Asian Approaches to International Law: Focusing on Plant Protection Issues

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ABSTRACT

Plant variety protection has long been a sensitive issue and plant varieties have historically been excluded from being protected in many jurisdictions in Asia. While some countries in the region introduced various kinds of plant protection laws during the twentieth century, many generally felt that it was not appropriate to grant IP protection in this field. Plant variety protection gained importance through membership to the WTO, which was something the International Convention for the Protection of New Varieties of plants had been unable to achieve. For this reason, more and more countries in Asia, as developing countries, have implemented some kind of legal protection for plant breeding achievements in accordance with TRIPS. This article aims to discuss the emergence of the IP rights law on plant variety protection and its development in the Asian region and to analyse its prospects in the next decade.

I. INTRODUCTION

Plant varieties have been regarded as IP for many centuries; however, legal protection has developed at a relatively slow pace compared to other areas of IP rights (IPR).1 Plant variety protection through an IPR regime has assumed greater

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importance with its inclusion in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organization (WTO) in 1994. Prior to the WTO/TRIPS, there was limited legislation in Asia to provide for IP protection of plant varieties. Although some countries, such as Japan, had introduced various kinds of plant protection laws before the WTO/TRIPS regime came into being, they were in the minority. Most countries in the region did not have such legislation in place until they accepted their trade obligations through membership of the WTO and agreed to adhere to TRIPS requirements.

Article 27.3(b) of the TRIPS Agreement sets out the requirement for the protection of plant varieties by stating ‘[m]embers shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination [thereof]’. The wording of this Article specifically creates a flexible standard to respond to individual socio-economic priorities. For this reason, more and more countries in Asia, as developing countries, have implemented different types of legal systems for plant breeding achievements in the last two decades in accordance with Article 27.3(b) of TRIPS. It is of specific interest to learn why several countries in Asia have introduced a variety of systems and the manner in which they have developed their protection systems for plant breeding results; on the one hand, to serve the plant breeding industry and, on the other, to particularly meet the needs of local farming communities.

Before proceeding, it is appropriate, by way of introduction, to mention some key terms that inform the development of this article. Firstly, “Asian” is more frequently used to refer to the continent of Asia, which comprises 51 states. The expression, “Asian”, is used here as a collective or regional term, which embraces all areas and regions in Asia, including the two special administrative regions of the People’s Republic of China; namely, Macau and Hong Kong. 36 states are currently members of the WTO, while 14 are observers and/or non-WTO members. Since a great number of countries, especially in Asia, are in the process of joining the WTO and implementing TRIPS with respect to plant protection (see Table 1), this article aims to provide a useful contribution to the ongoing discussion as to how best to meet the TRIPS obligations.

MIHR, 2007) 401, 401 (describing that the genesis of plant variety protection can be traced back to the creation of the first IP convention, namely the Paris Convention, in 1883).
3. Rajeswari Kanniah and Christoph Antons, ‘Plant Variety Protection and Traditional Agricultural Knowledge in Southeast Asia’ (2012) 13(1) Australian Journal of Asian Law, 1, 1 (arguing that TRIPS provided the impetus for the introduction of IPR regimes on plants in Asia. They also argue that, prior to the TRIPS, there were no IPR laws on plants in developing countries in Asia).
Secondly, this article examines plant protection issues in Asia in the light of international law. With such an approach, the article introduces the relevant international agreements, particularly those that have taken place within four multilateral institutions, namely the WTO, the International Union for the Protection of New Varieties of plants (UPOV), the Conference of the Parties of the United Nations Convention on Biological Diversity (CBD), and the Food and Agriculture Organization (FAO) of the United Nations. While the relevant international laws discussed in detail in this article may differ in nature, scope and objectives, they can be broadly distinguished as being IP rights-related instruments and environmental-related instruments according to their principal subject matter.6 

Lastly, the phrase “plant protection” is used here to refer to the IP protection of plant varieties or plant variety protection through an IPR regime. Wherever inevitable, the expression, “plant protection”, may be a more palatable alternative to “plant variety protection”. The lack of recent scholarship on issues related to plant protection in Asia is astounding given the fact that Asia has long been an outlier, both in terms of international institutions and its embrace of international law. Asia has not chosen to construct regional institutions to govern the area of plant variety protection compared to those in European countries and others, preferring to adopt an approach of variable geometry and pragmatic alliances. The region’s commitment to what some call the “Asian way” has sometimes prioritised consultation and consensus over clear and binding obligations. For this reason, it is interesting to explore how international law related to plant protection issues has developed in the region, and what its prospects are in the coming decade. This article aims to fill this void. The following sections discuss the main international treaties relevant to the field of plant variety protection, with a brief account of their historical development. Later sections examine the range of plant protection systems being adopted in Asia, and discuss its prospects in the decade to come.

II. EMERGENCE OF PLANT VARIETY PROTECTION AT AN INTERNATIONAL LEVEL

Plant variety protection through an IPR regime has long been a sensitive issue and plant varieties have historically been excluded from being protected in many jurisdictions in Asia. It was widely believed that plant variety, as an input for agriculture and hence food sovereignty, and an input for activities related to economic development, should not be governed by an IPR regime. This was also linked to the belief that traditional agricultural practices of seed-saving and exchange and the perception that the fulfilment of the need for food should not not

6. See Philippe Cullet, ‘Plant Variety Protection in Africa: Towards Compliance with the TRIPS Agreement’ (2001) 45 Journal of African Law, 97, 98 (arguing that the regime dealing with plant protection issues is marked by a variety of instruments whose subject matter may differ. He further notes that different treaties may belong to different areas of international law, such as environmental law and trade law).
primarily be profit-making enterprises. Specifically, Asia’s rejection of IP norms can be viewed as being against its local values, norms, and traditions. Thus, from the Asian perspective, natural resources, including plants, are considered to be a heritage of all mankind; therefore, plant varieties that are generally identified through seeds, have traditionally been freely cultivated and exchanged among all users across countries and across time.

Over the past few decades, there has been a push toward restricting traditional agricultural practices, prompted by the growing assertion that plant materials should be treated as IP and some form of legal protection should be developed for them at an international level. In fact, plant variety protection through an IPR regime became truly globalised when the WTO sought to correct the imbalances in international trade and establish an evenly balanced world trade order, which resulted in the introduction of trade obligations in 1994. The WTO adopted a key agreement, namely TRIPS, as part of members’ trade obligations, and this recognised IP rights protection as a means to reduce barriers to international trade. TRIPS was meant to function as a compromise between developed and developing countries in terms of the scope of protection of plant varieties and the means of implementation. Both developed and developing countries, which are party to this agreement, have stated that the primary objective of TRIPS is the greater protection for IP rights worldwide by means of standards, enforcement, and dispute settlement. However, prior to TRIPS, there had been other regional and international agreements to deal with plant variety rights:

1. The 1883 Paris Convention for the Protection of Industrial Property (Paris Convention) arose from the need of certain countries to protect their industrial property beyond their territories. While the Paris Convention did

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10. In the relevant part, its preamble provides, “Desiring to reduce distortions and impediments to international trade, and taking into account the need to promote effective and adequate protection of intellectual property rights, and to ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade”, TRIPS, above n 2.
not specifically use the term, ‘plant variety protection’, it was the first multilateral agreement to provide for the legal protection of plant-related inventions as an area of agricultural enterprise in which property rights could be secured.

2. The UPOV Convention was introduced with the overall objective of protecting the results of agricultural plant breeding in the form of crop varieties.\(^{13}\) Since its adoption in Paris in 1961, it has been one of the most important international instruments governing the area of plant variety protection.

3. The International Undertaking for Plant Genetic Resources (1983),\(^ {14}\) which was subsequently succeeded by the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)\(^ {15}\) in 2001, was the first international law to address the interrelationship between the rights of traditional farmers and the rights of plant breeders.\(^ {16}\)

4. The CBD,\(^ {17}\) which was adopted at the 1992 United Nations Conference on Environment and Development, sets out the legal instrument concerning the management of biodiversity at an international level. It provides a framework within which rights for plant varieties must also fit.

There are also various regional, multilateral and bilateral trade agreements that require the imposition of IP rights protection on plant varieties and are likely to have an impact on nations in Asia.\(^ {18}\) These documents include the Free Trade Areas of the Americas Draft Agreements, the Free Trade Agreements of the European Union, and ASEAN-Australia-New Zealand Free Trade Agreement.\(^ {19}\) However, in the light of the broad nature of this topic and the desire to discuss a number of points in depth, this article will be generally limited to the operation of TRIPS, UPOV, CBD and ITPGRFA in respect of these issues.

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III. PLANT VARIETY PROTECTION UNDER THE WTO/TRIPS REGIME: TOWARD UNIVERSALITY

As discussed in the previous part, TRIPS opened a new chapter for the international protection of IP rights, including the protection of plant varieties. TRIPS is arguably the most important international agreement to have influenced the structure of plant variety protection laws in most countries of the world, including nations in Asia. Complying with TRIPS was also one of the main reasons for the enactment of PVP laws in most Asian states. For instance, countries in Southeast Asia, such as Indonesia, Malaysia, the Philippines and Thailand, cited TRIPS as being the main reason for establishing their PVP laws.

TRIPS came into force in 1995, following negotiations in 1994 at the end of the eight rounds of the General Agreement on Tariffs and Trade (GATT). It sets out the minimum standards of IP protection, covering all categories of IP rights, and mandates all WTO members to institute or amend their national legislation to comply with its obligations. The WTO initially imposed a 2005 deadline for developing countries and least-developed countries (LDCs) to conform to all of the TRIPS requirements. These transition periods were subsequently extended, with LDCs currently facing a deadline of the 1st January, 2016 to fully comply with the TRIPS obligations. A significant feature of the TRIPS Agreement is the application of IP rights of the two major principles of the GATT. These principles are the national treatment principle found in TRIPS Article 3, and the Most-Favoured Nation (MFN) principle found in TRIPS Article 4. TRIPS also requires WTO Members to provide effective enforcement procedures under their domestic laws. Rules of the previous IP conventions are also incorporated by referring to the relevant provisions of the Agreement.

Specifically of interest in the area of plant variety protection is TRIPS Article 27.3(b). This Article indicates that members may exclude plants and animals other than micro-organisms, and essentially biological processes for the production of

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22. TRIPS, above n 2, art. 1.2.
23. Ibid, arts. 65 and 66.
25. TRIPS, above n 2, art. 41.
plants or animals other than non-biological and microbiological processes, from patentability. However, members shall provide for the protection of plant varieties, either by patents or an effective sui generis system, or any combination thereof. Therefore, plants and essentially biological processes for the production of plants may be exempted from patent protection, although WTO Members still have to provide some form of IP rights to cover plant varieties. Interestingly, while TRIPS requires WTO Members to protect the rights of plant varieties, the provision of this Article allows each member to choose its own specific type of legal protection. The wording of this Article does not generally obligate members to introduce patents. The reference to the sui generis system in this article relaxes the requirement of IP rights protection by authorising members to develop any form of plant variety protection. Commentators argue that this provision in TRIPS is somewhat complex as a result of the substantial challenges faced by negotiators in achieving their goal of drafting a comprehensive set of disciplines governing multilateral trade-related IP rights. As a result, Article 27.3(b) of TRIPS vis-à-vis plant variety protection is a mixture of mandatory and voluntary obligations, which, at times, creates substantial interpretative difficulties.

Apparently, the ambit of Article 27.3(b) of TRIPS concerning the protection of plant varieties has become the subject of a fierce debate among WTO Members, who have markedly different views of an appropriate system of IP protection of plant varieties. Developed nations, including Japan, believe that the system provided by UPOV should be the minimum standard for TRIPS compliance. Conversely, developing nations, such as India and Thailand, refuse to accept this approach on the grounds that such a Convention does not recognise the rights of farmers. It is worth noting that TRIPS makes no reference to the UPOV treaty that could be compared to other IP conventions, such as the Paris Convention. Thus, WTO Members have the discretion to choose their own legal system for

29. Cullet, above n 7, 626.
30. Nuno Pires de Carvalho, The TRIPS Regime of Patent Rights (The Hague: Kluwer Law International, 2002) at 178-79 (assuming that the UPOV Convention would fit with the requirement of an effective sui generis system in TRIPS Article 27.3); and Gervais, above n 28, 151 (arguing that the UPOV Convention would enjoy the presumption of the effectiveness requirement of the TRIPS Agreement).
31. See Srividhya Ragavan and Jamie Mayer, ‘Has India Addressed Its Farmers’ Woes? A Story of Plant Protection Issues’ (2007) 20 Georgetown International Environmental Law Review, 97, 98 (arguing that India refuses to accept UPOV as the only option or as setting the minimum standards for TRIPS compliance); see also Jakkrit Kuanpoth, ‘Current Developments and Trends in Intellectual Property Rights: Harmonisation through Free Trade Agreements’ in Chanida Chanyapate Bamford and Alec Bamford (eds), Free Trade Agreements: Impact in Thailand (Nonthaburi, Thailand: FTA Watch, 2005) 21, 29 (arguing that Thailand has so far resisted ratifying UPOV or adopting it as the standard for its PVP law).
32. See footnote no. 26.
plant protection, which is not only the standard stipulated by UPOV. In fact, the wording of TRIPS creates a flexible standard under which WTO Members are free to choose between (1) patents, (2) an effective sui generis system, or (3) a combination of both patent and sui generis regimes to protect plant varieties. In any case, it is safe to assume that, depending on the need and arguably the level of development of particular nations, they may decide that either or both forms of system will provide them with the ultimate benefits.

As mentioned earlier, there are a number of international instruments that relate to the protection of plant varieties, namely, UPOV, CBD and ITPGRFA. Several, if not all, nations in Asia view such instruments as ways of drafting their legislation in this field and thus conforming to the TRIPS standard, and this is as good a reason as any to consider these existing international laws.

IV. INTERNATIONAL LAW RELATING TO PLANT PROTECTION ISSUES

A. International Union for the Protection of New Varieties of Plants (UPOV)

Before the WTO/TRIPS regime, the legal development in the area of plant variety protection evolved through a series of documents administered by UPOV. The genesis of UPOV can be traced back to a discussion in the 1950s, when the breeding industry in Europe furthered the idea of plant breeders’ rights and lobbied for enhanced protection in exchange for quality seeds.33

In 1957, the French Government held a conference concerning the protection of new varieties of plants and emphasised the idea of plant breeders’ rights. This initially led to the creation of UPOV and the adoption of the first text of the UPOV Convention.34 When it entered into force in 1968, the purpose of the Convention was to ensure that members of UPOV acknowledged the achievements of breeders of new plant varieties by granting them IP protection on a set of clearly defined principles.35 UPOV views itself as being a mechanism with which members may engage and enjoy a number of benefits, including investment, technological transfer, and development.36 The original version of the UPOV Convention was revised twice, in 1978 and 1991, and these subsequent revisions also increased the

35. The UPOV Convention, above n 13.
36. UPOV contends that a number of benefits can be derived from the protection of plant varieties under its regime. See UPOV, Report on the Impact of Plant Variety Protection (UPOV Publication, 2005) 12.
scope of breeders’ rights to retain the original quality as a mechanism of breeders. Specifically, in the last revision, breeders’ rights of the propagating material of the plant variety were extended to the harvest, as well as the spectrum of application of plant breeders’ rights. The overall objective of the revision was especially to strengthen the rights of plant breeders.\textsuperscript{37} UPOV tends to reflect the status of a European club, since its membership mainly consists of European nations, and only a few Asian and other countries have joined it.\textsuperscript{38} However, the UPOV Convention is currently the only international agreement that provides legal protection for plant varieties, and it is actively engaged in self-promotion on a worldwide scale, as well as being advanced by the United States and the European Union through bilateral free trade agreements that tend to require developing countries, including many countries in Asia, to join UPOV. Because of its importance to the subject of this study, UPOV is also discussed in a later section of this article.

\textbf{B. The United Nations Convention on Biological Diversity (CBD)}

Plant variety protection in the context of TRIPS cannot be dissociated from the CBD. This was generally stated in paragraph 19 of the Doha Ministerial Declaration, which directed the TRIPS Council to consider the interaction between TRIPS and CBD in its general review of Article 27.3(b) with respect to plant protection. Paragraph 19 of the Doha Declaration states that:

We instruct the Council of TRIPS, in pursuing its work programme including under the review of Article 27.3(b) […] to examine, inter alia, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge, and other relevant new development […].\textsuperscript{39}

Thus, the set of CBD provisions is relevant to the discussion of plant protection issues. According to Article 1 of the CBD, the objectives of the Convention are ‘the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources’. In this sense, the overall objectives of the CBD appear to be different from those of the 1991 UPOV Convention, which were only concerned with protecting individuals’ rights (breeders’ rights) over plant materials. Overall, the CBD provides a \textit{sui generis} framework for national governments (1) to regulate access to biological resources and traditional knowledge and to ensure the equitable sharing of benefits; and (2) to empower local communities in member states to control the utilisation of their traditional knowledge resources and ensure that the benefits derived from the wider commercial use of the knowledge are shared with


\textsuperscript{38} For a list of UPOV members see <http://www.upov.int/en/about/members/pdf/pub423.pdf>.

\textsuperscript{39} Declaration on the TRIPS Agreement and Public Health, Ministerial Conference, Fourth Session, Doha, 9-14 November 2001, WT/MIN (01)/DEC/W/2, dated 14 November 2001 [emphasis added].
them.\textsuperscript{40} Because of its importance to the structure of PVP laws and policy in Asia, the CBD’s policy framework is considered in a later section of this article.

\textbf{C. Documents of the Food and Agriculture Organisation}

In a similar vein to the CBD, the ITPGRFA sets out a binding instrument concerning the management of plant genetic resources at an international level. Since the rules of the ITPGRFA are relevant to the area of plant variety protection, they need to be considered.

Historically, the international framework for plant genetic resources, as represented by the ITPGRFA, has evolved and developed in the context of the FAO.\textsuperscript{41} The ITPGRFA is a revision of the International Undertaking on Plant Genetic Resources, which was established on the 29\textsuperscript{th} June 2004. A revision of the International Undertaking has been prompted by the growing attention paid to biological resources at an international level, in part because of the following into force of the CBD, which raised the need to harmonise the relevant provisions of the International Undertaking with those of the CBD. One of the most contentious issues in the negotiations has been the drafting of the provision on access to biological resources and farmers’ rights.\textsuperscript{42}

In short, the ITPGRFA focuses on sustainable agriculture and food security, the equitable sharing of benefits arising from the exploitation of plant genetic resources, and the rights of farmers to participate in decision-making.\textsuperscript{43} It further emphasises farmers’ contributions to agricultural management, but not their entitlements.\textsuperscript{44} The treaty also introduces a multilateral system to facilitate access to genetic resources and to foster the sharing of benefits arising from their utilisation.\textsuperscript{45} Its membership has grown over time. The treaty has currently been ratified by 127 states and signed by an additional 14 nations. As the time of writing, 27 Asian states have acceded to the treaty.\textsuperscript{46} Because this treaty has only recently emerged, its actual impact remains to be seen.

\textsuperscript{40} CBD, above n 17, arts. 1, 8 and 15.
\textsuperscript{43} ITPGRFA, above n 15, arts. 1, 5 and 6.
\textsuperscript{44} Ibid, art. 9.
\textsuperscript{45} Ibid, arts. 10 – 13.
\textsuperscript{46} For a list of ITPGRFA members, see <http://www.planttreaty.org/content/members-contracting-parties>. 
V. LAW AND POLICY FRAMEWORK GOVERNING PLANT PROTECTION IN ASIA

To date, most Asian countries have implemented plant protection regimes in response to their commitments under TRIPS obligations. Some countries even had a PVP law prior to TRIPS; for example, Japan and Israel (Japan in 1947 and 1959; and Israel in 1973).\(^{47}\) Very few countries in the region have no PVP legislations as of 2012 (see Table 1). Although countries such as Bahrain, Brunei, the Maldives, Qatar, and the United Arab Emirates may not be interested in designing IPR regimes to cover plant varieties because agriculture is not their fundamental economic activity, they are not exceptions since they are members of the WTO. States, such as the Maldives, Mongolia, Myanmar, Nepal, and Sri Lanka, which are classified as LDCs, have until 2016 to respond to their TRIPS obligations. Because of significant differences in national situations, Asian countries have adopted different approaches to plant protection. Certain countries, particularly in the Middle East and East Asia, have ratified the UPOV Convention in response to their obligations under TRIPS (see Table 1).\(^{48}\) However, the vast majority of the countries in the region are developing countries, and are therefore, not members of UPOV. They are somewhat reluctant to adopt the UPOV Convention because of the strongly held sentiment that the UPOV model could disadvantage local farming communities, biodiversity management, and traditional knowledge protection.\(^{49}\) Many developing nations also believe that UPOV is more suited to developed nations, where farming is essentially large scale and dominated by breeders and transnational seed industries, like in Europe.\(^{50}\) For developing nations, the most important issue is to balance the protection of IP rights against other social objectives, such as encouraging biodiversity, facilitating access to plant genetic resources, recognising farmers’ rights, promoting the equitable sharing of benefits, and protecting traditional knowledge. Consequently, developing nations felt a heightened need to introduce public interest exceptions that could balance the effects of IP rights protection with national welfare issues.\(^{51}\) Rather than introducing plant protection legislation based on UPOV-style laws, several countries, especially in South and South East Asia, have introduced a sui generis form of plant variety protection. In this way, they have incorporated some of the access principles of the CBD and ITPGRFA, thereby representing a balance.

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50. Ragavan and Mayer, above n 31, 98.
between fully allowing public interest exception on the one hand, and tending to take a position toward preserving breeders’ interests on the other. This section identifies some of the initiatives taken in Asia at the domestic level in the setting up of plant protection regimes.

A. Plant Patent System

The range of plant variety protection systems being adopted and developed in Asia in response to TRIPS obligations is the protection of plant varieties through the patent system. According to TRIPS, the domestic legislation of Member States must adhere to provisions applicable to: (1) subject matter eligible for patent application (Article 27); (2) patentability standards (Articles 27.1 and 29); (3) scope of exclusive rights allowed for patent holders and their assignees (Articles 28 and 33); (4) enforcement measures and remedies provided for patent infringement (Articles 41 to 61); and (5) conditions imposed on limitations and exceptions to patent rights (Articles 30 and 31).

The legal protection for plant-related inventions under the patent system in Asia can be seen in a country like Japan, which has capitalised this TRIPS opportunity by permit plant breeders and biotechnologists to obtain patent protection for new varieties of plants, provided that certain requirements for the patent have been satisfied. Specifically, Japanese Patent Law makes it possible to patent new varieties of plants. The eligibility requirements for patentability in the Japanese Patent Law are based on exactly the same criteria as TRIPS. In Japan, a plant-related invention can receive patent protection if it fulfils the three distinctive criteria for patentability: novelty, inventive step, and industrial utility. This grants a term of protection for 20 years from the date of filing the patent application and gives the patent holder the exclusive rights to use the patented invention commercially.

Plant protection through a patent right regime can also be seen in other Asian countries, including Kuwait, Lebanon and Tajikistan. Nonetheless, most countries in the region have rejected this approach. In most jurisdictions, patents were meant and made to exclude living organisms, such as plants and plant varieties, from patentability. The reason for this objection can be attributable to several factors, including (i) Asian countries’ historical attitude toward the protection of IP rights; (ii) the perceived strategic and cultural significance of staple food that goes

52. See the Patent Law (1959) (Japan).
54. Ibid, § 67(1). There is also an alternative legal system for plant variety protection in Japan. The legal system for plant protection is prescribed in the Plant Variety Protection and Seed Act of 1998, which is identical to the text of the 1991 UPOV Convention.
56. Yu, above n 8, 329.
against the creation of a private property rights regime;\(^{57}\) and (iii) the perception that a formal IP rights regime, like patents, in this field, unequally enriches breeders and biotechnologists at the expense of farmers and local communities.\(^{58}\) As noted above, Article 27.3(b) of TRIPS permits WTO Members to exclude plants from patentability, and also to decline to protect plant varieties with the patent system, provided that they protect the results of plant breeding with a comparable system.

### B. Plant breeders’ rights regimes

The plant breeders’ rights system represents another form of IP rights protection for plant varieties, which has been developed and implemented by Asian countries in compliance with TRIPS. The introduction of a plant breeders’ rights model in Asia was progressively developed in the context of the UPOV Convention. Thus, it is arguable that UPOV is important when discussing Asia’s plant breeders’ rights system.

As mentioned earlier, the UPOV Convention has three important versions. The first UPOV Convention was signed in 1961 by a few European nations. While UPOV did not introduce patents, it sought from the outset to provide the private sector with an incentive to engage in commercial plant breeding activities by granting IP protection to breeders.\(^{59}\) More specifically, the Convention recognised the rights of individual plant breeders who develop or discover new, distinct, uniform and stable plant varieties.\(^{60}\) It sought to protect new varieties of crops in the interests of both agricultural development and plant breeders. The UPOV Convention was revised in 1978 and 1991. To be eligible for protection under the 1978 Act, the plant variety must be “clearly distinguishable” (e.g. distinct from other varieties of common knowledge), “sufficiency homogenous” with regard to the features of sexual reproduction and vegetative propagation.\(^{61}\) The rights of breeders are extended. Under the UPOV 1978 Act, the scope of protection of breeders’ rights is for the protection of commercial marketing; the offering for sale; and the marketing of the reproductive or vegetative propagating material from, as such, of the variety.\(^{62}\) More importantly, the Convention recognises what is famously known as “farmers’ privileges”. Farmers are permitted to reuse the material propagated from the previous year’s harvest and can freely exchange seeds of protected varieties with other farmers. Plant breeders are also allowed to use the

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60. The 1978 UPOV Convention, 13.
61. Ibid.
protected variety to breed and commercialise other new varieties.\textsuperscript{63} China is the only Asian country that follows the 1978 UPOV legislation.\textsuperscript{64}

According to the 1991 UPOV Convention, the plant variety must be novel, distinct, uniform and stable.\textsuperscript{65} Leading scholars, such as Professors Dutfield, Suthersanen and Ragavan have criticised the 1991 UPOV version for changing the eligibility standards to favour more technologically-advanced breeders over other farmers, which results in awkward incentives to grow genetically-modified crops.\textsuperscript{66} In addition, the 1991 UPOV text strengthens the scope of protection by widening the array of subject matter. Generally, the protection not only covers the material propagated from the protected variety, but also the material harvested from protected and “essentially derived varieties”.\textsuperscript{67} Furthermore, the 1991 version extended the scope of breeders’ rights by increasing the number of acts that require the prior authorisation of the breeder, including production or reproduction; conditioning for the purposes of propagation, offering for sale, selling or other marketing; exporting; importing; and stocking for any of the above purposes.\textsuperscript{68} The UPOV 1991 version also extended protection from at least 15 years to a minimum of 20 years.\textsuperscript{69} At the time of writing, the plant breeders’ rights system provided by the 1991 UPOV Convention has been ratified by 12 states in Asia, including the following: Azerbaijan (2004), Georgia (2008), Israel (1979), Japan (1982), Jordan (2004), South Korea (2002), Kyrgyzstan (2000), Oman (2009), Singapore (2004), Turkey (2007), Uzbekistan (2004) and Vietnam (2006) (see Table 1, which categorises the different types of plant protection systems in Asia). It is suggested that a relatively low share of the active population of a high proportion of UPOV signatories in Asia is engaged in agriculture with the exception of China and Vietnam.\textsuperscript{70} Asian countries that have not signed or ratified UPOV, but have only tailored their own PVP laws based on UPOV, include Armenia (1999), Cyprus (2004), Hong Kong (1997), Iraq (2004), Iran (2003), Kazakhstan (1999), Pakistan (2000), Saudi Arabia (2004), Taiwan (2004), and Turkmenistan (2011).

Crucially, the latest version of the UPOV Convention Conversely restricts farmers’ rights and privileges. For instance, it extends breeders’ rights to all

\textsuperscript{63} Ibid, art. 5.


\textsuperscript{65} The 1991 UPOV Convention, above n 13, arts. 6 – 9.


\textsuperscript{67} Ragavan and Mayer, above n 31, 106-109; and Ragavan above n 66.

\textsuperscript{68} The 1991 UPOV Convention, above n 13, art. 14.

\textsuperscript{69} Ibid, art. 19.

production and reproduction of varieties and to species, as well as general and specific plant varieties.71 The remaining exceptions to these rights are acts privately performed and for non-commercial purposes, experiments, and the breeding and exploitation of other varieties.72 In effect, farmers no longer have the right to save and exchange seeds under the 1991 Act. Countries can now only join the 1991 version of UPOV, which is why the vast majority of countries in the Asian region have resisted ratifying the 1991 UPOV Convention. The majority of Asian countries that have not signed UPOV have large agricultural populations and prefer to adopt a ‘self-serving’ *sui generis* system for plant protection.

C. Plant variety protection laws through ‘Sui Generis’ systems

A *sui generis* system provides another kind of legal protection for plant varieties. As mentioned earlier, the TRIPS Agreement grants WTO members the flexibility to devise their own PVP systems, and many Asian countries, particularly those in South and South East Asia, have taken advantage of this flexibility by introducing sui generis plant protection legislation (see Table 1). These countries often share certain general concerns: protecting biodiversity; respecting traditional farming techniques; and ensuring food security, medicine, and genetic resources. Such concerns created a unique situation for them when selecting an IPR system for plant varieties. Thus, they felt that any plant variety protection laws adopted in response to TRIPS must be enacted to reflect their own specific socio-economic conditions. Obviously, a *sui generis* regime for the IP protection of plant varieties would be the most preferred strategy for these Asian nations, since it offers a certain degree of flexibility in terms of the type of plant protection, which is otherwise lacking in formal IP rights systems, like patents or the plant breeders’ rights model as stipulated in the UPOV treaty (see Table 2, which illustrates the differences between plant protection under a patent system, a plant breeders’ rights model and a *sui generis* regime). Arguably, the *sui generis* PVP laws of several nations in Asia were influenced by the policy framework of the CBD and ITPGRFA to which these countries acceded.

Thailand was one of the earliest Asian nations to comply with TRIPS.73 Specifically, Thailand was the earliest country to introduce a *sui generis* plant protection system, which is different from the model in UPOV. Other nations followed suit and embraced country-specific independent *sui generis* PVP laws; Indonesia in 2000,74 India in 2001,75 the Philippines in 2002,76 Bhutan in 2003,77

72. Ibid, art. 15.
Malaysia in 2004,78 Laos in 2007,79 and Cambodia in 2008.80 Thus, the *sui generis* PVP model of Thailand provides a starting point and template for considering the alternative *sui generis* laws for the protection of plant varieties in Asia.

According to Thailand’s Plant Variety Protection Act B.E.2542 (AD1999) (PVP Act),81 plant varieties can be protected by two main protectable categories: (1) new plant varieties, and (2) existing plant varieties.82 To be eligible for protection, new plant varieties must fulfil four distinctive criteria: (i) novelty, (ii) distinctness, (iii) uniformity, and (iv) stability. 83 Some commentators point out that the requirements for eligibility in Thailand’s PVP Act can be traced to the text of 1978 UPOV Convention,84 although other features may be different. For instance, the Thai PVP Act indicates that every application must include a denomination of the new plant variety, as well as (1) the geographical origin of the material, and (2) all information regarding the use of genetic material in the breeding process or development of the new plant variety.85 Similarly, the Indian Protection of Plant Varieties and Farmers’ Rights Act of 2001 (PPVFR Act of India) requires details of the origin of the new plant variety and all such information relating to the contribution of any farmer, village community, institution or organisation in breeding or developing the variety.86 Such requirements are meant to restrict deceptive acts domestically and act as a passport to the transfer of genetic resources.

Under the Thai PVP Act, breeders of new varieties have exclusive rights to retain/prevent others from producing, selling, distributing in any manner, importing or exporting the protected new plant variety without their authorisation.87 Furthermore, the Thai PVP Act provides varying durations of protection, depending on the types of plant varieties. Unlike UPOV, plant varieties have a specific term of 12 or 17 years, depending on the type of new plant
varieties. Thus, according to Thailand’s PVP law, the term of protection is shorter than that of UPOV. Many countries, such as India, Malaysia, and Laos, seem to favour this approach, and thus, offer a shorter term of protection for new plant varieties compared to UPOV. The reason for this may be a fear of creating a monopoly of foods produced by the IPR system. However, such a term of protection would appear to create potential problems, because a *sui generis* system for plant variety protection that provides less protection may give little incentive for further research and development in this field.

The most significant features of the Thai PVP Act lie in areas where it deviates from UPOV. Thailand’s PVP law recognises farmers’ traditional rights to save and re-use seeds from their harvests by incorporating the concept of farmers’ rights in ITPGRFA. Farmers’ traditional right is commonly referred to as “farmers’ privilege” or “farmers-saved seed” exemption. Thus, this exemption, one of the major deviations from UPOV in the Thai PVP law, permits farmers to retain seeds from crops grown in subsequent seasons to produce subsequent crops. Farmers’ right to save seeds is extremely important to a country like Thailand, where agriculture is done by small-scale farmers. Thus, countries with similar socio-economic backgrounds, like Indonesia, India, the Philippines, Bhutan, Malaysia, and Laos, have also included some kinds of farmers’ rights exemptions in their PVP laws.

Another significant deviation from UPOV lies in a set of provisions for the legal protection of existing varieties. The legal protection offered to local plant varieties under the Thai PVP Act is regarded as being a mark of success in creating community property rights, which, unlike patents or UPOV, allocate rights to local farmers, tribes or indigenous groups. The Thai PVP Act reflects a community property philosophy by allowing farmers or local communities to hold the IP rights of crop varieties found within the state, provided that certain requirements are met. Some nations in Asia tend to style PVP provisions similarly to the text of Thailand’s PVP Act. For instance, the PPVFR Act of India provides some kind of provision akin to the Thai law by allowing local farmers to register their varieties.

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88. Ibid, § 31.
89. See PPVFR Act of India, above n 75, § 24; PVP Act of Malaysia, above n 78, § 32; and PVP Act of Laos, above n 79, § 70 (providing 15 year-term of protection for new plant varieties).
90. Masarek, above n 72, 464 (explaining that offering protection for a shorter period will dilute breeders’ incentive to apply for protection, because the reward will be relatively smaller than it is in other countries). This is also true in Thailand, see Lertdhamtewe, above n 73, 190-91.
91. ITPGRFA, above n 15, art. 9.3.
92. PVP Act of Thailand, above n 81, § 33(4).
93. PVP Act of Indonesia, above n 74, § 10; PPVFR Act of India, above n 75, § 39(1) (iv); PVP Act of the Philippines, above n 76, § 43(d); PVP Act of Bhutan, above n 77, § 18(a); PVP Act of Malaysia, above n 78, § 31(d); and PVP Act of Laos, above n 79, § 72(4).
94. See the PVP Act of Thailand, above n 81, Chapter IV titled “Local Domestic Plant Varieties”.
95. Ibid, §§ 43 to 51. For a discussion, see Lertdhamtewe, above n 73, 191.
(e.g. extant varieties or farmers’ varieties). Provisions offering protection to local plant varieties, such as those of Thailand’s PVP law, present an interesting example of considering the protection of communities’ interests, which clearly adheres to the objectives of the CBD and responds to the recommendation of the TRIPS Council.

While the objective of the sui generis PVP systems implemented and developed by these Asian nations is commendable, the poorly drafted language of the laws has been the subject of great debate. Recent scholarships on Thailand’s PVP law with respect to the rights protection of local knowledge have proven that no farmers or local communities have yet been able to claim the benefits of its generous provisions. Any country following Thailand’s lead would also face a similar situation. It can be said that the sui generis PVP laws of these nations provide somewhat insufficient and inadequate protection for the rights of local communities, since they do not create any practical means for local societies to enjoy the benefits. Thus, it remains to be seen how the independent sui generis framework for plant variety protection developed by these Asian nations can be realised in a practical manner.

96. PPVFR Act of India, above n 75, §§ 2 and 14(b). For a discussion, see Ragavan and Mayer, above n 31, 116.
97. PVP Act of Indonesia, above n 74, § 7(1); PVP Act of Bhutan, above n 77, Chapter 4 titled “Protection of Traditional Knowledge” §§ 31 to 42; PVP Act of Laos, above n 79, § 10 (providing the categorisation of plant varieties in Laos, which is similar to that of Thailand).
98. CBD, above n 17, arts. 1 and 8(j).
101. See Rohan Dang and Chandni Goel, ‘Sui Generis Plant Variety Protection: The Indian Perspective’ (2009) 1(4) American Journal of Economics and Business Administration, 303, 309 (arguing that it remains unclear whether farmers will ever be able to benefit from the India’s PPVFR Act, because very few farmers, if any, are able to benefit from its provisions).
<table>
<thead>
<tr>
<th>Type of PVP Systems</th>
<th>Countries</th>
</tr>
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<tbody>
<tr>
<td>Patent system</td>
<td>Japan, Kuwait, Lebanon and Tajikistan</td>
</tr>
<tr>
<td>Members of the 1978 UPOV Act</td>
<td>China</td>
</tr>
<tr>
<td>Members of the 1991 UPOV Act*</td>
<td>Azerbaijan, Georgia, Israel, Japan, Jordan, South Korea, Kyrgyzstan, Oman, Singapore, Turkey, Uzbekistan and Vietnam</td>
</tr>
<tr>
<td>Sui Generis PVP System</td>
<td>Armenia, Bangladesh, Bhutan, Cambodia, Cyprus, Hong Kong, India, Indonesia, Iraq, Iran, Kazakhstan, Laos, Malaysia, Pakistan, the Philippines, Saudi Arabia, Taiwan, Thailand, and Turkmenistan</td>
</tr>
<tr>
<td>No PVP Laws or in the process of drafting PVP**</td>
<td>Afghanistan, Bahrain, Brunei Darussalam, Maldives, Mongolia, Myanmar, Nepal, North Korea, Qatar, Sri Lanka, Syria, and United Arab Emirates, and Yemen</td>
</tr>
</tbody>
</table>

* Azerbaijan is not member of WTO.
| Table 2. Comparison of Differences between Plant Protection under Patent System, Plant Breeders’ Rights model, and Sui Generis Regimes based on Thailand’s PVP law |
| --- | --- | --- | --- |
| Eligibility requirements | Plant varieties, plants that pass the three-steps test: (1) novel, (2) non-obvious, and (3) useful | Plant varieties must be new, distinctive, uniform and stable | Plant varieties must be novel, distinctive, uniform, and stable | Plant varieties that fulfils four criteria: novel, distinct, uniform and stable |
| Scope of breeders’ rights | Exclusive rights granted to patent holders to prevent third parties from making, using, offering for sale or importing without permission from patent holder | Protection for purposes of commercial marketing; the offering for sale; and the marketing of the reproductive or vegetative propagating material, as such of the variety | Production or reproduction; conditioning for the purposes of propagation; offering for sale, selling or other marketing; exporting; importing | Exclusive rights to produce, sell or distribute in any manner, import, export or posses for the purposes of any of the said acts the propagating material of the new plant variety |
| Exceptions to breeders’ rights | Public interest exception; farmer & research exceptions | Act done privately and for non-commercial purposes, experiments, and breeding and exploitation of other varieties | Farmers’ exception and research exemptions | Act done for the purpose of education, research and experiment and non-commercial purposes |
| Term of protection | 20 years for all plant-related inventions from the date of filing patent application | 25 years for trees; 20 years for all other types of plant varieties | 18 years for trees; 15 years for all other plants | 27 years for trees; 12 or 17 years for other plant varieties |
| Farmers’ privileges | No | No – restricts the farmers’ privilege | Allow farmers to reuse seed from their previous year’s harvest and can freely exchange seed with their farm neighbours | Recognises the rights of farmers and local people through provisions for the protection of extant varieties |

*Source: the author*