IS THERE ONLY ONE EFFECTIVE SUI GENERIS PROTECTION THAT MEETS THE OBLIGATION SET OUT IN ARTICLE 27(3)(b) OF TRIPS?

ERWIN CRUZ SALDIVAR*

Introduction

Methods of protecting developments related to plants can be traced back to the nineteenth century, as it can be observed from the Paris Convention of 1883. Article 1(3) of this Convention extends the possibility of protecting living material under industrial property rights, but 'does not stipulate […] the form of that protection'[1]. From the 1950s, plant-breeders moved for a sui generis protection for their developments 'on the grounds that patent protection was not suitable'[2]. This led to the adoption of the International Convention for the Protection of New Varieties of Plants (UPOV) in 1961[3]. In Europe and the US, protection for developments related to plants have evolved between patent and plant-breeders' rights systems. The UPOV Convention was amended in 1978[4] and 1991[5] in view of the plant-breeders' needs and intersections between this sui generis form of protection of plant varieties and the patent system. In 1994, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) retook this issue. The objective of TRIPS is to harmonise protection and enforcement of intellectual

* LLM Biotechnology, Law and Ethics byUniversity of Sheffield, UK 2014. Specialisation Degree Program (SDP) onLitigation by the Federal Court for Tax and Administrative Affairs, 2012.SDP on Intellectual Property Law by the National Autonomous University of Mexico (UNAM), 2009. LLB by UNAM, 2009. Contacto: erwincruzsaldivar@hotmail.com Fecha de recepción: 15 de agosto de 2014. Fecha de aceptación: 11 de septiembre de 2014. Para citar el artículo: CRUZ SALDIVAR, E., "Is there one effective sui generis protection that meets the obligation set out in Article 27(3)(b) of TRIPS?", *Revista La Propiedad Inmaterial* n.º 18, Universidad Externado de Colombia, noviembre de 2014, pp. 119-129.

1. M. LLEWELYN, 'From GATT to GATT: Intellectual Property Rights & Genetics Fifty Years After Crick & Watson Part I' (2003/4) 6 (3) *Bio/Science Law Review*, pp 107-117.
2. Ibid.
3. The 1961 Act of the International Convention for the Protection of New Varieties of Plants.
4. The 1978 Act of the UPOV Convention.
5. The 1991 Act of the UPOV Convention.

property rights in all Member States of the World Trade Organization (WTO)[6]. In this regard, Article 27(3)(b) of TRIPS requires Member States to provide protection for plant varieties 'either by patents or by an effective sui generis system or by any combination thereof'[7]. While the article requires Member States to grant protection for plant varieties, this not only allows them to exclude plant varieties from patent protection but also does not specifically refer in the UPOV Convention to being the effective sui generis system. Setting apart to some extent the plant-patenting issues, in this paper I will critically analyse whether the 1991 Act of the UPOV, and this act alone, is the only effective sui generis protection that is compatible with Article 27(3)(b) of TRIPS. First, I will provide an overview of the UPOV Convention and Article 27(3)(b). Secondly, I will critically analyse whether the 1991 Act of the UPOV Convention is the only effective sui generis protection of plant varieties. Finally, I will conclude on whether there is not only one effective sui generis system.

I. Did drafters of article 27(3)(b) have in mind the UPOV Convention?

In this section I will briefly look at the connexion between this article and the UPOV Convention. Member States of the WTO are required by Article 27(3)(b) of TRIPS to provide protection for plant varieties. This obligation, as observed by Llewelyn and Adcock, reflects not only the economic interest to foster innovation in this field, but also 'the resulting intellectual property expectations of most developed countries', either by patents or by plant-variety rights[8]. Europe and the US have had debates about private property rights over plant material for about a hundred years, establishing protection for plant varieties before TRIPS was in place, either by patent or by plant-breeders' rights systems, although with certain differences[9]. Within the development of those debates, UPOV was introduced as a sui generis form of protection for socially and commercially significant results of agricultural plant-breeding, predominantly plant varieties[10], which provides private rights to exclusively commercially exploit those varieties. In Europe, as noted by Llewelyn, the possibility to provide either patents, plant-variety rights, or both forms of protection for plant varieties in the European system[11] was strengthened with

6. Agreement on Trade-Related Aspects of Intellectual Property Rights, Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization, Marrakesh, Morocco, 15 April 1994.

7. TRIPS, Article 27(3)(b).

8. Op. cit. 1.

9. M. Llewelyn & M. Adcock, *European Plant Intellectual Property* (Oxford, Hart, 2006), pp. 116-117.

10. Ibid, pp. 135.

11. *Novartis/Transgenic Plant* [1999] EPOR 123; *Novartis/Transgenic Plant* [2000] EPOR 303; Council Directive (98/44/EC) on the legal protection of biotechnological inventions [1998] O.J. L 213, Article 4(2), Recitals 29–32.

the removal of the misinterpreted dual protection-prohibition from the UPOV Convention in 1991[12]. In the US, virtually all plant material is subject to patent protection, which allows the system to provide the opportunity to obtain a number of combinations of protections for plant varieties among utility patents, plant patents, and plant-variety protection certificates[13].

However, the drafters of Article 27(3)(b) had to deal not only with strong but also diverse plant-variety protection practices of the US and Europe, but also with resilience from developing countries, wherein patents and plant varieties' rights have been considered as being developed-country-centric and anti-communitarian[14]. In effect, the concerns raised were that those exclusivity systems have implications 'for access to seeds (particularly with regard to use in further breeding programmes), possible erosion of traditional varieties and a reduction of biodiversity'[15]. It is worth noting that this kind of argument was put in place to abolish patent laws in countries such as the Netherlands, between 1869 and 1912, and as a result of that monopolistic practices deterred indigenous innovations[16]. As LLEWELYN and ADCOCK observed[17], on the one hand the security of protection for plant varieties wanted by developed countries was ensured by making it mandatory. On the other hand, the opposition by developing countries was addressed by holding the matter open for signature by new members in the 1978 UPOV Act. The advantages of this act, divergent from the 1991 UPOV Act, are essentially the dual protection-prohibition and the permission for farmers to save seeds for subsequent use without paying royalties, known as the farmers' privilege, and that this act does not require members to provide protection to all species and genera, which allows the securing of free access to key crops. As the 1978 UPOV Act would be in force at the same time as the 1991 UPOV Act, it is 'easy to understand why, if UPOV were the only sui generis system, no mention is made of the Convention' in the Article 27(3)(b) of TRIPS'[18]. The vagueness of this provision, however, may be possibly intended to permit alternative methods of protection[19]. Therefore, although the preferred effective form of protections for many were those of the UPOV Conventions, particularly the 1991 UPOV Act, any deviation from this would have 'to be proved to be "effective" by the country introducing it'[20]. I shall now discuss which compliance methods can be derived from the wording of Article 27(3)(b) of the TRIPS and current forms of protection.

12. M. LLEWELYN, 'From GATT to GATT: Intellectual Property Rights & Genetics Fifty Years After Crick & Watson, Part II' (2003/4) 6 (4) *Bio/Science Law Review*, pp. 142-162.
13. Op. cit. 9, p. 98.
14. Ibid., p. 126.
15. Ibid., p. 117.
16. M. KHOR, "Rethinking intellectual property rights and TRIPS", in P. DRAHOS and R. MAYNE (ed.) *Global Intellectual Property Rights: Knowledge, Access and Development* (Palgrave Macmillan, Basingstoke, 2002), pp. 214-224.
17. Op. cit. 9, p. 127.
18. Ibid.
19. K. RAUSTIALA and D.G. VICTOR, 'The Regime Complex for Plant Genetic Resources' (2004) 58 (2) *International Organization*, pp. 277-309.
20. Op. cit. 9, p. 127.

II. Is there only one effective sui generis protection?

Two points are key to answering this question: first, identifying what must be protected, and second, verifying what provides effective sui generis protection[21]. While the 'plant variety' definition was removed from the UPOV Convention in 1978, a new definition of variety was established in 1991. The 1991 UPOV Act defines variety as 'a plant grouping within a single botanical taxon of the lowest known rank'[22]. However, this act distinguishes between a variety that is protectable because it meets the technical requirements (distinctness, uniformity, and stability) and a variety that is not protectable but is taken into account for the purpose of common knowledge and distinctness[23]. The definition intended to distinguish material protectable by breeders' rights (plant groupings) and material protectable by patents (genetic components) but certain overlap exists, as the former includes internal genetic components and the latter includes a plant variety derived from a patented process[24]. The possibility for mandatory cross-licensing between patent and breeder rights owners established by the Biotechnology Directive confirms this overlap[25]. Although the International Treaty on Plant Genetic Resources (ITPGR) also defines plant variety, this definition matches the non-protectable variety definition of the 1991 UPOV Act[26]. It is, therefore, possible to identify what can be protectable by a sui generis system. Moreover, some have suggested that each country may establish its own definition of plant variety subject to protection[27]. Now, let us discuss what would be an effective system.

Llewelyn and Adcock point out that there are three possible methods of complying with the obligation laid down by Article 27(3)(b) of the TRIPS: 1) by establishing 'patent protection and/or sui generis protection which accords with UPOV', 2) by excluding plant varieties from patent protection but setting forth a 'sui generis system which conforms to neither patent law nor UPOV', and 3) by both patent protection and a non-UPOV sui generis right[28].

On the one hand, the third method has not been explored by any country[29] but on the other hand, the US and Europe protection practices did not only already comply with the first method, but also served for the drafting of that article, as commented above. While the US system virtually allows a several combination of

21. Ibid., p. 117.
22. 1991 UPOV Act, Article 1(vi).
23. WIPO, *Introduction to intellectual property: theory and practice* (Kluwer Law International, London, 1997). p. 462.
24. Op. cit. 9, p. 124.
25. Biotechnology Directive, Article 12.
26. International Treaty on Plant Genetic Resources for Food and Agriculture, Rome 3 November 2001, Article 2.
27. M. Blakeney, 'Access to Genetic Resources, Gene-based Inventions and Agriculture' Commission on Intellectual Property Rights, Study Paper 3b (2002). [www.planttreaty.org/sites/default/files/accessGRGBRA.pdf] (accessed 20 June 2014).
28. Op. cit. 9, p. 125.
29. Ibid.

protection of plant varieties between patents and UPOV style protection, in Europe there are four dissimilar levels of plant-variety rights provisions in operation[30]: i) the 1991 UPOV Act, which lays down minimal standards for plant varieties protection and to which the European Union (EU) is party, ii) the Community Plant Variety Rights established by the EU[31], which expands the minimum standards of the 1991 UPOV Act, particularly in key points such as the farm-saved seed, but establishes a dual protection-prohibition, iii) the 1978 UPOV Act, which also allows the farm-saved seed, as commented above, and to which several EU Member States are adherents[32] and iv) the 1961 UPOV Act, to which Belgium is party[33], plus the fact that Greece and Luxembourg are not adherents to UPOV but are EU Member States[34]. In Asia, different levels of protection also exist. The Japanese system provides the possibility of dual protection of plant-variety material by patents and breeders' rights[35]. Kuwait, Lebanon, and Tajikistan provide patent protection for plant varieties[36]. While China has adopted the 1978 UPOV Act, another 11 countries have adopted the 1991 UPOV Act (Azerbaijan, Georgia, Israel, Jordan, South Korea, Kyrgyzstan, Oman, Singapore, Turkey, Uzbekistan, and Vietnam)[37]. In view of these diverse levels of protection, the 1991 UPOV Act alone is not the only effective sui generis system. However, it is the preferred one. By 14 June 2014, 72.22% of the members of UPOV (52 from 72 members), are signatories to the 1991 UPOV Act[38]. The remaining members are party to the 1978 UPOV Act, with Belgium as an exception[39]. The adoption of this act by developing countries, nevertheless, may be derived from pressures by developed countries in the form of foreign technical assistance[40] and trade agreements[41].

Now, the second method to comply with Article 27(3)(b) is a highly controversial issues. While TRIPS does neither lay down which are the conditions for an effective sui generis system nor who is entitled to establish them, other international treaties regarding genetic material has relevance to the design of that system, particularly the

30. Ibid., p. 151.
31. Council Regulation (2100/94) on Community plant variety rights [1994] O. J. L 227.
32. UPOV, Members of the International Union for the Protection of New Varieties of Plants, Status on June 10, 2014. [www.upov.int/export/sites/upov/members/en/pdf/pub423.pdf] (accessed 18 June 2014).
33. Ibid.
34. Op. cit. 9, p. 151.
35. P. LERTDHAMTEWE, 'Asian approaches to international law: focusing on plant protection issues' (2013) 8 (5) *Journal of Intellectual Property Law & Practice,* pp. 388-398.
36. Ibid.
37. Ibid.
38. Op. cit. 32.
39. Ibid.
40. D. ROBINSON, 'Sui Generis plant variety protection systems: liability rules and non-UPOV systems of protection' (2008) 3 (10) *Journal of Intellectual Property Law & Practice*, pp. 659-665.
41. G. DOWNES, 'TRIPS and food security: Implications of the WTO's TRIPS Agreement for food security in the developing world' (2004) 106 (5) *BFJ*, pp. 366-379.

Convention on Biological Diversity (CBD)[42] and the ITPGR[43]. The view of the Member States of the WTO essentially has been, on the one hand, that an effective sui generis system should have features practically similar to those of the patent or 1991 UPOV Act protection forms: conditions for protection (namely novelty, distinctiveness, uniformity, and stability), a term of protection that allows recovering investments, a scope of rights (broadening the protection to plant variety), exceptions (experimental use and breeders' exemption), procedures for obtaining, cancelling, and enforcing protection[44]. The most favoured nation and the national treatment of fundamental principles of TRIPS should be also taken into account[45]. On the other hand, it has been pointed out that the effective system should provide protection to innovations from indigenous and local farming, ensuring the traditional farmers' right to save and exchange seeds and sell the farmers' harvest, benefit-sharing of genetic resources[46], and prevent 'anti-competitive rights or practices which threaten the food sovereignty of developing countries, as it is permitted by Article 31 of the TRIPS'[47]. The African Union's Model Legislation for the Protection of Indigenous Knowledge (OAU Model) was another source for supporting this position, particularly by Kenya[48]. This model is one of the most comprehensive attempts to balance access to biodiversity, benefit-sharing, and intellectual property[49]. While the EU has conceded that implementing harmonised plant-variety systems may have 'adaptations to ensure special national needs'[50], it seems from the WTO available online archives[51] that there is still no consensus over the conditions to establish which is an effective sui generis system. The OAU Model mostly used to support arguments against the UPOV style has not yet been widely adopted across Africa. Curiously, rather than seek inspiration from the OUA Model, 'Kenya has not only adhered to UPOV, but acceded to it'[52]. Notwithstanding this lack of consensus, there is a considerable number of countries that have already opted for alternative plant-variety protection systems that address their own particular needs. For example, 18 Asian countries: Armenia, Bangladesh, Bhutan, Cambodia,

42. Convention on Biological Diversity, Nairobi, 1992.

43. TRIPS Council, 'Review of the Provisions of Article 27.3(B): Summary of Issues Raised and Points Made' IP/C/W/369/Rev.1, 9 March 2006.

44. Ibid.

45. TRIPS Council, 'Communication from the European Communities and their member States' Review of Article 27.3(b) of the Trips Agreement, and the relationship between the Trips Agreement and the Convention on Biological Diversity (CBD) and the protection of traditional knowledge and folklore, A Concept Paper. IP/C/W/383, 17 October 2002, paragraph 77.

46. CBD, Article 1.

47. Op. cit. p. 43.

48. D. RANGNEKAR, 'Geneva Rhetoric, National Reality: The Political Economy of Introducing Plant Breeders' Rights in Kenya' (2014) 19 (3) *New Political Economy*, pp. 359-383.

49. N. ZERBE, 'Biodiversity, ownership, and indigenous knowledge: Exploring legal frameworks for community, farmers, and intellectual property rights in Africa' (2005) 53 *Ecological Economics*, pp. 493-506.

50. Op. cit. p. 43.

51. WTO, TRIPS: Issues, Article 27.3b, traditional knowledge, biodiversity. [www.wto.org/english/tratop_e/trips_e/art27_3b_e.htm] (accessed 20 June 2014).

52. Op. cit. p. 48.

Hong Kong, India, Indonesia, Iraq, Iran, Kazakhstan, Laos, Malaysia, Pakistan, the Philippines, Saudi Arabia, Taiwan, Thailand and Turkmenistan[53]. Lertdhamtewe points out that these sui generis plant-variety protection systems are essentially based on earliest systems of this kind, the Thailand and the Indian Systems[54]. These systems not only have characteristics similar to the 1978 UPOV Act[55], but also have several differences. While the Thailand system requires disclosure of the geographical origin of the material and future uses within the application, the Indian system requires information about any contribution in breeding or developing the variety[56]. The protection exclusivity term provided by these systems is for between 12 to 17 years, according to the variety type. It may be argued that this term discourages innovation, as it is shorter than the ideal term for encouraging innovation of at least 20 years claimed by the US[57]. There has not been enough evidence, however, 'of a corresponding boon to R&D in the public sector'[58]. What is more, India has been within the top five countries with the maximum number of variety registration certificates by 2011, and varieties of crops from those top systems (EU, US, Canada, and Australia) were also notified for registration in India[59]. Certainly, this may in part be because the Indian system was based on the 1978 UPOV Act, as a result of the initial proceedings to adopt the act. The development of the system with strong input from both breeders and society resulted in the adoption of important differences, such as in conditions of protection, benefit-sharing, and protection of farmers[60]. The Thailand system 'recognises farmers' traditional rights to save and re-use seeds from their harvests by incorporating the concept of farmers' rights' established in the ITPGR, and the Indian system also provides a farmers' right to exemption[61]. This is an exception that the EU has conceded may be seen as compatible with TRIPS (Articles 27(3)(b) and 30) and even with the 1991 UPOV Act, as developing countries 'could create within their national laws broader farmers' exemptions for the benefit of subsistence farmers or small farmers'[62]. The *Monsanto Canada Inc v Percy Schmeiser* case is a clear example of the importance of this exception, in view of the potential of breeders using the UPOV style system to be ruthless in prosecuting infringement[63]. Furthermore, the particular difference between the Thailand system and the patent and UPOV systems is that the former 'allocate rights to local farmers,

53. Op. cit. p. 35.
54. Ibid.
55. Op. cit. 40.
56. Op. cit. 35.
57. Op. cit. 43.
58. Op. cit. 41.
59. P. Brahmi and V. Chaudhary, 'Protection of plant varieties: systems across countries' (2011) 9 (3) *Plant Genetic Resources*, pp. 392-403.
60. J.K. Plahe, 'TRIPS Downhill: India's Plant Variety Protection System and Implications for Small Farmers' (2011) 41 (1) *Journal of Contemporary Asia*, pp. 75-98.
61. Op. cit. p. 35.
62. Op. cit. p. 45.
63. P. Cullet, 'Monsanto v. Schmeiser: A Landmark Decision concerning Farmer Liability and Transgenic Contamination' (2005) 17 (1) *Journal of Environmental Law*, pp. 83-108.

tribes or indigenous groups', a feature that clearly addresses the objectives of the CBD and responds to TRIPS Council's recommendations[64]. As the Indian system, this is compatible with ITPGR and CBD, which provides the possibility to 'entitle a farmer's variety to protection, even though such a variety might not be new'[65]. However, the Thailand system and other Asian systems following it provide inadequate protection for the communities' local rights, as 'they do not create any practical means for local societies to enjoy the benefits'[66]. It is observed that practically 'no farmers or local communities are able to register their varieties'[67]. This undermines the ability of these systems to be completely effective. These systems may though be improved to achieve complete effectiveness. On these grounds, the 1978 and/or the 1991 UPOV Acts are not the only effective sui generis systems to protect varieties. The equal legal standard of TRIPS and the CBD, plus the ITPGR and the wording of Article 27(3)(b) provide a basis to developing an alternative effective sui generis form of protection. The India system is an example of an alternative system with important success. The current alternative systems, however, require further development to achieve, for example, acceptable ways to ensure that local societies enjoy benefits. The use of this flexibility by developing countries is questionable, as they have pressures to private and exclusive forms of protection, as the debate in the TRIPS Council shows. Moreover, states that opt for the 1991 UPOV Act not only have to adopt it but also follow its guidelines and example plant varieties' local law draft set forth by UPOV[68]. This is the case of the Draft of Protocol for Protection of New Varieties of Plants by the African Regional Intellectual Property Organization (ARIPO), which followed the guidelines and recently submitted such regional legislation for revision before UPOV[69].

Conclusion

In this paper I have briefly given an account of the reasons for considering that there is not only one 'effective sui generis system' to comply with the obligation laid down in Article 27(3)(b) of TRIPS, in view of the intentional vagueness of the wording of this article. The no mention in TRIPS of the 1991 UPOV Act as an effective sui generis protection system for plant varieties, plus related international treaties, particularly the CBD and the ITPGR, provides great scope to interpret what is an effective sui generis system. The UPOV 1991, and UPOV 1991 alone, is not the only effective system to protect plant varieties that meets the obligation set out in

64. Op. cit. 35.
65. Op. cit. 43.
66. Op. cit. 35.
67. P. Lertdhamtewe 'Plant variety protection in Thailand: the need for a new coherent framework' (2013) 8 (1) *Journal of Intellectual Property Law & Practice*, pp. 33-42.
68. UPOV Council, 'Guidance for the preparation of laws based on the 1991 Act of the UPOV Convention' UPOV/INF/6/3, 24 October 2013.
69. UPOV Council, 'Examination of the conformity of the draft ARIPO protocol for the protection of new varieties of plants with the 1991 Act of the UPOV Convention' 31 Extraordinary Session, Geneva, April 11, 2014. C(Extr.)/31/2.

Article 27(3)(b), as the different levels of protection in Europe and Asia illustrate. This article allows enough flexibility to develop effective protection forms that are not necessarily completely compatible with the patent and UPOV style systems. Current alternative systems, particularly the Thailand and Indian systems, have included important institutions that are in line with CBD and ITPGR, such as benefit-sharing, farmers' privileges, and disclosure of origin. They require, however, further development. For example, they should elaborate acceptable ways to ensure that local societies enjoy benefits. The use of this TRIPS' flexibility by developing countries apparently will continue even under pressures by developed countries, which look for a complete harmonisation with the patent and UPOV style systems.

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