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Role of IPR in the Protection of Plant Varieties

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Abstract

Plant variety protection is a privilege associated with intellectual property rights over plant varieties that grants holders of those rights exclusivity for a set length of time. All WTO member nations are required by the TRIPs (Trade Related Aspects of Intellectual Property Rights) Agreement's Art. 27(3)(b) to enact these protections through legislation by specific deadlines. These obligations and rights are forced on developing nations, who must codify them into their local laws. The laws dealing to plant varieties also briefly address the problem of industrial patents on biodiversity. This paper covers the advancement of plant variety protection, the numerous laws enacted for it both domestically and overseas, and a few urgent issues pertaining to plant protection.

I. Introduction

Plant variety rights involve the fundamentals of IP protection by involving patents on different varieties that have been evolved by breeders. One or more plant varieties will be built upon the superior plants that the plant breeders ultimately chose. Plant breeders use every technological advancement to both create genetic variety and make choices within that variation. In India, the government and institutions in the public sector have focused chiefly on agricultural research, particularly the creation of new plant species. There was no regulation protecting plant types in India before this, and there was no pressing necessity. However, such legislation was required once India ratified the Trade-Related Aspects of Intellectual Property Rights Agreement (TRIPS) in

1994. This paper examines the development of international regimes to protect varieties leading up to the step undertaken by the Indian government for the same; the introduction of the Indian Plant Act and identifies a few pressing challenges related to plant protection. The Act has provided a legal framework that includes diverse participants, which is a positive start, but the institutional infrastructure needs to register, monitor, and regulate plant types.

II. IPR and Plant Varieties: Development of Various International Regimes

Early in the 20th century, both in the United States and in Europe, agriculture lost some of its economic clouts, and governments began to gradually scale back their engagement in initiatives connected to the creation and distribution of seeds to farmers. Due to this, the private sector seed industry grew to be increasingly significant. However, its growth was constrained due to the nature of seeds, which farmers can frequently reuse for multiple generations after purchase. This prompted the demand for plant variety protection under the law.⁵⁵

IPRs are a group of laws designed to reward or protect those who invent new things or contribute to the body of knowledge. IPRs aim to grant innovators or discoverers exclusive rights for a set amount of time.⁵⁶ Thus IPRs guarantee aims to preserve ecosystems supporting both people and animals. Moreover, it includes maintaining and conserving crop biodiversity, preventing the threat of bioterrorism, using crop genetic diversity for crop improvement legally and responsibly, lowering the risk of biopiracy and genetic erosion, and defending crops from other dangers like insect pests and diseases for the benefit of humanity.⁵⁷

⁵⁵Rohan, Dang & Chandni, Goel, *Sui Generis Plant Variety Protection: The Indian Perspective*. *American Journal of Economics and Business Administration*. (2009),1. 10.3844/ajebasp.2009.303.312.

⁵⁶ William Lesser, *Valuation of Plant Variety Protection Certificates*, (May 1st, 1994), <https://doi.org/10.2307/1349465>.

⁵⁷ N. Lalitha, *Intellectual Property Protection for Plant Varieties Issues in Focus*, *Economic and Political Weekly*, May 8-14, 2004, Vol. 39, No. 19 (May 8-14, 2004), pp. 1921-1927

If a plant or plant variation meets the requirements of stability, novelty, non-obviousness, uniformity, and distinctness, it is eligible for protection. Contrary to industrial products, it is challenging to prove live organisms' uniqueness, non-obviousness, etc., which causes disagreements and controversies when defining the requirements for protection. The adoption of plant variety patents was hampered by several factors, starting with those who were fundamentally opposed to the introduction of patents on living things. Second, there was hostility to what was thought to be the gradual privatization of seeds, which farmers had previously traded. Thirdly, there was strong opposition from those who supported the patent system because they believed that a new "plant variety" was more like an enhancement of an already-existing natural product than a scientific discovery. Combining these factors resulted in the creation of "plant breeders' rights."⁵⁸

A. Trade-Related Aspects on Intellectual Property Rights

Article 27.3(b) of TRIPS obliged the member countries to provide either patent protection or an alternative effective sui generis system or a combination of both to protect plant varieties. This article is important because it makes it easier to recognise that plant varieties, one part of biodiversity, are an embodiment of indigenous and local populations' knowledge and customs. As a result, it is no longer possible to attribute the origin of agricultural knowledge and innovation to established research networks or plant breeding programmes, but rather to a more diffused distribution across space and time.⁵⁹ Thus, TRIPS gives discretion to the member countries to determine the kind of protection for plant varieties.⁶⁰ Apart from microorganisms and essentially biological

processes for the development of plants aside from non-biological and microbiological processes, TRIPS members may also exclude from patentability diagnostic, medicinal, and surgical methods for the treatment of humans or animals. Although article 27.3's exemption from the patentability requirement has been widely praised and accepted in poor nations, scientists and campaigners quickly recognised the insufficiency and shortcomings of this clause. In fact, the continued patenting of microorganisms and non-biological and microbiological processes does not appear to align with developing nations' aspirations since they are adamantly opposed to the idea of patenting life forms or living beings.⁶¹

B. International Union for the Protection of New Varieties of Plants

In 1961, the International Union for the Protection of New Varieties of Plants (UPOV) was established as an international agreement for administering plant variety preservation laws. This gave the acknowledgement of plant breeders' rights in many nations a fresh impetus. TRIPS do not refer to adherence to UPOV, in contrast to other topics. There was no agreement among industrialised nations regarding the specifics of an efficient system of protection for plant species, which is another reason why this section is so brief. Breeders could use protected kinds as a starting point for new types that might then be protected and commercialized thanks to the 1978 statute. The 1991 Act, however, protected the derivative varieties, which cannot be distributed without the owner of the original variety's consent while preserving the breeder's exception.⁶²

C. The Treaty on the International Use of Plant Genetic Resources for Food and Agriculture

The PGRFA Treaty, adopted in 2001, recognises farmers' rights without giving them ownership

⁵⁸Jayashree Watal, *INTELLECTUAL PROPERTY RIGHTS IN INDIAN AGRICULTURE*, (Jul., 1998).

⁵⁹ Shaïla Sheshia, *Plant Variety Protection and Farmers' Rights Law-Making and Cultivation of Varietal Control*, *Economic and Political Weekly*, Jul. 6-12, 2002, Vol. 37, No. 27 (Jul. 6-12, 2002), pp. 2741-2747

⁶⁰ Malik, Kausar & Zafar, Yusuf. *Intellectual Property Rights in Plant: A Contribution to Biotechnology*, *Asian Biotechnology and Development Review*, (2005).

⁶¹ TRIPS, article 27.3(b)

⁶² INTRODUCTION TO PLANT VARIETY PROTECTION UNDER THE UPOV CONVENTION, WIPO/IP/BIS/GE/03/11: Protection of New Variety of Plants

rights over their knowledge. The member states are required under the Treaty to defend and advance farmers' rights. Additionally, it offers conventional wisdom about agriculture and benefit sharing. The treaty recognises farmers' rights, subject to national laws to: a) the protection of traditional knowledge relevant to plant genetic resources for food and agriculture; b) the right to equitably participate in sharing benefits arising from the utilisation of plant genetic resources for food and agriculture; and c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture. The Treaty establishes the Multilateral System of Access and Benefit-sharing to facilitate plant germplasm exchanges and benefit-sharing through Standard Material Transfer Agreement (SMTA). Intellectual property laws do not yet protect traditional knowledge. Traditional knowledge is already in the public domain; nevertheless, difficulties with biopiracy are brought on by intellectual property rights over products related to traditional knowledge.⁶³

D. Biological Diversity Convention (CBD)

CBD seeks to develop mechanisms for benefit sharing and enhance biodiversity.

According to the 1993 Convention on Biodiversity, access to genetic resources must result in a framework for benefit sharing. Access to genetic resources is permitted under Article 15(5) of the Convention on Biodiversity, but only with the prior informed agreement of the contracting party providing such resources unless that party determines otherwise. Due to the fact that the majority of developing nations have not yet implemented some sort of plant variety protection, the need to do so has recently arisen. This has sparked discussions on the key elements of the UPOV Convention in an effort to meet these obligations while also being tailored to the national circumstances of each

individual country.⁶⁴ This is because emerging nations understand that the UPOV Convention offers one example of a unique plant protection scheme for plant breeders creating new plant varieties. By controlling access to biological resources and associated traditional knowledge, the Biological Diversity Act assures fair benefit distribution. The term "biological resource" used in the Act refers to plants, animals, microorganisms, genetic material, and byproducts that can be used or have value.⁶⁵

III. Plant Variety Protection Act

When multinational firms were founded, it was realised by many that the agricultural industry also needed IP protection which would reduce the exploitation of farmers by bringing down the risks of investments. As a result, WTO members were required by Article 27.3(b) of the Trade-Related Aspects of Intellectual Property (TRIPS) Agreement to protect PV through patents, an effective sui generis system, or a combination of the two. As a result, India was compelled to either adopt the UPOV model or create its sui generis law as part of its commitments to abide by the terms of the TRIPS Agreement.

Until recently, farmer's lobbies and non-governmental organizations harshly criticized any government moves to extend intellectual protection to plant/seed varieties. Since it was written in 1993 and then passed into law in 2001, the Indian Plant Act has undergone many amendments. The government passed the Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA) following the TRIPS standards with the following goals:

1. To offer a method that is effective for protecting plant types, both new and extant.
2. Encouraging the creation of novel plant types (3) Protecting the rights of farmers and plant breeders
3. To encourage R&D spending and the expansion of the seed sector (5) To

⁶³ Nandita S. Patil, *Farmers' Rights And Intellectual Property Rights Protection Of Plant Varieties In India*, Rural South Asian Studies Journal, Vol. II, No. 2, 2016

⁶⁴Hossam El-SAGHIR, James MWIJUKYE, Grace ISSAHAQUE, *Plant Varieties, Biodiversity and Developing Countries*, DOC
⁶⁵ *Ibid.*

ensure that farmers and other organizations have access to high-quality seeds and planting supplies.

4. To make sure farmers are equally benefited.
5. To support research and development and bolster the seed business.

The PPV & FR Act of 2001 grants a dual intellectual property right, one for the variety and the other for the denomination the breeder has given it. Only the registration of a plant variety confers the heritable and transferable rights afforded by this Act. This is a *sui generis* system that protects (a) new varieties, (b) varieties that are fundamentally derived from other varieties, (c) farmers' varieties, and (d) existing varieties.

The following kinds of plant varieties can be registered under the Plant Act, 2001:

- New varieties
- Extant variety
- Farmers' variety
- Essentially derived variety

An extent⁶⁶ the variety must meet the requirements of novelty, distinctiveness, uniformity, and this Act to be registered. According to the Indian Plant Act, a variety is considered novel if, as of the date the application for registration for protection was filed, neither the cultivating nor harvested material of the variety had been sold or otherwise disposed of by the breeder or his successor for exploitation of the variety;

(a) earlier than one year in India, (b) earlier than six years outside India, or (c) in any other country.

IV. Farmer's Rights

⁶⁶ Extant variety refers to a variety available in India about which there is common knowledge or any other variety which is in the public domain: A farmers variety refers to one which has been traditionally cultivated and evolved by the farmers in their fields or is a wild relative or landrace of a variety about which the farmers possess the common knowledge (Indian Plant Act, 2001)

India included the provision on farmers' rights in the Plant Variety Act, which comprises three pillars;

- ❖ Farmers can use their assortments and are thought of as plant raisers;
- ❖ Farmers who work to maintain landraces' inherited assets and the wild relatives of financial plants and to improve them via selection and protection are valued and compensated; and
- ❖ Ensuring the farmers' customary practices of saving seeds from one harvest and using those seeds to grow for their subsequent harvest or giving them to their neighbors who share their land.⁶⁷

A farmer who creates a new variation has the same rights to registration and protection as a breeder; the farmer's variety may also be listed as an existing variety. Farmers who protect the genetic resources of domesticated and wild relatives of economic plants deserve praise and compensation;

V. Breeder's Rights

Plant Variety Protection (PVP) is a standardized system that grants organizations intellectual property rights (IPR) which the International Union runs for the Protection of New Varieties of Plants aka UPOV. It acknowledges both the plant variety right (PVR) and the plant breeder's right (PBR) (PVR).⁶⁸ The UPOV Convention's 1991 Act awards the PBR for at least 20 years.⁶⁹ Following the UPOV system, anyone can register as a breeder and request PVP. A novel plant variety can only be protected, nevertheless, if it satisfies four requirements outlined by the UPOV: It must meet the following criteria: it must be a novel

⁶⁷ Anitha Ramanna, *Farmers' Rights in India A Case Study*, FNI Report 6/2006, <https://www.fni.no/getfile.php/131801-1469869136/Filer/Publikasjoner/FNI-R0606.pdf>

⁶⁸ UPOV, *International Convention for the Protection of New Varieties of Plants of December 2, 1961*, as Revised at Geneva on November 10, 1972, October 23, 1978, and March 19, 1991, (Jun. 9, 2021), https://www.upov.int/edocs/pubdocs/en/upov_pub_221.pdf.

⁶⁹ Jördens R., *Progress of plant variety protection based on the international convention for the protection of new varieties of plants* (UPOV Convention), World Pat. Inf. (2005),:27:232–243. doi: 10.1016/j.wpi.2005.03.004.

variation, different from other kinds, and homogeneous. It should meet the following requirements: it must be a novel variety, different from existing kinds, homogeneous, and stable, remaining the same from generation to generation.⁷⁰

The breeder can only protect a novel variety. Infringing actions include, but are not limited to, the following: (1) marketing and sale of a protected variety; (2) sexual multiplication or unauthorized propagation; (3) use of parental lines for the creation of hybrid varieties; and (4) distribution of the variety without the certified owner's consent. The breeder's right, commonly known as the breeder's exemption, has a few restrictions under the 1991 Act of the UPOV Convention:

- *Acts have done privately and for non-commercial purposes:* As long as the Act is private and non-commercial, this provision permits novice gardeners to use propagation material in their garden without requesting permission. Additionally, a farmer can propagate a protected variety to be utilized solely in the cultivation of a food crop for the farmer's and his or her dependents' exclusive consumption (i.e. subsistence farming).
- *Acts performed for experimental purposes:* Using a protected variety for research is not covered by the breeder's right. This implies that a scientist or researcher does not need to obtain permission from the owner of a right before doing a study on a protected variety and publishing the findings. This crucial clause supports adding to the corpus of knowledge about numerous plant types in science.
- *Acts have been done to breed other varieties:* This is a critical component of the UPOV system that ensures protected varieties cannot be restricted in order to

breed new plant varieties. Breeders can thus always use protected varieties in their breeding programs to help create enhanced varieties that are advantageous to both farmers and society at large.

- *Farmer's Privilege:* The UPOV Convention includes a revocable clause that enables signatory nations to further limit the breeder's right by allowing farmers to utilize seed collected from their holdings to grow crops. The "farmer's privilege" is another name for this exception to the breeder's right.

The right to sell seed, particularly protected seed, has been established in section 39 (iv) of the chapter on farmers' rights. The farmer will be assumed to have the same rights after this Act takes effect to store, use, sow, resow, exchange, share, and sell his farm products, including seed from varieties protected by this Act. However, selling "branded seed of a variety protected under the Act" is not permitted for the farmer. Wishing to examine documents and papers or receive copies of rules and decisions made by the various authorities will be exempt from paying any fees. Disclosure: Explicit and detailed disclosure in the passport data about the parentage of the new variety is required. If concealment is detected in the passport data, the Breeders certificate will be canceled. No terminator technology: Breeders must submit an affidavit that their variety does not contain a Gene Use Restricting Technology (GURT) or terminator technology. Protection against innocent infringement.⁷¹

VI. Researchers' Rights:

Under the Act, researchers may conduct experiments using any registered varieties. This includes using a variety as a starting point for developing another variety, but repeated use requires prior consent from the registered breeder. Researchers' rights under the new law

⁷¹Suman Sahai, *India's Plant Variety Protection and Farmers' Rights Act*, BRIDGESCOMMENT, <https://www.iprsonline.org/ictsd/docs/SahaiBridgesYear5N8Oct2001.pdf>

⁷⁰ *Id.*

give scientists and breeders unrestricted access to registered varieties for research. It is also possible to create new kinds using the registered variety. This flexibility is restricted only when the registered variety must be frequently employed as a parental line for the commercial production of another variety.⁷²

VII. Conclusion

Consequently, there may well be a clear legal gap in the international frameworks for protecting the shared resources. Additionally, the possessions substantially contradict the native peoples' cognitive structure. The laws that have been passed should have adequate penal measures and compensation amounts for reducing resource exploitation. The PPVFR is an effective sui generis system helps recognise the traditional rights of the farmers and labels them as 'farmer breeder,' which is an important step in providing farmers with rights. To achieve the various goals of the Act, including safeguarding the interests of both farmers and breeders and harmonizing matters like darker bearing on breeders' rights, further the development will be needed. This will allow farmers to exploit the protected variety for commercial purposes without restriction, with minimal restrictions on using the protected variety's logo.

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2. *Intellectual property protection for plant varieties - JSTOR* (no date).

⁷² Protection of Plant Varieties and Farmers' Rights Act, 2001, VIKASPEDIA, (Jan. 1, 2020), <https://vikaspedia.in/agriculture/policies-and-schemes/crops-related/protection-of-plant-varieties-and-rights-of-farmers/protection-of-plant-varieties-and-farmers-rights-act-2001#:~:text=to%20the%20farmers-,Rights%20under%20the%20Act,case%20of%20infringement%20of%20rights>

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