conducted under a formal secrecy pact. A group of Māori claimants denounced the government's failure to engage with them over the TPP and Annex 18-A and lodged a claim with the Tribunal of Waitangi before the end of the negotiations on the grounds that the agreement was a breach of Māori rights and Crown obligations under the Treaty. The Tribunal held an urgent hearing after the text of the CPTPP was made public, followed by a hearing on specific issues including the UPOV 1991 obligation.¹⁸⁵ One of the concerns raised by Māori claimants was that there was no agreed definition of "indigenous plant species" and that the term may encompass only a small set of *taonga* species.¹⁸⁶

In 2019, the government released a Cabinet paper on the PVRs Act review.¹⁸⁷ In this paper, the government took the position that acceding to UPOV 91 was incompatible with meeting its obligations under the Treaty of Waitangi. The government therefore proposed adopting most UPOV 91 requirements by way of standalone legislation specific to New Zealand. In other words, New Zealand would "give effect" to UPOV 91 while officially remaining a member of UPOV 78 (the second option under Annex 18.A).

The proposals put forward in the Cabinet Paper include: 1) disclosure requirements in PBRs application; 2) the ability to refuse the grant of plant variety rights if *kaitiaki* relationships are affected and cannot be mitigated to a reasonable extent; 3) the ability for the Commissioner to refuse a name for a new variety if the registration or use of that name would offend a significant

Box 7

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT¹⁹³

As New Zealand is in the process of passing a new PVR Act that will "give effect" to UPOV 91, this section outlines what will be the main changes with respect to the PVR Act 1987.

In the explanatory note on the new PVR bill, the government states that "The ability to refuse a PVR on the basis of its impact on *kaitiaki* relationships effectively adds a new condition for granting a PVR and this is not consistent with UPOV 91. This Bill, therefore, "gives effect" to UPOV 91 by aligning the regime with UPOV 91 to the fullest extent possible while also meeting the Crown's Treaty of Waitangi obligations".¹⁹⁴ This means that the new PVR Act will include most of the provisions of the 1991 Act, including those concerning the definition of terms, conditions of protection, duration of the breeders' rights, types of acts that require the authorization of the breeder, and extension of protection to harvested material. When compared with the PVR Act (1987):

- The types of acts protected will be extended from "to produce for sale and to sell" to encompass production or reproduction (multiplication), conditioning for the purpose of propagation, exporting, importing and stocking;
- The duration of protection will be extended from 23 to 25 years for trees and vines;
- The exclusive rights of the plant breeder will be extended to harvested material, and any product made directly from harvested material, when the breeder has not had a reasonable opportunity to assert their rights in relation to the propagating material from which it is derived;
- Protection will be extended to EDV, but New Zealand has provided (arguably) a more precise and narrow definition of EDV as "copycat" varieties which only change the initial variety in a commercially insignificant way.¹⁹⁵ The new Bill introduced in parliament defines an EDV as a variety that does not exhibit

any important (as opposed to cosmetic) features that differentiate it from the initial variety it was derived from. The explanatory note specifies that "there is still significant debate within the international plant breeding community as to how to define an EDV, and the intent of this approach is to provide greater clarity on this question".¹⁹⁶

- The exception for acts done for non-commercial purposes will be limited to "acts done for private or non-commercial purposes";
- New Zealand will incorporate the optional exception for the use of farm-saved seeds, with the possibility of introducing limitations to this right under the Regulations if the different sectors come to an agreement.¹⁹⁷ As in Brazil, the farmers' exception is a sore point between farmers and domestic/foreign plant breeders. Seed saving is a common practice for some grains (e.g., wheat, barley) and most farmers oppose restricting this right.

The new PVR Act will differ from UPOV 91 in that it will implement additional conditions for "indigenous plant species" and "non-indigenous plant species of special significance", to be listed in regulations following consultations. For these plant species, the recommendations of the Waitangi Tribunal will be implemented. For example, the Māori Plant Varieties Committee will be empowered to refuse a grant that would affect the *kaitiaki* relationship. As for disclosure of origin requirements, some origin and breeding information is already required in the technical questionnaire submitted with an application. Furthermore, under the new regime, breeders will be required to disclose if their application involves either indigenous species or non-indigenous species of significance, along with any engagement they have had with *kaitiaki* pre-application.¹⁹⁸ When the process of addressing the issues raised in the Wai 262 Report is completed, further amendments to the PVR Act may be needed in relation to disclosure of origin requirements.¹⁹⁹

section of the Māori community; and, 4) the establishment of a Māori Advisory Committee to, among other functions, make a determination on the impact of a PVR grant on *kaitiaki* relationships with *taonga* species.

New Zealand is treading a fine line. As one patent attorney and lawyer notes, the nuances of its position are likely to be lost on the wider UPOV community.¹⁸⁸ But some Māori are also voicing concern that the proposed measures may not genuinely protect their rights and interests. A consultation process was held in the context of the PVR Act review, including technical workshops with industry and Māori representatives in 2017, and a broader public consultation in 2018–2019. In response to concerns raised during the consultations, the expression “non-indigenous species of special significance” was added to include species that are not endemic to New Zealand but are nonetheless “treasured” by Māori.

In its Report on the Crown’s Review of the Plant Variety Rights Regime, released in 2020, the Waitangi Tribunal remarked that claimants’ concerns over “the long-delayed reform to a plant variety rights regime – which all parties accept does not meet the

Crown’s Tiriti/Treaty obligations – speaks to a number of important issues” which “range from important world view or paradigm conflicts to more practical concerns about process”.¹⁸⁹ The Tribunal also acknowledged that there are significant differences of opinion over the interpretation and operation of Annex 18-A.¹⁹⁰ Some Māori have demanded that the government not proceed with the PVR Act review until the process of implementing the Wai 262 recommendations is completed, which would imply not meeting the Annex 18-A deadline.¹⁹¹

Following the 2019 Cabinet Paper, the government started drafting new legislation. The PVR Bill was introduced in Parliament in May 2021. Once the bill is introduced, it will go before a select committee, where there will be a last opportunity for public input. The government will also begin consultations on changes to the PVR Regulations. The government has signalled it may seek a short extension to comply with the December 2021 CPTPP deadline.¹⁹² The New Zealand government is engaged in a complex balancing act, and it will be interesting to see the details of the bill and how it will be received.

2.8 Norway

OVERVIEW OF THE LEGAL FRAMEWORK²⁰⁰

Norway enacted PBRs legislation in 1993 and joined the UPOV under the 1978 Act the same year. As of 2021, IP rights to plant varieties are governed by the Plant Breeders’ Rights Act (1993) and its Regulations (1997).²⁰¹ A series of minor amendments were made to the PBRs Act over the years, but these did not change the substance of the law. The PBRs Act is largely based on the 1978 Act, with the exception of the term of protection of twenty years (twenty-five years for trees and vines) and the fact that PBRs extend to all genera and species of plants.²⁰²

It is worth noting that farmers’ rights over protected plant varieties are not explicitly regulated in the PBRs Act and its Regulations. Most countries regulate these rights as “exceptions to the rights of the plant breeder” (also known as the “farmer’s privilege”). In contrast, Norway creates a legal space for the realization of farmers’ rights as provided for in the FAO Plant Treaty.²⁰³ In Norway, the language of “privilege” has not been applied. The focus is on achieving a balance between the rights of farmers and those of breeders. Farmers are entitled to save seeds from their harvest of protected varieties for replanting in the following season. Farmers can also exchange protected seeds among themselves but are prohibited from selling them.²⁰⁴

The PBRs Act also includes a requirement to disclose the origin of plant material and traditional knowledge used in the development of a plant variety when applying for PBRs.²⁰⁵ Not doing so is a punishable offence, but it does not affect the processing of the application or the validity of the PBRs certificate.

The other relevant piece of legislation is the Food Act (2003), a comprehensive legislation governing agriculture as well as food production, safety and trade.²⁰⁶ The Food Act includes regulations on variety release and the production and sale of seeds.²⁰⁷ As is the case with the PBRs Act, the term “farmers’ rights” is not explicitly included in the Food Act. Farmers have the right to save, exchange and sell farm-saved seeds in small quantities and on a non-commercial basis (with the exception of seed potatoes²⁰⁸).²⁰⁹ A regulation adopted in July 2020 specifies that non-commercial sale is allowed.²¹⁰ This means that, while a farmer can sell a small quantity of leftover seed to a neighbour, he or she cannot engage in the marketing of seeds through social media, for example.

Norway is not a member of the European Union, which is itself an institutional member of UPOV 91. However, Norway is part of the European Economic Area (EEA) and, as such, is bound by the EU regulations considered to be EEA-relevant. While agriculture at large is not EEA-relevant, seeds are. Norway is therefore bound by the myriad EU directives in the seed sector, notably the directives governing plant variety release and seed marketing.²¹¹

DEBATES AROUND PLANT VARIETY PROTECTION²¹²

Norway has unique growing conditions due to its high latitude and sunlight pattern. Plant breeding is considered essential to maintaining plant varieties adapted to these conditions and to

ensuring the country's self-sufficiency in terms of food production.²¹³ The country only has one plant breeding company, Graminor Ltd., a private company structured as a cooperative, created in 2002. Among its shareholders are the two largest Norwegian farmer cooperatives involved in the seed business. Roughly two-thirds of its income comes from royalties and one-third from governmental funding.²¹⁴ In the 2000s, Graminor had difficulty recouping its expenses with the revenue from the royalties it collected under the PBRs Act. To increase its revenues, it approached the government to amend the PBRs Act and strengthen plant variety protection, in line with UPOV 91.

A draft law that would have brought Norway's PBRs legislation closer to UPOV 91 was made available for public consultation in 2005. The main farmers' unions and some members of the scientific community opposed the bill. Later that year, an alliance of socialist, labour and environmentalist parties formed the government and a former member of the main national farmers' union was appointed as the Minister of Agriculture. One of his first decisions in office was to reject the bill to amend the PBRs Act on the ground that it would undermine farmers' rights. More specifically, the government argued that the amendments would have imposed too many limitations on farmers' rights to save, re-use and exchange seeds; and that they would have forced farmers to buy seeds every year. At the time, Norway explicitly upheld its right to remain a UPOV member under the 1978 Act, which in its view offered a better balance between farmers' rights and PBRs.²¹⁵ The increase in revenues resulting from the proposed amendments would have been insufficient in any case, in addition to weakening public support for plant breeding and negatively impacting farmers' rights and agrobiodiversity.²¹⁶ In compensation, the Norwegian government offered stronger support to the plant breeding company Graminor.²¹⁷

For a government to take such a strong stance on farmers' rights is noteworthy. However, Norway's unique growing conditions meant that the government was aware of the importance of maintaining a domestic plant breeding industry and of preserving agrobiodiversity. Norway has a tradition of plant breeding and conservation among a small but dedicated community of farmers, and the government was receptive to their concerns.

Moreover, Norway had been an active proponent of the FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), or Plant Treaty, throughout its negotiation (1994–2001).²¹⁸ The Fridtjof Nansen Institute (FNI) and Oikos–Organic Norway (now Organic Norway), respectively a research institute and an NGO, played a key role in addressing the implications of the legislative proposals concerning the PBRs Act and the seed legislation. They liaised with government institutions, plant breeders and farmers' unions (the Norwegian Agrarian Association and the Norwegian Farmers' and Smallholders' Union) and facilitated a joint understanding among them.

Notwithstanding all this, Norway's ability to regulate plant variety release and seed marketing was circumscribed by its membership in the European Economic Area (EEA). Around the same period in which amendments to the PBRs Act were debated and rejected domestically, Norway passed new regulations to conform to EU regulations in the matter of plant variety release and seed marketing. The EU directives prohibited the exchange and sale of seeds and propagating materials for commercial use. However, Norway omitted the words "for commercial use" when it incorporated this provision from the EU directive into its domestic legislation, resulting in a drastic ban on the circulation of plant materials. In Norway, these new regulations represented a radical change, from an environment in which farmers could liberally exchange, give away and sell seeds among themselves to one in which these customary practices were suddenly completely prohibited.²¹⁹ Following a consultation process facilitated by FNI and Oikos–Organic Norway, and involving all stakeholders, including government institutions, the government proposed changes to the regulations in 2009. These proposals were opened for public consultation, but this did not result in substantive changes, mainly because the government was constrained by the obligation to abide by the EU regulations.²²⁰ Nevertheless, under the amended regulations to the Food Act adopted in 2010, farmers were once again allowed to save, exchange and sell seeds among themselves in small quantities and on a non-commercial basis (with the exception of seed potatoes). The terms "non-commercial" and "small quantity" are not further defined.

Box 8

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

Since Norway's legislation is based on UPOV 78, adhering to UPOV 91 would involve significant changes:

- The scope of PBRs would be expanded beyond production, importation and sale, to encompass conditioning, exporting and stocking;
- The exclusive rights of the plant breeder would be extended to harvested material, including entire plants and parts of plants, obtained through the unauthorized use of propagating material of the protected variety, unless the breeder has had a reasonable opportunity to exercise their rights in relation to the original propagating material;
- The concept of EDV would have to be incorporated, potentially restricting the scope of the breeders' exemption;
- Exchange and non-commercial sale of PBRs-protected varieties would be prohibited. Farmers' right to save and use farm-saved propagating material from protected varieties would be restricted according to certain criteria (particular crop or species, area planted, etc.). Seed saving would become conditional on the payment of royalties to the PBRs holder. Small farmers would only retain this right if the new law includes an exception to this effect.

In a “National Strategy for the conservation and sustainable use of genetic resources for food and agriculture” adopted in 2019, Norway states: “The work on Farmers’ Rights in Norway should be continued, for example through securing the easy access to genetic resources and continued participation in decision-making processes. Norway’s farmers should continue to be able to use farm-saved seeds and their own live animals in their production”.²²¹

The issue of joining UPOV 1991 has not been raised since the proposal to amend the PBRs Act was defeated in 2005 and there seems to be a wide consensus in Norway in favour of the status quo. With the rise of the Centre Party (previously the Agrarian Party), which has a strong rural base, it is unlikely that a proposal to move toward UPOV 91 will be proposed in the near future.²²²

Ironically given its decision to remain party to UPOV 78, Norway has promoted UPOV 91 in trade agreements with coun-

tries in the Global South through its membership in the European Free Trade Association (EFTA). The countries that have committed to UPOV 91 by entering into bilateral trade agreements with the EFTA include Morocco, Jordan, Lebanon, Egypt, Indonesia and some Central American countries. Other FTAs are currently also under negotiation with a number of other countries. The provisions of these agreements concerning UPOV are usually worded as “The State Parties to this Agreement which are not parties to one or more of the Agreements listed below shall undertake to obtain their adherence to (...).” This wording means that Norway, by virtue of already being a UPOV member, can remain a party to the 1978 Act, whereas EFTA’s trade partners are required to join the 1991 Act.²²³ In July 2020, 250 organizations from 60 countries denounced this double standard in an open letter.²²⁴

2.9 South Africa

OVERVIEW OF THE LEGAL FRAMEWORK

PBRs were introduced in South Africa in 1961, the same year UPOV was established. In 1977, South Africa became UPOV’s tenth member under the 1978 Act. A revised Plant Breeders’ Rights Act modelled on UPOV 91 was passed in 2018 to replace the PBRs Act of 1976, last amended in 1996.²²⁵ However, the new PBRs Act will only come into effect when the Regulations are approved, which is slated for 2021. The following discussion is based on the PBRs Act (2018), since it is only a question of time before it comes into effect.

The PBRs Act (2018) follows the text of UPOV 91 concerning the scope of protection given to the PBRs holder – including the types of acts, and the extension of protection to EDV, harvested material and products made directly from harvested material (Art. 7). All plant genera and species are eligible for PBRs (Art. 15.1).

Some provisions of the PBRs Act (2018) go beyond the minimum requirements of UPOV 91. The period of protection is extended to up to 30 years for “particular kinds” of plants (these are not defined in the Act), which is beyond the minimum duration of 20 or 25 years required by UPOV 91 (Art. 8.1). The Act also prevents the issuance of a compulsory license for the duration of the certificate of PBRs protection (Art. 9.2). As regards the farmer’s exception, the Act stipulates that certain uses by farmers do not constitute an infringement of the PBRs, with the specifics to be defined in the Regulations (this is discussed in more detail in the next section). PBRs infringement is liable to a fine and/or to imprisonment for up to ten years (Art. 55.1).

DEBATES AROUND PLANT VARIETY PROTECTION

Unlike most African countries, the South African seed sector is highly industrialized, commercialized and centralized. It is

dominated by large multinational and domestic seed companies that produce and sell genetically uniform, commercially-bred seed varieties, which have replaced genetically variable traditional varieties. A marginalized farmer-managed seed system continues to exist alongside the dominant commercial seed system, but its extent is unknown.²²⁶

In 1977, South Africa became the first country in the Global South to join UPOV, nearly two decades before other countries followed suit in the wake of the TRIPS Agreement.²²⁷ At the time, UPOV only had nine members, all of them European countries.²²⁸ South Africa was also the only country from the Global South to take part in the negotiations over the 1991 revision of the UPOV Convention.²²⁹ Interestingly given its participation in revising the Convention, it was in 2020 the only African member of the UPOV that was a signatory to the 1978 Act. All the other African countries and institutional organizations joined UPOV after 1999 and thus automatically acceded to the 1991 Act.²³⁰

And yet, while South Africa is a signatory to the 1978 Act, the revised PBRs Act adopted in 2018 is modelled on UPOV 91. In fact, several key elements of UPOV 91 – for example the term of protection of 20/25 years, the extension of protection to all plant genera and species, and the concept of EDV – had already been included in the PBRs Act (1976) through a series of amendments passed in the 1990s.

The 2018 revision of the PBRs legislation was supported by the South African seed industry and by philanthro-capitalist groups such as the Gates Foundation’s Alliance for a Green Revolution in Africa (AGRA). Founded in 1989, the South African National Seed Organization (SANSOR) represents the interests of the seed industry and is a member of the International Seed Federation (ISF). SANSOR defends strong PBRs and a streamlined seed certification process, and supports amending the seed and IP legislation accordingly. SANSOR also supports South Africa’s accession to UPOV 91.²³¹

African Centre for Biodiversity (ACB), a South African-based NGO, has played a key role on issues related to PVP and farmers' rights at the national, regional and international level.²³² ACB has monitored legislative proposals on seed laws (the Plant Improvement bill), plant variety protection (the PBRs Act and the PVP Protocol of the Southern African Development Community) and South Africa's accession to UPOV 91. ACB has also produced detailed analyses of these proposals and their implications from the perspective of farmers' rights and the preservation of agrobiodiversity.²³³ When the PBRs bill came up for discussion in 2017–2018, farmer organizations in several provinces, with the support of ACB, organized provincial consultations, a public awareness campaign and petitions.²³⁴ ACB argues that South Africa should retain its right to continue as a member of UPOV 78, which is fully compliant with Article 27.3(b) of the TRIPS Agreement. ACB argues that promoting farmers' rights to save, use, exchange and sell farm-saved seed is essential to the maintenance of farmer-managed seed systems, which play a vital role in food production and crop biodiversity.²³⁵ ACB warns that even if the PBRs Act complies with UPOV 91, formally acceding to the 1991 Act would make it much more difficult to amend its legislation in the future.²³⁶

As elsewhere, farmers' rights to seeds have been the most contentious issue during the revision of the PBRs legislation. When the PBRs Act (1976) was amended in 1996, a provision modelled on Article 15 of UPOV 91 (the farmer's exception) was inserted. This provision allowed farmers to save seeds for their use, but not to exchange or sell them.²³⁷ In contrast, Article 10 of the PBRs Act (2018) was drafted in a way that leaves considerable room for the Ministry of Agriculture, Land Reform and Rural Development to make provisions in the Regulations to allow the implementation of farmers' rights to save, use, exchange and sell seeds.

With respect to a farmer's right to use a protected variety, Article 10 states that the Ministry of Agriculture must determine the categories of farmers that may be exempted, as well as the categories of plants and types of use.²³⁸ The Minister can also determine, where applicable, conditions for the payment of royalties and labelling requirements. In its position paper on accession to UPOV 91, SANSOR states that it supports the farmer's exception in principle, but that the latter will "need to be drafted with due consideration of the purpose of PVP".²³⁹ In the past, the Ministry of Agriculture has proven receptive to concerns over farmers' rights to seeds. For instance, it has taken into account several comments and suggestions made by African civil society, and has conducted a pilot study of small farm-

ers' seed saving practices and understandings of the farmer's exception.²⁴⁰ In early 2021, the Ministry of Agriculture was finalizing the Regulations, and planned on publishing them later that year.²⁴¹ The draft Regulations of the PBRs Act (2018) will be published in the Government Gazette and stakeholders will be invited to submit comments before they are approved by the Ministry of Agriculture.

In addition to considering the ratification of UPOV 91, the South African government is considering becoming a party to the FAO Plant Treaty. In early 2021, in a significant move, ACB took position against South Africa's accession to the Plant Treaty.²⁴² ACB argued that the Treaty was fundamentally flawed because industry benefited from accessing plant genetic resources through the multilateral system (MLS), while the farmers' rights provisions and benefit-sharing mechanism remained a dead letter. Importantly in the context of the present study, ACB expressed concern that South Africa's accession to the Plant Treaty could be used as leverage to press for South Africa's accession to UPOV 91.

At the regional level, the Southern African Development Community (SADC)²⁴³, of which South Africa is part, is developing a Protocol for Protection of New Varieties of Plants modelled on UPOV 91.²⁴⁴ In 2014, the Alliance for Food Sovereignty in Africa (AFSA), led by ACB and other southern African organizations and NGOs, voiced concerns over the draft protocol during a regional workshop. While these groups were critical of the protocol as a whole, they focused on two specific aspects: the lack of a provision on the disclosure of origin, and the provision concerning farmers' rights.

After heated discussions, the governments agreed to include a requirement in the PBRs application to declare that the genetic material used for developing the variety was lawfully acquired. The governments also agreed to change the wording of the farmer's exception. The original provision was extremely narrow: only subsistence farmers could save seeds for replanting on their own holdings. In contrast, the amended provision allows farmers to save, sow, re-sow or exchange, for non-commercial purposes, seeds of a protected variety within reasonable limits and subject to the legitimate interests of the plant breeder. The scope of this provision hinges on how key terms – namely, "non-commercial", "reasonable limits" and "legitimate interests" – will be interpreted, but it is undeniably broader than the original proposal. The government of South Africa was one of two governments (with Botswana) to support the AFSA proposal.²⁴⁵ The Protocol was adopted in 2017 but, as of 2020, had not received enough signatures to come into effect.

Box 9

SOME LEGISLATIVE IMPLICATIONS OF ADHERING TO THE 1991 ACT

The PBRs Act (2018) is compliant with UPOV 91 as regards the genera and species to be protected, the types of acts, duration of protection, harvested material and EDV. It is not yet known how the Regulations will define Article 10, which concerns farmers' rights to save,

use, exchange and sell seeds from protected varieties, but the wording of the PBRs Act allows for more flexibility than UPOV 91. In any case, formally acceding to the 1991 Act would make it more difficult for South Africa to amend its legislation in the future.

3

Comparative Analysis

A comparative reading of these case studies reveals both a wide range of scenarios and several common threads.

South Africa, New Zealand, Argentina and Chile introduced plant variety protection in their legislation earlier – in the 1960s and 1970s. The remaining countries – Colombia, Ecuador, Norway, Brazil and China – introduced PVP legislation in the mid to late 1990s, shortly before joining UPOV as a way to meet their obligations under the WTO TRIPS Agreement. Membership in UPOV has been touted by the seed industry, some governments and the UPOV itself as the best option for countries to meet their obligations under TRIPS Article 27.3(b). However, by joining UPOV, these countries relinquished the option, available under the TRIPS Agreement, to develop *sui generis* legislation in the area of IP and plant varieties, adapted to their own reality.

Table 1 – INTRODUCTION OF PVP LEGISLATION AND UPOV MEMBERSHIP

Country	PVP legislation introduced	UPOV membership
South Africa	1961	1977
New Zealand	1973	1981
Argentina	1973	1994
Chile	1977	1996
Colombia	1993	1996
Ecuador	1993	1997
Norway	1993	1993
Brazil	1997	1999
China	1997	1999

In addition to the idea that a country must join UPOV to fulfill its TRIPS obligations, another common misconception is that once

a country is party to UPOV, it must necessarily move toward UPOV 91. The fact that the government of Norway explicitly upheld its right to remain a member under the 1978 Act is an apt reminder that this ought not be the case.

Norway stands out as a country that took an official stance to remain with UPOV 78 because it offers, in its view, a better balance between farmers' rights and PBRs. However, each country, in its own way, is searching for flexibility in how it regulates PBRs – a flexibility not available under the 1991 Act. Significantly, New Zealand acknowledged that acceding to UPOV 91 would violate the Treaty of Waitangi. In order to ratify the CPTPP Agreement, New Zealand will “give effect” to the main provisions of UPOV 91 while officially remaining a party to UPOV 78 in order to retain the flexibility necessary to protect Māori rights. Even China, whose government seems intent on introducing UPOV 91 norms in its domestic legislation, wants to do so on its own term without becoming externally bound by the 1991 Act.

A second common thread is the extent to which the strengthening of PBRs has been controversial. In all the countries discussed in this study, legislative reform pushed by the domestic and foreign plant breeding industries with the support of some foreign governments has prompted widespread debates and mobilization. Strong opposition and, in some cases, judicial action have either stopped or mitigated these legislative reforms. Farmer, peasant and Indigenous organizations, and NGOs working to support peasant seed systems and agrobiodiversity have been at the forefront of these mobilizations. But, as is the case in Argentina, Brazil and New Zealand, even large farmers are divided over the strengthening of PBRs – in particular over restricting farmer's right to save seeds for replanting and strengthening sanctions for PBRs infringement.

Here is a concise summary of the mobilizations around PVP in each of the countries discussed in the study:

- In **Argentina**, repeated attempts at amending the Seed Law (1973) over the past two decades have failed because a broad coalition of farmers' unions, Indigenous movements and socio-environmental NGOs fiercely defended the right to save seeds for replanting;

- In **Brazil**, as in Argentina, repeated attempts to amend the PVP Act (1997) over the years have also failed because of opposition from farmers' organizations and NGOs supporting agroecology and family farming. The latest attempt to amend the PVP Act, in 2017, stumbled because the different sectors (plant breeders, seed producers and farmers) could not reach an agreement and because large rural producers want to retain the right to save seeds;
- In **Chile**, broad-based opposition from peasant and Indigenous organizations prevented the amendment of the PBRs Act (1994) and the ratification of UPOV 91 for over a decade in spite of multiple FTA commitments to this effect;
- In **Colombia**, massive grassroots mobilization and a national agrarian strike succeeded in suspending Resolution 970, which would have introduced draconian conditions for seed production, storage and certification. Both the UPOV 91 ratification bill and the introduction of penalties for PBRs infringement in the Penal Code were successfully challenged in the Constitutional Court;
- In **Ecuador**, peasant and Indigenous organizations participated directly in the development of new legislation on seeds and agrobiodiversity. They were successful in some of their demands, but continue to contest several provisions of the new Seed Law (2017) and its Regulations before the Constitutional Court;
- In **China**, some farmers' organizations, agricultural research institutions and CSOs obtained the withdrawal of UPOV 91 provisions during the revision of the Seed Law (2015) and have since been engaged in public consultations over the revision of the PVP Regulations (1997);
- In **New Zealand**, the Māori Indigenous people have spent three decades defending their *kaitiaki* (guardian) relationship to Indigenous flora and fauna and their traditional knowledge. This led the government to negotiate a derogation from the obligation to adhere to UPOV 91 under the CPTPP regional trade agreement;
- In **Norway**, the participation of NGOs, farmers' unions and plant breeders in public consultations on amendments to the PBRs Act (1993) and to the seed legislation played a key role and influenced the outcome, in particular the decision of the government to drop the bill to amend the PBRs Act and remain a party to the 1978 Act;
- Finally, in **South Africa**, NGOs and farmers' organizations mobilized to defend farmers' rights to save, exchange and sell seeds from protected varieties in the context of the revision of the PBRs Act (2018) and of the ongoing development of the Regulations.

So controversial is UPOV 1991 that several people interviewed in the context of this study – from both civil society and the public sector – were of the opinion that the ratification of UPOV 91 was unlikely to come about through a domestic legislative process, but would only happen if it were externally imposed by an FTA.

It is important to note that the political participation of farmers' organisations is a right recognized under the FAO Plant Treaty and UNDROP.²⁴⁶ In some cases, UPOV 91 is adopted in the absence of a participatory process, as was the case with the bilateral trade agreements signed by Chile in the 2000s. Since

trade agreements are negotiated behind closed doors, farmers' organisations are excluded from the discussions. The TPP/CPTPP negotiations, for example, were conducted under a formal confidentiality pact, which is the reason why the New Zealand government could not provide any information about the negotiations to the Tribunal of Waitangi. When farmers' organizations have the opportunity to meaningfully engage in political processes, as was the case in Ecuador and Norway, the outcome is almost invariably the rejection of UPOV 1991. This begs the question of whether UPOV 91 can be adopted if farmers' right to participation, enshrined in other international agreements or instruments, is fulfilled.

A third common thread among the case studies is that, of all the provisions of the 1991 Act, the most controversial are those related to farmers' rights. UPOV and the plant breeding industry seek to restrict the farmer's exception as much as possible in order to ensure the largest possible market for commercial seeds. Farmer and Indigenous organizations counter that saving, exchanging and selling seeds represent not a privilege but a right, enshrined in the Constitution, the FAO Plant Treaty and UNDROP. They also contend that these practices are essential to the maintenance of peasant seed systems, the agrobiodiversity and knowledge embedded in them, and ultimately food sovereignty.

Except for Colombia, all countries provide for broad "own use" exceptions that allow farmers to save seeds from protected varieties for replanting on their own farm without any restrictions. Colombia has the most restrictive farmer's exception. It is limited for some crops by size of planted area and amount of seeds and there is no exception for fruits, ornamentals and trees. This type of limited exception is in line with UPOV's interpretation of the 1991 Act. In Brazil, Ecuador and Norway, farmers can also exchange seeds from protected varieties among themselves. In addition, in Ecuador, farmers can sell seeds of protected varieties for non-profit purposes, meaning that farmers can sell seeds on a small scale, for example to their neighbours, but not engage in larger marketing operations (the farmer's exception does not encompass fruits, ornamentals and trees). In South Africa, the scope of the farmer's exception under the PBRs Act (2018) is yet to be determined in the Regulations. The PBRs Act, however, provides flexibility to define a broad "own use" exception in the Regulations.

As we have seen, exceptions to the exclusive rights of the breeder are more restricted under the 1991 Act than under the 1978 Act. Article 15.1 of UPOV 91 allows the use of protected varieties for private and non-commercial purposes; and Article 15(2) allows for countries to include an optional exception to permit farmers to save seeds for replanting on their farm. However, the optional exception must be "within reasonable limits and subject to the safeguarding of the legitimate interest of the breeder".²⁴⁷ UPOV guidance regarding Article 15(2) suggests a variety of ways in which the "own use" exception can be restricted: it can be limited to certain crops (for example to cereals, but not to fruits, ornamentals and vegetables) or restricted on the basis of the size of holding, crop area, crop value or proportion of harvest.

UPOV also suggests that "for those crops where the optional exception is introduced, a requirement to provide remuneration

to breeders might be considered as a means of safeguarding the legitimate interests of the breeders".²⁴⁸ In other words, seed saving could be made conditional on the payment of royalties. It is ultimately up to each country to determine the parameters of this optional exception, but the sort of "broad" farmers' exception in force in these countries would be further restricted if they were to accede to the 1991 Act.

Fourth, one of the main reasons why countries have not acceded to the 1991 Act is that it conflicts with other legal norms, both internally and externally. In Colombia and Ecuador, this includes the constitutional rights of Indigenous and Afro-Colombian communities over their seeds, agrobiodiversity and agricultural practices and knowledge. In New Zealand, UPOV 1991 would violate Māori rights under the Treaty of Waitangi.

At the international level, all countries examined here, with the exception of China, have either signed or ratified the Plant Treaty. Under the Treaty, national governments commit to taking measures to protect and promote farmers' rights. This includes the rights to save, use, exchange and sell farm-saved seed and propagating material.²⁴⁹ In direct contradiction to these provisions, the 1991 Act further restricts farmers' rights to save seeds from protected varieties and prohibits seed exchange and sales. In spite of UPOV's assertion that the implementation of the Plant Treaty and UPOV "should be compatible and mutually supportive"²⁵⁰, the contradictions are very real.²⁵¹

Not only are the contradictions real, they are becoming more acute. On the one hand, the UPOV Conventions have evolved in the sense of restricting the scope of farmers' rights, defined as privileges and exceptions to the IP rights of plant breeders. On the other hand, farmers' rights have recently been

recognized as human rights with the 2018 adoption of the UN Declaration on the Rights of Peasants (UNDROP). Article 19 of the Declaration recognizes the right to seeds. The first paragraph reproduces the farmers' rights provisions of the Seed Treaty, including "the right to save, use, exchange, and sell their farm-saved seed or propagating material." Paragraphs 2–8, however, go further than the Seed Treaty. Paragraph 2 states that "Peasants and other people working in rural areas have the right to maintain, control, protect and develop their own seeds and traditional knowledge." Paragraphs 3–8 establish States' obligations, including to "take appropriate measures to support peasant seed systems and promote the use of peasant seeds and biodiversity" (Art. 19.6).

The Declaration also affirms that "States shall ensure that seed policies, plant variety protection and other intellectual property laws, certification schemes and seed marketing laws respect and take into account the rights, needs and realities of peasants and other people working in rural areas" (Art. 19.8). Crucially, according to Art. 2.4, States shall elaborate, interpret and apply relevant international agreements to which they are party, including those protecting IP rights, in a manner consistent with the Declaration.²⁵² Of the countries discussed here, three voted in favour of the Declaration (Chile, Ecuador and South Africa), four abstained (Argentina, Brazil, Colombia and Norway) and one voted against (New Zealand). It is important to note that when the UN General Assembly adopted UNDROP, it called on all governments to implement the Declaration in good faith, regardless of how they voted.²⁵³

Another area of conflict between the Plant Treaty and UPOV are disclosure of origin requirements in PVP applications. Chile

Table 2 – UPOV 91 PROVISIONS IN BILATERAL AND REGIONAL TRADE AGREEMENTS

Country	Trade agreements involving PVP	UPOV 91 membership required	Status
Argentina	EU-Mercosur FTA	No	Signed but not ratified
Brazil	EU-Mercosur FTA	No	Signed but not ratified
Chile	US-Chile FTA	Yes	Ratified
	Japan-Chile FTA	Yes	Ratified
	Australia-Chile FTA	Yes	Ratified
	EFTA-Chile FTA	No	Ratified
	CPTPP	Yes	Ratified
China	RCEP	No	Signed but not ratified
	EFTA-Hong Kong, China	No	Ratified
Colombia	US-Colombia FTA	Yes	Ratified
	EFTA-Colombia FTA	No	Ratified
Ecuador	EU-Ecuador FTA	No	Ratified
	EFTA-Ecuador FTA	No	Ratified
	US-Ecuador FTA	–	Under negotiation
New Zealand	CPTPP	Yes	Ratified
Norway	Multiple EFTA FTAs	Yes ²⁵⁴	Ratified
South Africa	SADC PVP Protocol	No	Signed but not ratified

provides a concrete illustration: a provision for the disclosure of the origin of genetic material was dropped from the text of its revised PBRs bill after being deemed unacceptable by the UPOV Secretariat. UPOV argues that “disclosure of origin” represents an additional condition not recognized by the UPOV Convention and, therefore, that denying or invalidating PBRs on these grounds would conflict with the Convention.²⁵⁵ Norway has found a way around this: disclosure is a requirement and a punishable offence, but does not affect the processing of the application or the validity of the PBRs. Ecuador offers the most developed legislation regarding disclosure of origin and access and benefit sharing (ABS): when a variety has been obtained from genetic resources originating in Ecuador or the Andean Community, the *Ingenios* Act allows for PBRs to be nullified if the applicant does not provide an ABS agreement. New Zealand requires some origin and breeding information in PBRs applications under the PVR Act (1987) and the government is considering how to integrate more fully the disclosure of information concerning indigenous plant species under the new PBRs bill.

The 1991 Act of the UPOV Convention was adopted thirty years ago. In the intervening three decades the international legal framework governing human rights and environmental law has greatly evolved, with the adoption of the Convention on Biological Diversity (1992), the FAO Plant Treaty (2001), the Nagoya Protocol (2010) and UNDROP (2018). In this context, “*sui generis* PVP systems adopted outside of the UPOV Convention framework – as permitted by TRIPS – may provide a way to better balance rights and obligations relating to the Nagoya Protocol²⁵⁶, Plant Treaty, and PVP.”²⁵⁷ If anything, since human rights prevail over intellectual property, the 1991 Act would need to be renegotiated to adapt to the new international legal framework.

A fifth common thread among the case studies is the external pressure to join UPOV 91 through bilateral and regional trade agreements involving IP and PVP. All nine countries are engaged in at least one such agreement. In three cases – Chile, Colombia and New Zealand – this includes a commitment to adhere to the 1991 Act. The US, Japan and Australia, in particular, have been intransigent on this issue. Membership in UPOV 91 is required in bilateral FTAs signed with the US (Chile, Colombia), Japan (Chile), Australia (Chile) as well as in the CPTPP (Chile, New Zealand).

The obligation to adhere to UPOV 91 has been a contested provision in trade negotiations. It was initially included in negotiations over the EU-Mercosur FTA (Argentina and Brazil) and RCEP (China), but was dropped in the final texts. As we have seen, domestic opposition has prevented Chile from complying with multiple FTA obligations to join UPOV 91 for over a decade. However, the looming entry into force of the CPTPP may increase the pressure. As for New Zealand, it negotiated a special clause in the CPTPP that gives it the option to adopt a *sui generis* plant variety rights system that will “give effect” to UPOV 1991 without formally acceding to UPOV 91. Ecuador meanwhile negotiated the right to remain a party to UPOV 78 in its trade agreements with the EU and EFTA. It is unclear whether it will be able to maintain this option in the bilateral trade agreement currently under negotiation with the US, since the latter systematically imposes UPOV 91 in its trade deals.

In concluding, it is important to note that, even though all countries discussed in this study are party to the 1978 Act, their domestic PVP legislation varies greatly with regard to the provisions examined in this study. In fact, countries can be placed along a continuum, from those whose legislation is in line with UPOV 78 to those whose legislation is closer to UPOV 91. Most countries have incorporated at least one or two provisions of the 1991 Act and Colombia and South Africa are the countries that have incorporated the most UPOV 91 norms into their domestic legislation.

TABLE 3 – UPOV 91 PROVISIONS IN DOMESTIC LEGISLATION²⁵⁸

Country	Genera and species	Types of acts	Duration	Harvested material	EDV	Farmers' exceptions
Argentina	91	91	91	78	78	78
Brazil	78	78	78	78	91	78
Chile	91	91	78	78	78	78
China	78	78	78	78	78	78
Colombia	91 ²⁵⁹	91	91	91	91	91
Ecuador	78 91 ²⁶⁰	78	78	91	78	78
New Zealand	91 ²⁶¹	78	91	78	78	78
Norway	91	78	91	78	78	78
South Africa	91	91	91	91	91	78 91 ²⁶²

Finally, it must be noted that this snapshot of the legislation currently in force conceals important differences in ongoing legislative processes. While Argentina, Brazil, Ecuador and Norway are nowhere close to adhering to UPOV 91, Chile is under severe pressure to do so. China and New Zealand, for their part, are rapidly moving toward UPOV 91 standards even if they do not formally join UPOV 91 in the near future.

4

Conclusion

The countries discussed in this study have not acceded to the 1991 Act although they have been party to UPOV 78 for 20 to 40 years. Some of these countries either belong to the world's largest agricultural producers and exporters – Argentina, Brazil and China – or are major exporters in specific sectors, for example Colombia (coffee, flowers), Chile (fruits), and New Zealand (dairy products).

The main reason put forward by UPOV and the plant breeding industry to support the adoption of strengthened PVP laws along the lines of UPOV 91 is that this is a necessary condition to attract private investment and to ensure the introduction of better plant varieties by foreign breeders. The countries discussed in this study suggest that this argument is not necessarily supported empirically. China, despite being party to UPOV 78, has the largest number of PVP applications worldwide. The government of New Zealand recently concluded there was no evidence that the country was missing out due to foreign breeders not introducing new plant varieties or because there was insufficient return on investment in breeding programmes.²⁶³

To return to the central question underlying this study, a number of reasons explain why parties to the 1978 Act have not acceded to the 1991 Act in spite of internal pressure from the seed and plant breeding industry, and of external pressure through bilateral and regional trade agreements. In these countries, amendments to the PVP legislation have been the object of broad debate and public consultations. The role played by farmer and Indigenous organizations in these debates underlines the importance of the right to participation enshrined in the Plant Treaty and UNDROP. In some cases, the result of these democratic processes has been the strengthening of farmers' rights – for example in Ecuador and Norway. In other cases, the result has been to preserve the status quo because UPOV 91 was simply too controversial (e.g., Argentina, Brazil and Chile). New Zealand represents yet another scenario, with the “partial” adoption of UPOV 91.

Broadly speaking, however, it can be said that the countries discussed here refrained from adhering to UPOV 91 because they seek to retain some flexibility in how they regulate PVP and farmers' rights. Part of this flexibility has been relinquished by joining UPOV 78 to meet the requirement of the TRIPS Agreement instead of opting to develop a *sui generis* legislation. Acceding to UPOV 91 would narrow their options even further.

This study shows that countries as diverse as Argentina, China, New Zealand and Norway believe it is in their best interest to retain some flexibility by remaining party to UPOV 78 instead of joining the stricter 1991 Act. This holds important lessons for countries that are not yet members of UPOV. Indeed, these countries no longer have the option of joining under the 1978 Act, but they still have the option of developing *sui generis* PVP legislation. Moreover, the requirement that new members have their legislation scrutinized by UPOV to certify whether it is in conformity with the provisions of the 1991 Act means that they often end up with stricter PVP legislation than countries that move from the 1978 Act to the 1991 Act.²⁶⁴ Indeed, countries that are already party to the 1978 Act are not subjected to such a rigorous test when they accede to the 1991 Act. This explains why some countries such as Canada, the US and Switzerland have managed to retain broader farmer's exceptions with fewer restrictions on seed saving than advocated by UPOV under the 1991 Act.²⁶⁵ New UPOV members whose PVP legislation undergoes a strict scrutiny by the UPOV Secretariat are unlikely to be able to do the same.

Countries that are not yet members of UPOV are mostly located in the Global South – in Africa, the Middle East, Central Asia, South Asia and Southeast Asia.²⁶⁶ In these countries, a majority of people live in rural areas, and peasant seed systems play a vital role in food production and agrobiodiversity conservation. If countries with industrialized agricultural systems, such as Norway and New Zealand, consider it is in their best interest to remain party to UPOV 78, this is even more true for countries where family farming and peasant seed systems – which rely on the ability to freely save and exchange seeds – are central to rural livelihoods and food security.

Countries that are in the process of developing PVP legislation should take heed of the experiences of countries that are parties to UPOV 78. If there is one lesson to be learned from these nine case studies, it is the importance of retaining flexibility to adapt PVP laws to national needs and circumstances. Instead of joining UPOV, these countries can develop PVP laws that balance plant breeders' rights with farmers' rights. This would support peasant seed systems and the conservation and sustainable use of agrobiodiversity in line with the international legal framework governing human rights and environmental law.

APPENDIX 1 – LIST OF EXPERTS INTERVIEWED

Interview	Name	Position	Date
1	David Jefferson	Research Fellow 'Harnessing Intellectual Property to Build Food Security' ARC Laureate Project, University of Queensland School of Law	03/11/2020
2	Tamara Perelmuter	Professor, Rural Sociology and Economy, Universidad de Buenos Aires, Argentina	06/01/2020
3	Elizabeth Bravo Velásquez	Professor Universidad Politécnica Salesiana, Acción Ecológica & RALLT, Ecuador	07/05/2020
4	Mariam Mayet	Executive Director, African Centre for Biodiversity, South Africa	07/21/2020
5	Javier Carrera	Coordinator, Red de Guardianes de Semillas de Ecuador	10/06/2020
6	Regine Andersen	Research Director, Biodiversity and Natural Resources, Fridtjof Nansen Institute, Norway	10/07/2020
7	Ana Lucía Bravo	Policy advisor, Red de Guardianes de Semillas de Ecuador	10/20/2020
8	Bell Batta Torheim	Senior Advisor, Ministry of Agriculture and Food, Norway	11/18/2020
9	Germán Vélez	Director, Grupo Semillas, Colombia	11/27/2020
10	Ricardo Zanatta	Coordinator, Serviço Nacional de Proteção de Cultivares, Brazil	12/09/2020
11	Teresa Agüero Teare	Analyst, Departamento de Sustentabilidad y Cambio Climático, Oficina de Estudios y Políticas Agrarias (ODEPA), Ministry of Agriculture, Chile	12/09/2020
12	Kristin Børresen	Managing Director, Graminor, Norway	12/21/2020
13	José Cordeiro de Araújo	Legislative consultant (retd), Agricultural Policy, Chamber of Deputies, Brazil	01/19/2021
14	Li Judan	Associate Professor, Institute of Law, Chinese Academy of Social Sciences, China	01/24/2021
15	Jane Kelsey	Professor, Faculty of Law, University of Auckland, Aotearoa New Zealand	03/22/2021
16	Rory McLeod	Lead Adviser, APEC Policy Division, Ministry of Foreign Affairs and Trade, New Zealand (Former Lead IP negotiator for the TPP)	04/13/2021
17	Warren Hassett	Senior Advisor, Corporate Governance and IP Policy, Ministry of Business, Innovation and Employment, New Zealand	04/19/2021

Acronyms and Abbreviations

ABRASEM	Brazilian Seed Producers Association <i>Associação Brasileira de Sementes e Mudas</i>	CSO	Civil Society Organization
ACB	African Centre for Biodiversity	DUS	Distinct, Uniform, Stable
ACOSEMILLAS	Colombian Seed and Biotechnology Association <i>Asociación Colombiana de Semillas y Biotecnología</i>	EAPVP	East Asian Plant Variety Protection Forum
AFSA	Alliance for Food Sovereignty in Africa	ECUARUNARI	Movement of the Indigenous People of Ecuador <i>Ecuador Runakunapak Rikcharimuy</i>
ANAMURI	National Rural and Indigenous Women's Association (Chile) <i>Asociación Nacional de Mujeres Rurales e Indígenas</i>	ECUASEM	Ecuador Seed Association <i>Asociación Ecuatoriana de Semillas</i>
ANPROS	National Seed Producers' Association (Chile) <i>Asociación Nacional de Productores de Semillas</i>	EDV	Essentially Derived Varieties
ARPOV	Argentine Association for Plant Variety Protection <i>Asociación Argentina de Protección de las Obtenciones Vegetales</i>	EEA	European Economic Area
ASA	Argentine Seed Producers Association <i>Asociación de Semilleros Argentinos</i>	EFTA	European Free Trade Association
ASOEX	Chilean Fruit Exporters Association	EMBRAPA	Brazilian Agricultural Research Corporation <i>Empresa Brasileira de Pesquisa Agropecuária</i>
BRASPOV	Brazilian Plant Breeders Association <i>Associação Brasileira de Obtentores Vegetais</i>	FAA	Agrarian Federation of Argentina <i>Federación Agraria Argentina</i>
CBD	Convention on Biological Diversity	FAO	Food and Agriculture Organization
CLOC	Latin American Coordination of Rural Organizations <i>Coordinadora Latinoamericana de Organizaciones del Campo</i>	FENOCIN	National Confederation of Peasant, Indigenous and Black Organizations (Ecuador) <i>Confederación Nacional de Organizaciones Campesinas, Indígenas y Negras</i>
CNA	National Agricultural Confederation (Brazil) <i>Confederação Nacional da Agricultura</i>	FNI	Fridtjof Nansen Institute (Norway)
CONAIE	Confederation of Indigenous Nationalities of Ecuador <i>Confederación de Nacionalidades Indígenas del Ecuador</i>	FTA	Free Trade Agreement
COPISA	Plurinational and Intercultural Conference on Food Sovereignty (Ecuador) <i>Conferencia Plurinacional e Intercultural de Soberanía Alimentaria</i>	GGC	Cultivar Management Group (Brazil) <i>Grupo de Gestão de Cultivares</i>
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership	GIPi	Inter-ministerial Group on Intellectual Property (Brazil) <i>Grupo Interministerial de Propriedade Intelectual</i>
		GM	Genetically modified
		ICA	Colombian Agricultural Institute <i>Instituto Colombiano Agropecuario</i>
		INASE	National Seed Institute (Argentina) <i>Instituto Nacional de Semillas</i>
		IP	Intellectual property
		ISF	International Seed Federation
		ITPGRFA Int.	Treaty on Plant Genetic Resources for Food and Agriculture ("Plant Treaty")
		LVC	La Via Campesina

MNCI	National Indigenous Peasant Movement (Argentina) <i>Movimiento Nacional Campesino Indígena</i>	SADC	Southern African Development Community
OAPI	African Intellectual Property Organization <i>Organisation Africaine de la Propriété Intellectuelle</i>	SANSOR	South African National Seed Organization
PBRs	Plant Breeders' Rights	TRIPS	Agreement on Trade-Related aspects of Intellectual Property Rights
PVP	Plant Variety Protection	UNDRIp	UN Declaration on the Rights of Indigenous People
RCEP	Regional Comprehensive Economic Partnership	UNDROP	United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas
RENACE	National Ecological Action Network (Argentina) <i>Red Nacional de Acción Ecologista</i>	UPOV	International Union for the Protection of New Varieties of Plants
RSL	Free Seeds Network of Colombia <i>Red de Semillas Libres de Colombia</i>	WTO	World Trade Organization

Endnotes

- 1 The full text of the 1978 Act and 1991 Act is available at: <https://upovlex.upov.int/en/convention>.
- 2 For a detailed analysis, see Laurence R. Helfer, *Intellectual Property in Plant Varieties* (Rome: FAO, 2004), 22–30, www.fao.org/3/y5714e/y5714e00.htm; and Graham Dutfield, “Turning Plant Varieties into Intellectual Property: the UPOV Convention,” 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 (London: Earthscan, 2008), 27–47, www.idrc.ca/en/book/future-control-food-guide-international-negotiations-and-rules-intellectual-property.
- 3 Note that the words “for the purposes of commercial marketing” have been dropped from the text of the 1991 Act.
- 4 Helfer, *Intellectual Property in Plant Varieties*, 28.
- 5 Carlos M. Correa, *Plant Variety Protection in Developing Countries. A Tool for Designing a Sui Generis Plant Variety System: An Alternative to UPOV 91*. (Bonn: APBREBES, 2015), 30–31, www.apbrebes.org/files/seeds/ToolEnglishcompleteDez15.pdf.
- 6 The rules concerning vegetative propagating material (e.g., cuttings) are different because it is quicker and easier to propagate varieties vegetatively rather than reproduce them by seed.
- 7 See UPOV, “Explanatory Notes on Exceptions to the Breeders’ Right Under the 1991 Act of the UPOV Convention,” (2009), 8–11, www.upov.int/edocs/expdocs/en/upov_exn_exc.pdf.
- 8 Sangeeta Shashikant and François Meinenberg, “International Contradictions on Farmers’ Rights: The Interrelations between the International Treaty, its Article 9 on Farmers’ Rights, and Relevant Instruments of UPOV and WIPO,” (TWN and Berne Declaration, 2015), www.publiceye.ch/en/publications/detail/international-contradictions-on-farmers-rights.
- 9 Non-UPOV members are mostly located in Africa, the Middle East, Central Asia, South Asia and Southeast Asia. See: www.upov.int/export/sites/upov/images/upov_map_76members_en.png.
- 10 The European Free Trade Association (EFTA) is composed of four non-EU European countries: Iceland, Liechtenstein, Norway and Switzerland.
- 11 Compiled from www.upov.int/edocs/pubdocs/en/upov_pub_423.pdf.
- 12 On the actors that pressured Kenya to accede to UPOV 91, see Claire O’Grady Walshe, *Globalization and Seed Sovereignty in Sub-Saharan Africa*. (Cham, Switzerland: Palgrave Macmillan, 2019), 136–149. Panama committed to ratifying UPOV 91 in the US–Panama Trade Promotion Agreement (2012).
- 13 This was well captured in the title of a 1996 article by GRAIN, “UPOV: Getting a Free TRIPs Ride?” (1996), <https://grain.org/e/321>.
- 14 The European Union is signatory to the UPOV 91 Act. However, two of its member states – Portugal and Italy – are signatories to the UPOV 78 Act. Other EU members such as Cyprus and Malta do not even have PVP laws in place.
- 15 The four countries are Italy, Portugal, Norway and New Zealand.
- 16 A note on terminology – Different expressions are used in different national contexts. For example, while the expression “peasant seed systems” is used in Latin America, the expression “farmer-managed seed systems” is more common in South Africa. In this study, I generally abide by the terminology used in each country.
- 17 A note on methodology – Semi-structured, in-depth interviews were conducted by videoconferencing and, in three cases, by email and/or voice recordings. All interviewees had the opportunity to read and comment on a draft of their country case study. Testifying to the sensitive nature of these issues, three people (two from national PVP offices and one from civil society) declined to participate and one interviewee asked to remain anonymous.
- 18 Law N° 20.247, www.iatp.org/sites/default/files/ARGENTINA_LAW_NO_2024773_ON_SEED_AND_PHYTOGENE.htm.
- 19 This section draws on Filomeno’s detailed discussion of the evolution of Argentina’s IP regime in agriculture. See Felipe A. Filomeno, *Monsanto and Intellectual Property in South America*. (Basingstoke, UK: Palgrave Macmillan, 2014), 26–67.
- 20 Decree N° 2183/91, Art. 41 and 37, <https://upovlex.upov.int/en/legislation/text/542013>. PBRs already apply to all plant genera and species under the Seed Law (1973).
- 21 INASE Resolution N° 35/96, www.wipo.int/edocs/lexdocs/laws/en/ar/ar090en.pdf.
- 22 OXFAM, *The Status of Patenting Plants in the Global South* (2018), 32, <https://oxfam.app.box.com/s/f5l0b0wtcko2ifeksm9xu-aso4dhbpg9r>.
- 23 Filomeno, *Monsanto and Intellectual Property*, 31.
- 24 Pablo Lapegna and Tamara Perelmuter (2020), “Genetically Modified Crops and Seed/Food Sovereignty in Argentina: Scales and States in the Contemporary Food Regime,” *Journal of Peasant Studies* 47, no. 4 (2020), 706.
- 25 Argentina has been under sanctions from the US government for alleged infringement of international IP standards.
- 26 Filomeno, *Monsanto and Intellectual Property*, 37.
- 27 The members of the coalition were the National Indigenous Peasant Movement (MNCI), the Latin American Coordination of Rural Organizations–La Vía Campesina (CLOC–LVC), GRAIN, Friends of the Earth, Action for Biodiversity and National Ecological Action Network (RENACE). The text of the petition is available at: www.cloc-viacampesina.net/tematicas/10-motivos-para-luchar-contra-el-proyecto-de-ley-que-pretende-privatizar-las-semillas-en.
- 28 GRAIN, “Seed laws in Latin America: the offensive continues, so does popular resistance” (2013), <https://grain.org/e/4808>.
- 29 The three campaigns were “NO a la nueva ley ‘Monsanto’ de semillas en Argentina”, “Plantate, la Vida no se Negocia”, and “No nos patentes la vida. Campaña contra la privatización de las semillas.”
- 30 *Multisectorial contra la Ley Monsanto de Semillas*: www.biodiversidadla.org/Autores/Multisectorial_contra_la_Ley_Monsanto_de_Semillas. Interview with Tamara

- Perelmuter, Professor of Rural Sociology and Economy, Universidad de Buenos Aires, 1 June 2020.
- 31 USDA, "Argentina – Agricultural Biotechnology Annual" (2019), 19–20, https://apps.fas.usda.gov/newgainapi/api/report/downloadreportbyfilename?filename=Agricultural%20Biotechnology%20Annual_Buenos%20Aires_Argentina_2-15-2019.pdf.
 - 32 Interview with Tamara Perelmuter, *Op. cit.*
 - 33 Interview with Tamara Perelmuter, *Op. cit.*
 - 34 See Article X.41 of the Agreement, https://trade.ec.europa.eu/doclib/docs/2019/september/tradoc_158329.pdf.
 - 35 Luciana Ghiotto and Javier Echaide, "Analysis of the Agreement Between the European Union and the Mercosur" (2019), 101–102, www.annacavazzini.eu/wp-content/uploads/2020/01/Study-on-the-EU-Mercosur-agreement-09.01.2020-1.pdf.
 - 36 Plant Variety Protection Act (1997), www.wipo.int/edocs/lexdocs/laws/en/br/br005en.pdf.
 - 37 Article 27.3(b) of the TRIPS Agreement requires members to provide for the protection of new plant varieties using patents, or an effective *sui generis* system, or a mixture of both. www.wto.org/english/tratop_e/trips_e/art27_3b_background_e.htm.
 - 38 PVP Act (1997), *Op. cit.*, Art. 4.
 - 39 Article 10.3 of the PVP Act (1997) defines a small rural producer as someone who exploits a parcel of land using mainly family labour as opposed to hired labour and resides on their property or nearby. To avoid the inclusion of unproductive large estates (*latifúndios*), properties in this category may not exceed size limits set forth in the Act.
 - 40 Law 7.903/1945, Art. 3, www.planalto.gov.br/ccivil_03/decreto-lei/1937-1946/dele/7903.htm.
 - 41 Adilson D. Paschoal, "Prefácio do Tradutor," in *O Escândalo das Sementes: O Domínio na Produção de Alimentos*, Pat R. Mooney (São Paulo: Livraria Nobel 1986), xiii–xxvi.
 - 42 José Cordeiro de Araújo, *A Lei de Proteção de Cultivares: Análise de Sua Formulação e Conteúdo* (Brasília: Edições Câmara, 2010), <http://bd.camara.leg.br/bd/handle/bdcamara/3543>.
 - 43 Flavia Londres, *A Nova Legislação de Sementes e Mudanças no Brasil e seus Impactos sobre a Agricultura Familiar* (ANA, 2006), www.redsemillas.info/wp-content/uploads/2007/02/legislacao-sementes-e-mudas_br.pdf.
 - 44 Anteprojeto de Lei. Dispõe sobre o direito de proteção de cultivares. 10 de setembro de 2009. On file with the author.
 - 45 Its official name is the Parliamentary Front in Support of Agriculture and Livestock (*Frente Parlamentar da Agricultura, FPA*), but it is commonly known as the Rural Caucus (Bancada Ruralista).
 - 46 Email exchange with J.C. Araújo, Legislative consultant (retired), Agricultural Policy, Chamber of Deputies, 19 January 2021.
 - 47 Interview with Ricardo Zanatta, National Coordinator, SNPC, 9 December 2020.
 - 48 Bill N° 2325/2007; N° 3100/2008; N° 6862/2010; N° 827/2015; N° 8926/2017 (Chamber of Deputies); N° 32/2017 and N° 404/2018 (Senate).
 - 49 Bill N° 6862/2010, www.camara.leg.br/propostas-legislativas/467371.
 - 50 See Karine Peschard and Shalini Randeria, "Taking Monsanto to Court: Legal Activism around Intellectual Property in Brazil and India," *Journal of Peasant Studies* 47, no. 4 (2020), 792–819, www.tandfonline.com/doi/full/10.1080/03066150.2020.1753184.
 - 51 PL 827/2015, www.camara.leg.br/proposicoesWeb/prop_mostrarintegralsessionid=node0bn6sodl6qjxphvg5k-qkpet624540.node0?codteor=1311226&filename=PL+827/2015.
 - 52 A substitute bill is a version of a bill proposed by a Parliament committee. If adopted, the substitute replaces the original bill.
 - 53 From a legal point of view, the proposal subverted a basic principle of patent law – that is, that an inventor should be rewarded for their intellectual work – by determining that other parties (seed producers and farmers) would have a say in fixing the amount of royalties and how they are used. The bill was also problematic as it conflated royalties for genetic traits, protected under patent law, with PBRs, protected under plant variety protection law. Given that these sectors have conflicting interests, how the committees would arrive at an agreement is open to question.
 - 54 Quilombola are communities formed by the descendants of runaway slaves. Extractivist communities include populations such as riverine and rubber tapper.
 - 55 Email exchange with J.C. Araújo, *Op. cit.* For a commentary on the second substitute bill, see José Cordeiro de Araújo, "Breve apreciação do 2º Substitutivo do Relator ao PL 827/2015, que altera a Lei de Proteção de Cultivares" (2016). On file with the author.
 - 56 CNA et al., "Carta Conjunta: CNA, OCB ABRASEM, BRASPOV, ACEBRA, ABIOVE e ANEC" (2017), www.abrasem.com.br/wp-content/uploads/2017/11/CARTA-CONJUNTA-CNA-OCB-ABRASEM-BRASPOV-ACEBRA-ABIOVE-e-ANEC_Rejeicao-PL-827-2015.pdf.
 - 57 Nota técnica N° 010/2017/SNPC. SNPC/ MAPA. On file with the author.
 - 58 Decreto Ley N° 1.764 de 1977, <http://extwprlegs1.fao.org/docs/pdf/chi9309.pdf>.
 - 59 Ley N° 19.342, www.upov.int/upovlex/en/details.jsp?id=807; and Regulations, <http://extwprlegs1.fao.org/docs/pdf/chi54970.pdf>.
 - 60 Ley N° 19.342, *Op. cit.*, Art. 3.
 - 61 Departamento de Registro de Variedades Protegidas, División Semillas, "Estadísticas Registro de Variedades Protegidas" (2019), www.sag.cl/sites/default/files/estadisticas_registro_de_variedades_protegidas_2019.pdf.
 - 62 See Art. 162 of the Japan–Chile FTA (www.bilaterals.org/IMG/pdf/Japan-Chile_FTA_2007_.pdf); Art. 17.1 of the US–Chile FTA (https://ustr.gov/sites/default/files/uploads/agreements/fta/chile/asset_upload_file912_4011.pdf) and Article 17.4 of the Australia–Chile FTA (www.dfat.gov.au/sites/default/files/Australia-Chile-Free-Trade-Agreement.pdf).
 - 63 The bill is available at: <https://media.elmostrador.cl/2014/01/proyecto-de-ley-que-regula-derechos-sobre-obtenciones-vegetales.pdf>. For a comparison of the provisions of the PVP Law N° 19.342 and the proposed bill, see Viola Prifti, "An Answer to the Plant Variety Controversy in Chile," *The Journal of World Intellectual Property* 19, no. 5–6 (2016), 182–183.
 - 64 Prifti, *An Answer*.
 - 65 GRAIN, "Seed Laws in Latin America." See https://issuu.com/mipymes.cl/docs/programa_econ_mico_gobierno_michel, 64 (my translation).
 - 66 For an overview of the arguments put forward by peasant organizations during the public hearings, see: Camila Montecinos and Francisca Rodríguez, "O Ataque Contra as Sementes no Chile" (GRAIN 2011), <https://grain.org/e/4370> (in Portuguese). For a discussion of the arguments put forward by the Senators and by the Constitutional Tribunal, see Prifti, *An Answer*, 178–179.
 - 67 For an account of the controversy up until 2014, see David J. Jefferson, "Development, Farmers' Rights and the Ley Monsanto: The Struggle Over the Ratification of UPOV 91 in Chile," *IDEA* 55, no. 1 (2014), 31–104.
 - 68 Its full name is *Comisión de la Ley de Obtentores Vegetales y Patrimonio Pecuario del Consejo de la Sociedad Civil del Ministerio de Agricultura*.
 - 69 "Trabajo realizado por la Comisión de la Ley de Obtentores Vegetales y Patrimonio Pecuario del Consejo de la Sociedad Civil del Ministerio de Agricultura", Octubre 2017. On file with the author.
 - 70 Interview with Teresa Agüero Teare, Analyst, Departamento de Sustentabilidad y Cambio Climático, Oficina de Estudios y Políticas Agrarias (ODEPA), Ministry of Agriculture, 9 December 2020.
 - 71 See Art. 48 in "Cuadro comparativo de algunos artículos relevantes entre la Ley de obtentores vegetales vigente, el Proyecto de Ley hoy en el Congreso Nacional y el Borrador de anteproyecto de ley en elaboración por el Ejecutivo", Marzo de 2016. On file with the author.
 - 72 "Trabajo realizado por la Comisión", *Op. cit.*
 - 73 See Art. 18.7(2) of the Consolidated TPP text, www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/tpp-ptp/text-texte/18.aspx?lang=eng.
 - 74 The Economist, "Congress Moves Forward with CPTPP Ratification Process" (2019), <http://country.eiu.com/article.aspx?articleid=1077923491&Country=Chile&topic=Politics&subtopic=Forecast&subsubtopic=International+relations>.
 - 75 "The United States continues to urge Chile to ratify and implement the 1991 Act of the International Union for the Protection of New Varieties of Plants Convention (UPOV 91) and improve protection for plant varieties." USTR, *Special 301 Report* (2019), 65, https://ustr.gov/sites/default/files/2019_Special_301_Report.pdf.
 - 76 Luciana Ghiotto, "Chile is Fighting the TPP-11 Hand-to-Hand" (n.d.), www.stopcorporateimpunity.org/chile-is-fighting-the-tpp-11-hand-to-hand/.
 - 77 The members of the Andean Community are Bolivia, Colombia, Ecuador and Peru. Decision 345 ("Establishing the Common Regime on the Protection of the Rights of Breeders of New Plant Varieties"), <https://upovlex.upov.int/en/legislation/text/331119>.
 - 78 Compare Art. 24 and 25 of Decision 345 with Art. 14 and 15 of the UPOV 91 Act.
 - 80 Ley 243, www.wipo.int/edocs/lexdocs/laws/es/co/co010es.pdf. For an English

- translation of Art. 306: <https://upovlex.upov.int/en/legislation/text/224433>.
- 81 For a compilation of the legal framework governing PBRs in Colombia, see ICA, *Legislación Sobre Protección a los Derechos de Obtentores de Variedades Vegetales* (2017), www.ica.gov.co/getattachment/d4a8f14c-8aef-48f0-aada-883244dac1bb/Legislacion-sobre-proteccion-a-derechos-de-Obtento.aspx.
 - 82 Resolución 3168, <https://upovlex.upov.int/en/legislation/text/513241>.
 - 83 Andres Rincon, "Colombia's PBR System Faces Unsolved Problems" (2013), 33, <http://olartemoure.com/om/wp-content/uploads/2013/07/CIOPORA-magazine.pdf>.
 - 84 ICA is the government entity in charge of the prevention, surveillance, and control of sanitary, biological and chemical risks in the agricultural, fisheries, and aquaculture sector.
 - 85 Laura Gutiérrez Escobar and Elizabeth Fitting, "The Red de Semillas Libres: Contesting Biohegemony in Colombia", *Journal of Agrarian Change* 16, no. 4 (2016), 713.
 - 86 US-Colombia TPA, www.sice.oas.org/Trade/COL_USA_TPA_e/Text_e.asp.
 - 87 Ley 1032, www.wipo.int/edocs/lexdocs/laws/es/co/co057es.pdf. The UPOV Convention requires Members to provide for appropriate legal remedies for the effective enforcement of breeders' rights, but the legal remedies themselves are determined by each party.
 - 88 In Colombia, the minimum wage is calculated on a monthly (as opposed to hourly) basis.
 - 89 A broader national Alliance for Agrobiodiversity (*Alianza por la agrobiodiversidad*) was launched in 2017.
 - 90 Corte Constitucional de Colombia, Sentencia C-501/14, www.corteconstitucional.gov.co/relatoria/2014/C-501-14.htm.
 - 91 See Chapter 16 (IP Rights) of the US-Colombia FTA, <https://ustr.gov/sites/default/files/col-iplr.pdf>. ICA disputes that there is a link between the US-Colombia FTA and Resolution 970.
 - 92 Tamara Wattne, "Seed Laws, Certification and Standardization: Outlawing Informal Seed Systems in the Global South", *Journal of Peasant Studies* 43, no. 16 (2016), 861.
 - 93 For a detailed list of these conditions See Wattne, "Seed Laws," 862.
 - 94 Email exchange with Diego Silva, Postdoctoral Research Associate, Graduate Institute of International and Development Studies, 9 February 2021. See Diego Silva, "Tres Lógicas de Acción y Reacción para la Monopolización de los Mercados de Semillas en Colombia," *Revista Colombiana de Antropología* 55, no.2 (2019), 9–37, <https://revistas.icanh.gov.co/index.php/rca/article/view/795/651>.
 - 95 Between 2010 until 2013, ICA conducted 27 raids and confiscated almost five tons of seed.
 - 96 For ICA's response to these criticisms, see www.ica.gov.co/periodico-virtual/prensa/2013/comunicado-lideres-de-opinion-del-pais.
 - 97 Colombia has incorporated into its Constitution Convention 169 (Indigenous and Tribal Peoples Convention) of the International Labour Organization, including the right of Indigenous Peoples to prior consultation.
 - 98 Corte Constitucional de Colombia, Sentencia C-1051/12, www.corteconstitucional.gov.co/relatoria/2012/C-1051-12.htm.
 - 99 Laura Gutiérrez Escobar, "Seed Sovereignty Struggles in an Emberá-Chamí Community in Colombia," *Alternautas* 4, no. 2 (2017), 27–45.
 - 100 Viola García López et al., "Seed Sovereignty and Agroecological Scaling: Two Cases of Seed Recovery, Conservation, and Defense in Colombia," *Agroecology and Sustainable Food Systems* 43, no.7–8 (2019), 5.
 - 101 Interview with Germán Vélez, Director, Grupo Semillas, Colombia, 27 November 2020.
 - 102 Martín Uribe Arbeláez, "Derechos de Los Agricultores y Convenio UPOV/91," *Revista La Propiedad Intelectual* 21 (2016), 162.
 - 103 For the text of Ley 1564 (2012), see ICA, *Legislación Sobre Protección*, 68–71. See also: www.upov.int/edocs/mdocs/upov/en/c_50/c_50_16_add.pdf, Annex 1.
 - 104 The US is also pressuring Colombia to provide patent protection for plants. Under the US-Colombia TPA, "a Party that does not provide patent protection for plants by the date of entry into force of this Agreement shall undertake all reasonable efforts to make such patent protection available." A draft National IP Policy released in October 2020 also reiterates this commitment. See Article 16.9 of the US-Colombia TPA, *Op. cit.*; and Política Nacional de propiedad intelectual, Borrador 1-05/10/2020. On file with the author.
 - 105 The Declaration was adopted by the UN General Assembly in 2018. See <https://digitallibrary.un.org/record/1650694>.
 - 106 Agencia Anadolu, "Colombia no votó declaración de derechos campesinos de ONU" (2019), www.elnuevosiglo.com.co/articulos/01-2019-por-que-colombia-no-voto-declaracion-de-derechos-campesinos-de-onu.
 - 107 "The United States commends Colombia on these accomplishments but notes that Colombia still needs to make additional progress on remaining intellectual property (IP)-related commitments under the CTPA, particularly provisions regarding (...) accession to the 1991 Act of the International Union for the Protection of New Varieties of Plants (UPOV 91)." See USTR, *Special 301 Report*, 80.
 - 108 Rincon, "Colombia's PBR System."
 - 109 On Decision 345, see note 78.
 - 110 See Art. 281 of the Constitution, <https://pdba.georgetown.edu/Constitutions/Ecuador/english08.html>.
 - 111 While most countries have a separate act regulating PBRs, Ecuador regulates PBRs in a chapter of its IP law, the "Organic Code for the Social Economy of Knowledge, Creativity and Innovation" (hereafter *Ingenios Act*). See the *Ingenios Act* (2016), Título IV, <https://wipolex.wipo.int/en/text/439410> (in Spanish). Curiously, on its Ecuador country webpage, the UPOV lists Decision 345 and not the *Ingenios Act*.
 - 112 See *Ingenios Act* Regulations (2020), Título IV ("De las obtenciones vegetales"), 99–113, www.ciopora.org/post/ecuador-adopta-nuevo-implementando-norm-for-código-ingenios.
 - 113 For a detailed discussion of the relationship between the *Ingenios Act*, Decision 345 and UPOV 78/91, see David J. Jefferson, *Towards an Ecological Intellectual Property. Reconfiguring Relationships Between People and Plants in Ecuador*. (London: Routledge, 2020), 136–148.
 - 114 These terms of protection comply with UPOV 1978, but not with Decision 345, which establishes a minimum term of protection of 20 years for vines, forest and fruit trees.
 - 115 *Ingenios Act* (2016), *Op. cit.* Art. 500 and 503.
 - 116 *Ingenios Act* (2016), *Op. cit.* Art. 492. See Jefferson, *Towards an Ecological IP*, 142, on parallel importation under the *Ingenios Act*; and Correa, *Plant Variety Protection*, 67, on how parallel importation can be implemented for plant varieties.
 - 117 *Ingenios Act*, *Op. cit.* Art. 489.
 - 118 *Ingenios Act*, *Op. cit.* Art. 488.
 - 119 *Ley orgánica de agrobiodiversidad, semillas y fomento de la agricultura sustentable* (2017), <http://extwprlegs1.fao.org/docs/pdf/ecu168628.pdf>.
 - 120 The irony of this terminology is not lost on observers, whereby peasant seed systems accounting for the vast majority of seeds circulating in Ecuador are labelled as "non-conventional". See David J. Jefferson, "Sowing Buen Vivir in Ecuador," *Trade Insight* (2017), 22.
 - 121 For a critical discussion of this typology, see Jefferson, "Sowing Buen Vivir," 21–22.
 - 122 The scope of Art. 8b of the Seed Law – for example, whether it includes PBRs-protected seeds – is unclear. Under the *Ingenios Act*, people who engage in ancestral agricultural practices are allowed to freely save, exchange, and sell (as long as the sale is not for profit, the scope of which is not defined in the law) PBRs-protected varieties. Email exchange with David Jefferson, Research Fellow, University of Queensland School of Law, 22 February 2021.
 - 123 Art. 1, 8b and 14b, respectively. For a more detailed discussion of the Seed Law, see Jefferson, *Towards an Ecological IP*, 150–158.
 - 124 Email exchange with David Jefferson, *Op. cit.*
 - 125 Jefferson, "Sowing Buen Vivir," 20.
 - 126 Jefferson, "Sowing Buen Vivir," 23.
 - 127 Jefferson, *Towards an Ecological IP*, 29.
 - 128 Ley Orgánica del Régimen de la Soberanía Alimentaria (N° 583/2009), www.soberaniaalimentaria.gob.ec/pacha/wp-content/uploads/2011/04/LORSA.pdf.
 - 129 Jefferson, "Sowing Buen Vivir," 21.
 - 130 See www.fao.org/ecuador/noticias/detail-events/en/c/389333/ and www.asambleanacional.gob.ec/es/noticia/44443-empresa-privada-dio-sus-aportes-al-proyecto-de-ley-de. According to Ana Lucía Bravo, the reintroduction of a draft Seed Law in 2016 coincided with the signing of an FTA with the EU. Interview with Ana Lucía Bravo, Policy advisor, *Red de Guardianes de Semillas de Ecuador*, 20 October 2020.
 - 131 The 2008 Constitution recognizes both Indigenous peoples' right to free informed prior consultation, and the right of communities to free, prior informed consultation on administrative and legislative measures and government decisions that could affect the environment. See Art. 57.7 and Art. 398 of the Constitution of Ecuador (2008), www.constituteproject.org/constitution/Ecuador_2008.pdf.
 - 132 The Indigenous and peasant organizations include the Confederation of Indigenous

- Nationalities of Ecuador (CONAIE), the Movement of the Indigenous People of Ecuador (ECUARUNARI) and the National Confederation of Peasant, Indigenous and Black Organizations (FENOCIN). CSOs include Ecology Action (*Acción Ecológica-AE*), Agroecology Collective (*Colectivo Agroecológico*) and Ecuadorian Agroecology Coordinator (*Coordinadora Ecuatoriana de Agroecología-CEA*).
- 133 Interview with Javier Carrera, Coordinator, Red de Guardianes de Semillas de Ecuador, 6 October 2020.
- 134 The Seed Guardians Network also argues only the conventional system receiving state support is discriminatory and that the definition of food security in the Seed Law differs from that in the Constitution. *Acción de Inconstitucionalidad N° 0055-17-IN/N° 0022-17-IN* (joinder). On file with the author.
- 135 This is an issue for peasant seeds, since phytosanitary norms imply the chemical treatment of seeds. See Art. 23 of the Regulations, www.tfc.com.ec/uploads/noticia/adjunto/668/REGLAMENTO_A_LA_LEY_ORGÁNICA_DE_AGROBIO-DIVERSIDAD_SEMILLAS_Y_FOMENTO_DE_LA_AGRICULTURA_SUSTENTABLE.pdf.
- 136 Interview with Ana Lucía Bravo, *Op. cit.*
- 137 See Art. 232 and footnote 72b, <https://data.consilium.europa.eu/doc/document/ST-7621-2016-ADD-1/en/pdf>.
- 138 APBRES and Both ENDS, "Plant Variety protection and UPOV 1991 in the European Union's Trade Policy: Rationale, Effects and State of Play", forthcoming.
- 139 See Annex XVI of the EFTA-Ecuador FTA, www.efta.int/sites/default/files/documents/legal-texts/free-trade-relations/ecuador/fta-ecuador-annex-xvi-protection-of-intellectual-property.pdf.
- 140 According to Ana Lucía Bravo, the government of Lenin Moreno does not have the political strength to finalize this agreement in the midst of the political and public health crisis and in a year leading to presidential elections. Moreover, a bilateral agreement granting the US access to Ecuadorian territory for anti-narcotrafficking operations in exchange for preferential tariffs for Ecuadorian exports mean that there is less pressure to sign an FTA. Interview with Ana Lucía Bravo, *Op. cit.*
- 141 See www.eluniverso.com/noticias/2020/11/03/nota/8032750/relacion-comercial-ecuador-estados-unidos.
- 142 This section draws on Jefferson, *Towards an Ecological IP*, 169–171.
- 143 See UPOV, "Access to Genetic Resources and Benefit-Sharing. Reply of UPOV to the Notification of June 26, 2003, from the Executive Secretary of the Convention on Biological Diversity (CBD)" (2003), 3, www.upov.int/export/sites/upov/news/en/2003/pdf/cbd_response_oct232003.pdf.
- 144 Regulation of the People's Republic of China on Protection of New Varieties of Plants (2014 Revision), www.lawinfochina.com/display.aspx?id=23432&lib=law.
- 145 Andy Xiang, "Introduction to the Protection of New Plant Varieties in China" (2019), www.lexology.com/library/detail.aspx?g=b012e1f4-d0a3-4ba3-9715-f045afc8118c.
- 146 For an unofficial English translation of the Seed Law (2015), see USDA, "China Amends Seed Law to Develop Seed Industry" (GAIN Report, 2015), https://apps.fas.usda.gov/newgainapi/api/report/downloadreportby-filename?filename=China%20Amends%20Seed%20Law%20to%20Develop%20Seed%20Industry_Beijing_China%20-%20Peoples%20Republic%20of_12-1-2015.pdf.
- 147 European Union, "Report on the Protection and Enforcement of Intellectual Property Rights in Third Countries" (2020), 17, https://www.aipla.org/docs/default-source/news/eu-report.pdf?sfvrsn=c7fd817e_0.
- 148 GRAIN (2019) "Asia Under Threat of UPOV 91", available at: <https://grain.org/e/6372>.
- 149 See Xiang, "Introduction to the Protection"; and WIPO, "World Intellectual Property Indicators" (2019), 164–166, www.wipo.int/edocs/pubdocs/en/wipo_pub_941_2019.pdf.
- 150 Quoted in Yiching Song et al., "Sowing Diversity, Harvesting Security, Sustaining Future: An Impact Assessment of China's Seed Policy" (2016), 7, www.oxfam.org.cn/uploads/2020/03/051016446736.pdf.
- 151 See "China's Seed Industry", www.hg.org/legal-articles/china-s-seed-industry-21469.
- 152 Zhu Zhenyan, "Some Important Provisions in China's Revised Seed Law" (Third World Network, 2016), https://twn.my/title2/intellectual_property/info.service/2016/ip160302.htm.
- 153 Zhu, "Some Important Provisions."
- 154 "Draft Revision of the Regulations for the Protection of New Varieties of Plants (Draft for Comment)", www.forestry.gov.cn/xpzbh/1782/20190515/172838025835329.html (in Mandarin).
- 155 For a more detailed discussion, see Liz Freeman Rosenzweig, "Essentially Derived Varieties and the Role of Leading Cases in Chinese Plant Variety Protection" (2020), <https://chinaipr.com/2020/04/02/essentially-derived-varieties-and-the-role-of-leading-cases-in-chinese-plant-variety-protection/>.
- 156 See Li Judan, "Study on Development and Reform of International Systems for the Protection of Plant Varieties and its Challenges in China," *Intellectual Property* 1 (2020), 59–71, http://iolaw.cssn.cn/zxzp/202005/t20200519_5131103.shtml (in Mandarin).
- 157 Switzerland-China FTA, www.seco.admin.ch/seco/en/home/Aussenwirtschaftspolitik_Wirtschaftliche_Zusammenarbeit/Wirtschaftsbeziehungen/Freihandelsabkommen/partner_fha/partner_weltweit/china/Abkommenstexte.html.
- 158 There are some discrepancies, however. Compare Art. 11.10 of the Switzerland-China FTA, *Op. cit.*, with Art. 14.1 and 15.2 of the UPOV 1991 Act. The exception for private and non-commercial use, provided for in the 1991 Act and incorporated into the Swiss PVP law, is missing in the text of the Switzerland-China FTA. Regarding the types of acts, the FTA does not include stocking.
- 159 China agreed to give priority to plant varieties of interest to the Swiss industry. See Annex IX to the Switzerland-China FTA, *Op. cit.* See also: <https://chinaipr.com/2013/07/08/the-new-swiss-china-fta-what-it-may-mean-for-ipr-in-china/>.
- 160 "If any Party intends to ratify or accede to any of the following multilateral agreements, it may seek to cooperate with other Parties to support its ratification or accession to and its implementation (...)" See RCEP Agreement, Chapter 11 (IP), Art. 11.9(3), www.dfat.gov.au/sites/default/files/rcep-chapter-11.pdf.
- 161 GRAIN, "Asia Under Threat."
- 162 Four of its members (Japan, Korea, Singapore and Vietnam) are party to UPOV 91. China is the only party to UPOV 78. The remaining eight members (Brunei Darussalam, Cambodia, Indonesia, LAO PDR, Malaysia, Myanmar, Philippines, Thailand) are not members of UPOV.
- 163 "China will push forward the revision of PVP Regulations to provide a stronger and more effective protection of PBRs." See Government of China, "Individual Implementing Strategy of China" (EAPVP Forum, 2020), http://eapvp.org/uploads/EAPVPF_13_02_03_IIS_China.pdf. The acquisition of Swiss agribusiness giant Syngenta for 43 billion dollars in 2017 by the state-owned company ChemChina may have been a factor, since Syngenta is a major user and beneficiary of the UPOV system. Freeman Rosenzweig, "Essentially Derived Varieties."
- 164 Xiang, "Introduction to the Protection."
- 165 "SPC's 2020 IP-Related Judicial Interpretation Agenda" (2020), <https://chinaipr.com/2020/03/31/spcs-2020-ip-related-judicial-interpretation-agenda/>.
- 166 GRAIN, "Asia Under Threat."
- 167 Freeman Rosenzweig, "Essentially Derived Varieties."
- 168 Significantly, references to UPOV 91 were deleted from the EAPVP Forum 10-Year Strategic Plan in 2019 at the initiative of China or South Korea. Since South Korea is a party to UPOV 91, this proposal is likely to have come from China. See EAPVPF (2019), "Report adopted by the 12th East Asia Plant Variety Protection Forum Annual Meeting", 13, available at: http://eapvp.org/uploads/EAPVPF_12_07_Report.pdf.
- 169 Dan Prud'homme and Taolue Zhang, *China's Intellectual Property Regime for Innovation: Risks to Business and National Development* (Springer, 2019), 32–33.
- 170 In the 1970s, most plant breeding was done by the public sector and there was no demand for PVP. However, an Irish rose breeder – Sam McGredy – made moving his business to New Zealand conditional on the introduction of PBRs. The first Plant Varieties Act (1973) was therefore adopted largely at his instigation. The Act is available at: www.nzlii.org/nz/legis/hist/act/pva19731973n37205/. I thank Warren Hassett for drawing my attention to this little-known story.
- 171 PVR Act (1987), www.legislation.govt.nz/act/public/1987/0005/latest/DLM100578.html.
- 172 PVR Regulations (1988), www.legislation.govt.nz/regulation/public/1988/0101/latest/DLM124608.html.
- 173 Plant Variety Rights Amendment (1994), www.nzlii.org/nz/legis/hist/act/pvraa19-941994n52354.pdf.
- 174 This overview draws on Ministry of Business, Innovation and Employment (MBIE), "Issues Paper. Review of the Plant Variety Rights Act 1987" (2018), 7–9, www.mbie.govt.nz/business-and-employment/business/intellectual-property/plant-variety-rights/plant-variety-rights-act-review/background-to-the-plant-variety-rights-act-review.

- 175 Jane Kelsey, cited in Sanya Smith Reid, "General Provisions – Other Treaties to Join – UPOV 91" (n.d.), <https://wikileaks.org/tpp-ip3/upov/UPOV%20and%20NZ.pdf>.
- 176 Plant Variety Rights Bill (2021), www.legislation.govt.nz/bill/government/2021/0035/latest/LMS352239.html?src=qs.
- 177 MBIE, *Issues Paper*.
- 178 NZPBRA and NZGSTA, "Submission to the Ministry of Business, Innovation & Employment on the Options Paper – Review of the PVR Act 1987" (2019), www.mbie.govt.nz/dmsdocument/7427-nzpbra-and-nzgstata-plant-variety-rights-act-1987-review-options-paper-submission-pdf.
- 179 Office of the Minister of Commerce and Consumer Affairs, "Review of the Plant Variety Rights Act 1987: Release of Options Paper for Public Consultation" (2019a), 6, www.mbie.govt.nz/assets/review-of-the-plant-variety-rights-act-1987-release-of-options-paper-for-public-consultation.pdf. The economic analysis, known as the Sapere Report, is available at: www.mbie.govt.nz/assets/72ecc56436/what-is-really-driving-innovation-in-our-plant-based-sectors.pdf.
- 180 Office of the Minister of Commerce and Consumer Affairs, "Further Policy Decisions for the Review of the Plant Variety Rights Act 1987" (2021), www.mbie.govt.nz/dmsdocument/14174-further-policy-decisions-for-the-review-of-the-plant-variety-rights-act-1987-minute-of-decision-pdf.
- 181 Office of the Associate Minister of Commerce, "Review of the Plant Variety Rights Act 1987" (2002), 7, <http://docplayer.net/33069392-Review-of-the-plant-variety-rights-act-1987.html>.
- 182 See Chapter 2 of the Waitangi Tribunal Report, "Ko Aotearoa Tēnei. A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity" (2011), 97, https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_68356054/KoAotearoaTeneiTT1W.pdf.
- 183 On the *Te Pae Tawhiti*, see www.tpk.govt.nz/en/a-matou-kaupapa/te-ao-maori/wai-262-te-pae-tawhiti.
- 184 Annex 18-A (Annex to Art. 18.7.2 of the CPTPP Agreement), www.mfat.govt.nz/assets/Trade-agreements/TPP/Text-EN-GLISH/18-Intellectual-Property-Chapter.pdf.
- 185 Waitangi Tribunal, "Report on the Trans-Pacific Partnership Agreement (Wai 2522)" (2016), https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_104833137/Report%20on%20the%20Trans-Pacific%20Partnership%20Agreement%20W.pdf.
- 186 "Affidavit of Karaitiana Nathan Taiuru before the Waitangi Tribunal in the Matter of the Treaty of Waitangi Act 1975 and the Trans-Pacific Partnership Agreement Inquiry (Wai 2522)", 15 October 2019, 10, 13. On file with the author.
- 187 Office of the Minister of Commerce and Consumer Affairs, "Policy Decisions for the Review of the Plant Variety Rights Act 1987" (2019b), www.mbie.govt.nz/dmsdocument/7373-policy-decisions-for-the-review-of-the-plant-variety-rights-act-1987-proactive-release-pdf.
- 188 Helen Bellchambers, "An Update on New Zealand's Plant Variety Rights Act Review" (2020), www.ajpark.com/insights/ip-updates/an-update-on-new-zealands-plant-variety-rights-act-review/.
- 189 Waitangi Tribunal (2020), "The Report on the Crown's Review of the Plant Variety Rights Regime (Wai 2522)", 42, https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_167062478/Plant%20Variety%20Rights%20Regime%20W.pdf.
- 190 Waitangi Tribunal, "The Report on the Crown's Review," 24.
- 191 "Closing Submission before the Waitangi Tribunal in the Matter of the Treaty of Waitangi Act 1975 and the Trans-Pacific Partnership Agreement Inquiry (Wai 2522)", 11 December 2019, 50. On file with the author.
- 192 Office of the Minister of Commerce and Consumer Affairs, "Further Policy Decisions," 3.
- 193 For a comparison of the provisions of the PVR Act (1987) and UPOV 91, see Office of the Associate Minister of Commerce, "Review of the Plant Variety Rights Act," 13–14.
- 194 Plant Variety Rights Bill (2021), *Op. cit.*
- 195 MBIE, "Policy Decisions," 16. A similar approach is taken in Australia.
- 196 Plant Variety Rights Bill (2021), *Op. cit.*
- 197 Interview with Warren Hassett, *Op. cit.*
- 198 Plant breeders working with *taonga* species will have an incentive to locate and consult with the relevant *kaitiaki* (guardian) prior to filing a PVR application. By doing so, they will increase the likelihood that the Māori Advisory Committee will agree that the PVR application can proceed.
- 199 Interview with Warren Hassett, *Op. cit.*
- 200 I thank Bell Batta Torheim for providing the references to the relevant laws and regulations. Interview with Bell Batta Torheim, Ministry of Agriculture and Food (Norway), 18 November 2020.
- 201 Norway's Plant Breeders Rights Act (1993), <https://upovlex.upov.int/en/legislation/text/129014>. The 1997 Regulations are available at: <https://upovlex.upov.int/en/legislation/text/224262>.
- 202 See, respectively, Section 13 of the PBRs Act (1993), and Section 1 of the PBRs Regulations (1997), *Op. cit.* The extension to all genera and species of plants was the result of an amendment to the Regulations in 1995.
- 203 The full text of the Plant Treaty is available at: www.fao.org/plant-treaty/en/.
- 204 Regine Andersen, *Plant Genetic Diversity in Agriculture and Farmers' Rights in Norway* (2012), 59, www.fni.no/getfile.php/132143-1469870399/Filer/Publikasjoner/FNI-R1712.pdf.
- 205 See Section 4, Paragraph 3 of the PBRs Act (1993), <https://lovdata.no/dokument/NL/lov/1993-03-12-32> (in Norwegian).
- 206 Food Act (2003), <http://extwprlegs1.fao.org/docs/pdf/nor66883E.pdf>.
- 207 See the 2010 amendment to the Food Act Regulations, <https://lovdata.no/dokument/SF/forskrift/1999-09-13-1052?q=savare> (in Norwegian).
- 208 To prevent the spread of plant pests, only companies registered with the Norwegian Food Safety Authority can market seed potatoes.
- 209 Andersen, *Plant Genetic Diversity*, 48.
- 210 This Regulation came into force on 1 July 2020, amending Regulation N° 1052 of 13 September 1999.
- 211 For an overview of the EU legal framework for seeds, see Tony Winge, "Seed Legislation in Europe and Crop Genetic Diversity," in *Sustainable Agriculture Reviews*, ed. Eric Lichtfouse (Springer, 2015).
- 212 I am indebted in this section to the work of Regine Andersen.
- 213 Andersen, *Plant Genetic Diversity*, 36.
- 214 Graminor is jointly owned by farmers' cooperatives, the State, the University of Life Sciences and others. This model is unique to Norway and Finland. See www.graminor.no/about-us/owners-by-laws. Interview with Kristin Børresen, Managing Director, Graminor, 21 December 2020.
- 215 Regine Andersen, "Norway says 'no' to UPOV 1991" (GRAIN, 2005), <https://grain.org/e/2183>.
- 216 Andersen, *Plant Genetic Diversity*, 35.
- 217 Royal Norwegian Ministry of Agriculture and Food, "Farmers' Rights – Submission from Norway June 2018" (2018), www.fao.org/fileadmin/user_upload/faoweb/plant-treaty/submissions/FRs_Norway.pdf. Public funding goes to Graminor's plant breeding programs in forage crop, fruits and berries, which would otherwise not be viable. Interview with Kristin Børresen, *Op. cit.*
- 218 See Anderson, *Plant Genetic Diversity*, 28–29. Norway's submissions to the Plant Treaty are available at: www.fao.org/plant-treaty/areas-of-work/farmers-rights/farmers-rights-submissions/en.
- 219 The complicated history of EU regulations on the sale of seeds is beyond the scope of this study. For a detailed account, see Andersen, *Plant Genetic Diversity*, 37–51.
- 220 Andersen, *Plant Genetic Diversity*, 44.
- 221 Norway Ministry of Agriculture and Food, "Securing the Gene Pool for Future Agriculture and Food Production, National Strategy for the Conservation and Sustainable Use of Genetic Resources for Food and Agriculture" (2019). On file with the author.
- 222 Interview with Regine Andersen, Research Director, Biodiversity and Natural Resources, Fridtjof Nansen Institute, 7 October 2020.
- 223 For an example, see Annex V to the EFTA-Morocco Agreement, www.efta.int/media/documents/legal-texts/free-trade-relations/morocco/annexes-protocols-rou-en/FA99C248F74340F788B-B58280E315965.pdf.
- 224 See the Open Letter, www.recht-auf-saatgut.ch/werde-aktiv/sign-on-letter; and EFTA's response, www.recht-auf-saatgut.ch/wp-content/uploads/2021/03/Kommentierter-Antwortbrief-EFTA-201210-e.pdf. Of the four EFTA members, only Iceland complies with UPOV 91. Liechtenstein is not a member of UPOV and does not even have a plant variety protection law.
- 225 PBRs Act (1976), <https://upovlex.upov.int/en/legislation/text/243139>. PBRs Act (2018), www.gov.za/sites/default/files/gcis_document/201903/4234729-3-2019plantbreedersact12of2018.pdf.
- 226 ACB, "Integration of Small-Scale Farmers into Formal Seed Production in South Africa: A Scoping Report" (2016), 6, www.acbio.org.za/wp-content/uploads/2016/06/Seed-Production-report-ACBio-2016-06.pdf.
- 227 After South Africa, the first countries from the Global South to join the UPOV were Argentina and Uruguay, in 1994.

- 228 Belgium, Denmark, France, Germany, Italy, Netherlands, Sweden, Switzerland and United Kingdom.
- 229 Correa, *Plant Variety Protection*, 10.
- 230 The African members of UPOV are Egypt, Kenya, Morocco, Tanzania and Tunisia. The African Intellectual Property Organization (OAPI), which comprises 17 countries, is also an institutional member of UPOV.
- 231 SANSOR, "SANSOR's Position on the Accession to the 1991 Act of the International Convention for the Protection of New Varieties of Plants" (2018), www.sansor.org/docs/SANSOR%20Position%20Papers/SANSOR's%20Position%20on%20UPOV%201991%20-%20Aug%202018.pdf.
- 232 Founded in 2003, the ACB is a research and advocacy organisation working towards food sovereignty and agroecology, with a focus on biosafety, seed systems and agricultural biodiversity.
- 233 See, for example, ACB, "Comments on Plant Breeders' Rights Bill [B-2013]" (2013), www.acbio.org.za/sites/default/files/2015/02/ACB_-_comments_-_PBRs-Bill1.pdf; and ACB "Reflections on ITPGRFA, UPOV 1991 and South Africa" (2018a), www.acbio.org.za/en/reflections-itpgrfa-upov-1991-and-south-africa.
- 234 See, for example, Linzi Lewis and Sibusiso Nkosi, "Resistance is fertile! Farmers rise up against SA's corporate seed laws" (2017), <http://thegreentimes.co.za/resistance-is-fertile-farmers-rise-up-against-sas-corporate-seed-laws>.
- 235 ACB, "South Africa's new Plant Breeders' Rights Act and its effect on farmers' rights and farmer managed seed systems" (2019), www.acbio.org.za/sites/default/files/documents/201910/sanewplantbreedersrightsacteffectsfmss.pdf.
- 236 ACB, "Reflections on ITPGRFA", 17.
- 237 See Section 23.6(f) of the PBRs Act (2018), *Op. cit.*
- 238 See Art. 10 of the PBRs Act (2018), *Op. cit.* The ability to define the types of uses – Art. 10.2(iii) – is a departure from UPOV 91, which only allows "own use" by farmers on their own property.
- 239 SANSOR, "SANSOR's Position."
- 240 See Noluthando C. Netnou-Nkoana et al., "Understanding the Farmers' Privilege Concept by Smallholder Farmers in South Africa", *South African Journal of Science* 111, no. 1–2 (2015), www.scielo.org.za/pdf/sajs/v111n1-2/15.pdf.
- 241 Interview with Mariam Mayet, Executive Director, African Centre for Biodiversity, 21 July 2020.
- 242 "Submission by the African Centre for Biodiversity to the Department of Agriculture, Land Reform and Rural Development (DALRRD) in regard to South Africa's consideration to accede to the International Treaty on Plant Genetic Resources for Food and Agriculture", 13 January 2021. On file with the author.
- 243 A regional block created in 1992, the SADC comprises Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini (previously Swaziland), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe.
- 244 The SADC PVP Protocol is available at: www.acbio.org.za/wp-content/uploads/2015/02/SADC-PVP-2014.pdf. For a critical analysis, see www.acbio.org.za/en/sadc-pvp-protocol-blueprint-uptake-upov-1991-africa.
- 245 AFSA, "AFSA Makes Small Gains for Farmers' Rights: A Briefing Paper" (2014), 6–7, www.acbio.org.za/wp-content/uploads/2015/02/AFSA-Briefing.pdf.
- 246 See Art. 9.2c of the Plant Treaty (www.fao.org/3/i0510e/i0510e.pdf) and Art. 2.3, 10, 11, 15.4 and 19.1c of UNDROP (<https://documents-dds-ny.un.org/doc/UNDOC/GEN/G18/297/76/PDF/G1829776.pdf?OpenElement>).
- 247 UPOV 1991 Act, *Op. cit.*
- 248 See UPOV, "Explanatory Notes," 10.
- 249 See Art. 9 (Farmers' Rights), read along with the Preamble; and Art. 6 (Sustainable use of plant genetic resources) of the FAO Plant Treaty, www.fao.org/3/a-i0510e.pdf.
- 250 See UPOV FAQs, www.upov.int/about/en/faq.html#QR10.
- 251 Shashikant and Meienberg, "International Contradictions."
- 252 Karine Peschard and Shalini Randeria, "Keeping Seeds in Our Hands: The Rise of Seed Activism," *Journal of Peasant Studies* 47, no. 4 (2020), 623; and Christophe Golay, "The Right to Seeds and Intellectual Property Rights" (Geneva Academy, 2017), www.geneva-academy.ch/joomlatools-files/docman-files/The%20Right%20To%20Seeds%20And%20Intellectual%20Property%20Rights.pdf.
- 253 See Christophe Golay and Fulya Batur, "Practical Manual on the Right to Seeds in Europe" (Geneva Academy Briefing N° 19, 2021), 19, www.geneva-academy.ch/joomlatools-files/docman-files/Briefing%2019.pdf.
- 254 The wording of these agreements means that Norway, by virtue of already being a UPOV member, can remain a party to the 1978 Act, whereas EFTA's trade partners are required to join the 1991 Act. See Section 2.8 of this study.
- 255 See UPOV, "Access to Genetic Resources."
- 256 The Nagoya Protocol on Access and Benefit Sharing regulates the fair and equitable sharing of the benefits arising out of the utilization of genetic resources outside of agriculture.
- 257 Jorge Cabrera Medaglia et al., "Comparative Study of the Nagoya Protocol, the Plant Treaty and the UPOV Convention: The Interface of Access and Benefit Sharing and Plant Variety Protection" (CISDL, 2019), 41, <https://absch.cbd.int/api/v2013/documents/CBB23F98-E332-FDA5-E8D7-0799BF8356DF/attachments/Final%20Report-%20Nagoya%20Protocol%2C%20Plant%20Treaty%20and%20UPOV.pdf>.
- 258 This table only includes the provisions examined in the context of this study (see introduction). It is based on the legislation in force at the time this study goes to press.
- 259 Protection is available for all cultivated genera and botanical species where their cultivation, possession or use is not prohibited for reasons of human, animal or plant health.
- 260 Protection is extended to all plant genera and species, provided that the cultivation, possession or utilisation is not prohibited for reasons of human, animal or plant health, food sovereignty, food security and environmental security.
- 261 Except *algae*.
- 262 Scope of the exceptions to be determined in the Regulations.
- 263 Office of the Minister of Commerce and Consumer Affairs, "Review of the Plant Variety Rights Act."
- 264 For examples of such examination by the UPOV of the conformity of national PVP laws with UPOV 91, see www.upov.int/edocs/mdocs/upov/en/c_extr/22/c_extr_22_2.pdf (Malaysia) and www.upov.int/edocs/mdocs/upov/en/c_extr/24/c_extr_24_02.pdf (Philippines). In the case of Malaysia, UPOV recommends deleting the following provision in the PVP bill – "any exchange of reasonable amounts of propagating materials among small farmers" (p. 29) – because "the exchange of protected material for propagating purposes would not be covered by the exceptions under Article 15 of the 1991 Act" (p. 5). In the case of the Philippines, UPOV takes issue with a provision of the PVP bill that would allow farmers to "exchange, share or sell their farm produce of a variety protected under this Act" as well as a provision allowing "exchange and sell [sic] of seeds among and between said small farmers" (p. 5).
- 265 In Switzerland and the United States, farmers can save and grow seeds from protected varieties without paying any royalties. In Canada, farmers can produce, reproduce, condition and stock seeds of a protected variety without any restrictions and royalty payment.
- 266 For a map of UPOV membership, see www.upov.int/export/sites/upov/images/upov_map_76members_en.png.



The Association for Plant Breeding for the Benefit of Society (APBREBES) is a network of civil society organizations from developing and industrialized countries. The purpose of APBREBES is to promote plant breeding for the benefit of society, fully implementing Farmers' Rights to plant genetic resources and promoting biodiversity. The work of APBREBES is financially supported by the Swiss Agency for Development and Cooperation, Salvia Foundation and Misereor. The views expressed in this working paper do not necessarily reflect the views of the Swiss Agency for Development and Cooperation and the other supporters.

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