

INTELLECTUAL PROPERTY RIGHTS IN AGRICULTURE: PROTECTION OF TRADITIONAL PRACTICES AND MODERN INNOVATION

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Abstract

The fundamental tenet of all IPRs is protection against unwanted competition. The future of a country will be determined by its capacity to innovate and turn knowledge into wealth. Knowledge has evolved into a priceless asset that may be exploited for financial gain in a knowledge-based economy. New concepts and inventions are threatened as well as given opportunities as a result of the globalization of the agriculture market. Increased accessibility encourages the free exchange of ideas and information across the country and increases threat. Unprotected innovation cannot create riches; only protected innovation can. Therefore, it is crucial to defend intellectual property. The current study attempts to analyze the general condition as well as the implications of intellectual property rights (IPRs) on agricultural innovation in India. In order to identify recent breakthroughs in crop farming in India, this article looks at the patenting and copyright activity. The bulk of patents that have been awarded are to the growth of plants. It examines the particulars of patent portfolios and the potential reach of upcoming discoveries in the field of agricultural engineering. This paper will also dwell upon the revolutionary aspects in Agriculture IPR that leads to the recognition of tech innovation in agro and also its boom in the future. However, there are still unsolved problems regarding the potential impact of current and rising IPR laws on agricultural output in developing nations. In an effort to give some solutions to these challenges, this study examines the effects of IPRs on private investments in crop enhancement and, as a result, agricultural output. The paper is research on secondary data.. The paper is research on secondary data.

Key words: IPR, sui generis system, Indian context, PVP&FR

Introduction

Globalisation has led to a knowledge-based economy and IPR is one of the motivating factors of innovation. Business in the field of agriculture has not historically been associated with IPR as farming and other techniques were considered as shared knowledge. Nonetheless, the

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previous few decades have seen significant improvement and innovation in agriculture and IPR.¹

In India, the Green Revolution was a success in terms of ensuring cereal crop food security. However, the acceptance and complete integration of agro-based technology and related items into Indian society has remained a challenge. In response to growing population and quicker economic expansion, agricultural practises must be strengthened to fulfil expanding food demand.² Demands would include specifications for food production's quantity and quality. Some of these challenges are being recognised as being solvable through the formation of better concerted distribution systems that benefit more stakeholders and more innovative approaches to technology development.³

Over the last two decades, intellectual property protection has been extended to a wide variety of food and agriculture-related knowledge, materials, and products. Because of a variety of ethical problems and the breadth of patentability of living entities such as microorganisms, plants, animals, and their many components, national laws and relevant law in many jurisdictions have altered significantly.⁴ Conflicts over farmers' lack legal legitimacy have a severe influence on agricultural and global food security. Furthermore, commercialization and industrialization place enormous strain on biological diversity in agriculture and related areas.⁵ The agricultural sector of the global economy is always changing, thus executable answers to issues including the rights of plant breeders, growers, and other market participants are needed. Therefore, ensuring the intellectual property rights to different plant types necessitates funding agricultural advances, improved genetic viability, and poverty reduction strategies in agricultural economies.

Intellectual property protection for plant innovation is a critical challenge in order to extend protection to new plant varieties, existing varieties, or any essentially derived varieties, but some areas have gone unnoticed, either due to a lack of predictability regarding the

¹ Worldinformation (1970) *Wildlife conservation, Wildlife Conservation*. Available at: <https://projectworkworld.blogspot.com/2011/04/wildlife-conservation.html> (Accessed: January 10, 2023).

² Swaminathan, M S (1996). Ensuring Food for All. In: Science and Technology for Achieving Food, Economic and Health Security. U.R. Rao (ed.) Prism Books Pvt. Ltd., Bangalore pp. 123- 168.

³ Kshitij Kumar Singh, *Intellectual Property Rights in Agricultural Biotechnology and Access to Technology: A Critical Appraisal*, ASIAN BIOTECHNOLOGY AND DEVELOPMENT REVIEW VOL.18 (Jan 17 2023)

⁴ *International Journal of Tropical Agriculture*. Available at: https://serialsjournals.com/index.php?route=product%2Fproduct&product_id=295 (Accessed: January 10, 2023).

⁵ id

effectiveness of legislation enforcement or a failure to reach consensus on issues such as subject matter protection, type of protection to be extended, and so on.⁶

Plant Protection under IPR

Plants have been the subject of patent litigation since the first generation of patent laws. Plants, agricultural products, and agricultural and horticultural practises were not allowed to be protected by patents under the original patent statutes. Many countries established patent laws as early as the nineteenth century. Only a select group of inventions would be qualified for patent protection, according to these laws.

Plants were denied patent protection between 1790 and 1970 on the grounds that the inventions did not adhere to the legal requirements for patentability. Products that are eligible for patent protection must satisfy three requirements:

- novelty (i.e., not known in the previous art),
- non-obviousness (i.e., requiring an inventive step), and
- utility (i.e., being applicable to industry).⁷

All patents grant the patentee the right to bar others from producing, utilising, or commercialising the protected good or procedure. However, patents must be made available to the public via patent documents. The legal requirements including conception, novelty, inventive step, utility and adequate disclosure were not met by plant inventions in Europe and the US.

In India, the Patent Act was enacted in 1970. According to the Act and subsequent Patent (Amendment) Act, 1999 and 2002, patents could be applied mainly for agricultural tools and machinery or the processes for the development of agricultural chemicals.⁸⁹ Patents could be claimed for primarily for agricultural instruments and machinery or procedures for the creation

⁶ Worldinformation (1970) *Wildlife conservation, Wildlife Conservation*. Available at: <https://projectworkworld.blogspot.com/2011/04/wildlife-conservation.html> (Accessed: January 10, 2023).

⁷ *DSNLU publications - damodaram sanjivayya national law university* (2023) *DAMODARAM SANJIVAYYA NATIONAL LAW UNIVERSITY* -. Available at: <https://dsnlu.ac.in/dsnlu-publications/> (Accessed: January 8, 2023).

⁸ Kshitij Kumar Singh, *Supranote 2*

⁹ Indian Patents Act, 1970, NO.38, Acts of Parliament, 1970 (India)

of agricultural chemicals, according to the Act and later Patent (Amendment) Acts, 1999 and 2002. Methods in agriculture or horticulture, life forms of other microorganisms such as plant varieties, strains/breeds of animals, fish, or birds, including products derived from chemical/biochemical processes, and any processes for medicinal, surgical, curative, prophylactic, or other treatments of animals or plants to render them disease-free or to increase their economic value or that of their products as such did not constitute patentable subject matter under the patent regime.¹⁰ The Indian Patents Act lacked protection for plant varieties and did not ensure farmers rights.¹¹

Patents in the field of agriculture may be obtained under the Indian Patents Act for processes involving agrochemicals, growth promoters and regulators, drugs, vaccines, hides and wool, dairy technology, food technology, fuel and biogas production, bioreactors, standardisation of various laboratory protocols, environment management, and similar things.¹² However, there are several limitations pertaining to the issuance of agricultural innovations under the Act.

Many nations have established plant breeders' rights to recognise and reward conventional plant breeding achievements.¹³ Since the right holders can only forbid others from economically utilising the protected material, such *sui generis* protection is less strong than patent protection.¹⁴¹⁵ Since these are distinct, the capacity to be distinguished from previously discovered varieties is low and therefore the standards for granting such protection are also less stringent than those for determining patentability. Such protection stimulates commercial breeding activities. Such initiatives have historically come from the public sector or from foreign research organisations in poor nations.

Plant Variety Protection History of Plant Breeding

¹⁰ *Welcome to ICAR | भारतीय कृषि अनुसंधान परिषद* (no date). Available at: <https://icar.org.in/> (Accessed: January 3, 2023).

¹¹BNBLEGAL <https://bnblegal.com/article/agriculture-ipr-india/> (Jan 17 2023)

¹² *Id* 3

¹³ *Supra* note 7

¹⁴ *Supra* note 8

¹⁵ Kshitij Kumar Singh, *Supranote* 2

Prior to the introduction of modern agricultural technology, discoveries linked to the breeding or propagation of new plant varieties were seen as natural and evident evolutions of nature and were not protected by a patent or other intellectual property rights.¹⁶

Biotechnology innovation demands a substantial investment, however once these are commercially developed, the benefits can be easily duplicated. Commercial firms will be hesitant to invest in the field of developing new plant types if there is insufficient protection for the innovation and consequently limited likelihood of suitable rewards. Before systematic plant breeding through selection was developed in the seventeenth century, the plants that farmers grew were the product of thousands of years of partially conscious, partially unconscious selection.¹⁷¹⁸

Farmers created new plant varieties and stored them for future innovation; thus, commercial enterprises will be unwilling to invest in the creation of new plant types.

Farmers regularly develop new plant kinds out of need in order to generate stronger, disease-resistant plants, offer greater and quicker harvests, or just produce better-looking or bigger fruit. Previously, their whole labor in agricultural research and development was thought to be spent for the public welfare rather than for commercial gain.

Individuals who believe that these innovations are developments in rem and thus do not merit private protection have frequently opposed the demand for extending intellectual property protection to agriculture in developing countries, with counterclaims from investors for plant variety protection, breeder's and farmers' rights.

Forward-thinking farmers realized in the seventeenth century that systematic selection might lead to significant advancement, and the plant breeding business was born. In the twentieth century, Mendel's inheritance principles supported the scientific growth of plant breeding. Breeding produces genetic diversity in a species that can be handed on in a stable manner. The ultimate selection of better plants by plant breeders serves as the foundation for one or more plant kinds.

¹⁶ Deewan, M. (11AD) "IPR Protection in Agriculture: an overview," *Journal of intellectual property rights*, 16, pp. 131–138.

¹⁷ id

¹⁸ Kshitij Kumar Singh, *supranote 2*

A breeder's most challenging endeavour is to generate a superior plant variety. To begin, this entails a large number of genes that interact in complex and unknown ways to influence various aspects or traits. Second, several plants must be investigated throughout many different seasons and growing environments in order to develop such an improved plant. As a result, establishing a plant variety takes several years and is complicated and costly.¹⁹

Need for Plant Variety Protection

The aftermath of World War II witnessed a widespread loss of agricultural crops around the globe creating a demand for higher agricultural output. This resulted in agricultural technology advancement. The innovators and individuals with indigenous or traditional knowledge wanted to preserve their interests throughout the process. As a result, legal action was taken to safeguard the rights of innovators, breeders, and indigenous knowledge holders.

Plant types were awarded patent protection to enhance agricultural quality, reward researchers for their efforts, and create goods such as pest resistant crops.

An IPR policy is intended to foster scientific development by protecting inventors' exclusive rights to their individual discoveries for a short time. The purpose is to promote creativity and innovation.²⁰

Plant varieties are formed over years of selective inheritance of features that provide superior yields, higher quality, and better resistance to such plant variations. Newer plant production technologies must be created in order to obtain high-performing cultivars. The great gain in agricultural production in various parts of the world is largely due to these upgraded high-performing plant varieties, which are also a critical factor in enhancing agricultural income and general economic development.²¹ Plant breeding is a time and money consuming process, so it is impossible to maintain breeding efforts unless there is a potential of receiving good returns. It is therefore critical to offer an effective plant variety protection system with the goal of encouraging the production of new plant varieties for the benefit of society. It is deemed to be

¹⁹ Mohan Dewan, *IPR Protection in Agriculture: An Overview*, JOURNAL OF INTELLECTUAL PROPERTY RIGHTS (Jan. 19, 2023) <http://nopr.niscpr.res.in/>

²⁰ Id

²¹ B&W, <https://bnwjournals.com/2022/02/01/impact-of-intellectual-property-on-the-agriculture-sector-in-india/> (last visited Jan 17)

equitable to confer on plant breeders the opportunity of a fair reward for their work, effort and investment in breeding and to grant them protection against unauthorized exploitation.²²

There were technical challenges created due to the non-adherence of legal requirements by the plant varieties to meet the patent law criteria. This resulted in the development of a system *sui generis* to the characteristics of plant types and the demands of breeders, farmers, and merchants.²³ The application of IPRs in agriculture was anticipated to result in agricultural development and higher food production by stimulating private sector development and transfer of applicable technologies.²⁴ IPRs are meant to stimulate inventions and the subsequent advancements that will put those inventions to use. They are expected to get information about the innovation for the rest of the industry and the public that would otherwise be concealed, at least for a critical period.²⁵

Major arguments against patenting plants and its varieties

One of the main arguments against patenting plant varieties was that plant breeders' goods, particularly those that were artificially produced, did not meet the primary requirement for patentable subject matter and were therefore not regarded to be innovations. This is the "product-of-nature doctrine". Plant innovations are not patentable in Europe for the same reason that plant products like fruits, flowers, and vegetables, as well as other commodities like marble and ivory, are fundamentally nature's work with little human influence.

Plant patents were not granted in the United States and Europe due to the concept of a natural product. The argument against providing plant life patent protection was that it would be similar to granting patents for exploiting natural abilities, which would stymie development.²⁶ Another argument against plant patenting was that since they were considered living things, they were unethically unsuitable as the subject of a patent. As a result, breeders' products were barred from patent protection not because they lacked inventive step, but because the generated

²²International Journal for Legal Research and Analysis (no date) *INTERNATIONAL JOURNAL FOR LEGAL RESEARCH AND ANALYSIS*. Available at: <http://www.ijlra.com/> (Accessed: January 7, 2023).

²³ Centre, I.N.F.L.I.B.N.E.T. (no date) *List: National Library and Information Services Infrastructure for Scholarly Content, N*. Available at: <https://nlist.inflibnet.ac.in/> (Accessed: January 9, 2023).

²⁴ Dr. Madhu Sudan Dash, *Plant Variety Protection in India–The Issues and Challenges*, *IJSR - INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH* (Jan. 17, 2023) [https://www.worldwidejournals.com/international-journal-of-scientific-research-\(IJSR\)/recent_issues_pdf/2015/May/May_2015_1492846035__30.pdf](https://www.worldwidejournals.com/international-journal-of-scientific-research-(IJSR)/recent_issues_pdf/2015/May/May_2015_1492846035__30.pdf)

²⁵ Kshitij Kumar Singh, *supranote 1*

²⁶ Mohan Dewan, *IPR Protection in Agriculture: An Overview*, *JOURNAL OF INTELLECTUAL PROPERTY RIGHTS* (Jan. 19, 2023) <http://nopr.niscpr.res.in/>

items were already living in nature. The patent acts of Belgium, Germany, and the Netherlands all rejected this reasoning.²⁷

The fact that plants cannot meet the threshold of novelty is another argument made against the patentability of plants. However, there was no real problem between breeders' products and the patentability criteria of absolute uniqueness in Germany, the Netherlands, or the US.²⁸ The claim that plant varieties created through conventional breeding procedures lacked innovative step and were evident to someone with ordinary expertise in the field was also made against plant patents in Europe and the US. The idea that the application of a known procedure could produce a new objective or a unique impact, however, was used to refute this reasoning.

The lack of industrial applicability and value of breeders' products was a fundamental argument against plant patents in Europe and the US. Contrarily, it was argued that agricultural inventions should not be excluded from patent protection because while some agricultural products, such as fertilisers and agricultural machinery, could be defined and receive patent protection, patent protection could not be extended to other agricultural activities or processes because they lacked an industrial character.

The 1930 US Act established a new type of plant patent for vegetatively grown materials, however standard utility patents can now be obtained on plant types in the US. As a result, there are currently two systems of protection in place in the US: the Patent Act and a *sui generis* Plant Protection Act.²⁹ When the Utility Patent Act (UPA), a general patent law, went into effect in the United States, the argument about plant patent protection was put on hold for a while.³⁰ However, the topic of plant patent protection was raised again around the end of the 1970s. This dispute was finally settled in the United States in 1985 in favour of plant patent protection. The Government of India passed "The Protection of Plant Varieties and Farmers' Rights" (PPVFR) Act, 2001, a *sui generis* system of plant variety protection, in accordance with the TRIPS Agreement and other policy developments.³¹ This statute is special because it has given farmers legal protection under the law. In the *sui generis* system, each nation is free

²⁷ Id

²⁸ Id 12

²⁹ Bowden, C., Foster, T. and Parkes, B. (2023) *Identifying links between monsoon variability and rice production in India through machine learning*, *Nature News*. Nature Publishing Group. Available at: <https://www.nature.com/articles/s41598-023-27752-8> (Accessed: January 6, 2023).

³⁰ Utility Patent Act, 35 U.S.C. § 101. (USA)

³¹ The protection of plant varieties and farmers' rights act, 2001, No.53, Acts of Parliament 2001 (India)

to place any limitations on breeders' rights they see proper in order to further agricultural research and safeguard farmer rights.

In light of ongoing debates and criticisms of various existing plant variety protection methods, India has joined the ranks of nations that have successfully adopted intellectual property rights law that recognises the rights and privileges of many stakeholders.³²

Background of Protection of Plant Variety and Farmers' Rights Act 2001 (PPVFR Act)

The Indian government has been concerned with food security, agricultural research, and the production of new plant kinds since time immemorial. According to Article 27.3 (b) of the TRIPS Agreement, plant varieties can be protected through patents, a *sui generis* system, or a combination of the two.³³ By the year 2000, commercial breeders, farmers, and agrobiodiversity conservationists, in particular, recognised the necessity for Plant variety Protection to promote food security. A *sui generis* framework for Plant variety Protection was essential for India to be able to both defend and safeguard its farmers' interests while also offering rights to plant breeders.³⁵

The plant breeder rights bill was met with significant opposition in India from a range of groups, including the farmers' forum, non-governmental organisations, and, to some extent, the public sector. This opposition was principally driven by the likelihood of private companies dominating the seed industry. They could, for example, acquire original resources or parental lines from farmers' fields and/or public sector organisations and develop a variety or hybrid to assert ownership without compensating plant genetic material producers or saviours. Seeds were viewed as a sort of open sharing that was not protected by intellectual property rights.³⁶

India is one of the first countries in the world to enact legislation that effectively guarantees breeders and farmers rights under a single Act. It is the only law in this field that recognises plant breeders' efforts in producing new plant types while also providing farmers with statutory

³² Worldinformation (1970) *Wildlife conservation, Wildlife Conservation*. Available at: <https://projectworkworld.blogspot.com/2011/04/wildlife-conservation.html> (Accessed: January 10, 2023).

³³ WTO, (2016). Overview: the TRIPS Agreement. https://www.wto.org/english/tratop_e/trips_c/intel2_e.htm

³⁴ Kumar, Amarjeet, "*Plant Varieties and Farmers' Rights Act, 2001*", IIPRD BLOG INTELLECTUAL PROPERTY DISCUSSIONS (Jan. 17 2023) <https://iiprd.wordpress.com/2016/01/>

³⁵ GLOBAL PATENT FILING, <https://www.globalpatentfiling.com/blog/presence-patents-agriculture-sector> (last visited Jan 20)

³⁶ www.i-scholar.in

rights without jeopardising their freedom. The statute recognises the farmer as both a grower and a conservator of agricultural plant types by preserving the farmer's plant variety..³⁷

Protection offered under PPVFR Act 2001

The Act's goals include developing an effective system for protecting plant varieties, protecting farmers' and plant breeders' rights, and accelerating investment in research and development in the seed industry, as well as ensuring farmers and other growers, such as horticulturists, have access to high-quality seeds and planting material of improved varieties. A variety is a grouping of plants with the lowest known rank in a single botanical taxon, determined by the expression of the features that come from a certain genotype or combination of genotypes.³⁸ In terms of its ability to be reproduced intact, the variety should be distinguished from other plant groups by its expression and treated as a unit.

Patents and plant variety protection are two types of IPR that both offer exclusive monopoly rights over the commercial establishment of a new plant variety throughout time.³⁹ Plant variety protection gives plant breeders the right to protect the genetic makeup of a specific plant variety that has novelty, distinctness, uniformity, and stability. A patent is a right granted to an inventor to exclude all others from making, using, and/or selling the patented invention for 20 years for those inventions that meet the patentability criteria of novelty, non-obviousness, and utility.⁴⁰

The Indian *sui-generis* system of plant variety protection is also unique, because under this Act a variety can be registered under either of four categories:

- New Varieties.
- Extant Variety.
- Farmer's Variety.
- Essentially Derived Variety. (EDV)⁴¹

³⁷ Mohan Dewan, *IPR Protection in Agriculture: An Overview*, JOURNAL OF INTELLECTUAL PROPERTY RIGHTS (Jan. 19. 2023) <http://nopr.niscpr.res.in/>

³⁸ DSNLU publications - damodaram sanjivayya national law university (2023) DAMODARAM SANJIVAYYA NATIONAL LAW UNIVERSITY -. Available at: <https://dsnlu.ac.in/dsnlu-publications/> (Accessed: January 8, 2023).

³⁹ Cornish, W and Llewelyn, D (2003). *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights*, Sweet and Maxwell Limited, London.

⁴⁰ Mohan Dewan, *IPR Protection in Agriculture: An Overview*, JOURNAL OF INTELLECTUAL PROPERTY RIGHTS (Jan. 19. 2023) <http://nopr.niscpr.res.in/>

⁴¹ Yadav, Rahul. (2020). THE ROLE OF INTELLECTUAL PROPERTY RIGHTS IN AGRICULTURE. 10.13140/RG.2.2.25987.53287.

under the International Union for the Protection of New Varieties of Plants (UPOV)⁴² member countries do not provide protection of varieties under the last two categories.⁴³

Under the Protection of Plant Variety and Farmers' Rights Act, the period of protection in the case of registered varieties is 9 years in case of trees and vines and 6 years in case of other crops and upon renewal a maximum of 18 years for trees and vines and 15 years for other crops while in the case of extant varieties it is 15 years from the date of registration.^{44,45}

The Rights under PPVFR Act

The Indian PPVFR Act is remarkable in that it both recognises and defends farmers' varieties' rights. The Act deems it critical to recognise and preserve farmers' rights in light of their continued efforts to conserve, improve, and make plant genetic resources available for the development of new plant varieties. Furthermore, farmers are protected from unintended infringement.

The Act is intended to safeguard farmers against seed companies' inflated promises about the performance of their registered varieties. The Act also works to ensure that the seeds of these innovative kinds are of high quality, or that farmers are adequately informed about the seed quality they acquire. It underlines the importance of farmers' rights in light of their dedication to the conservation, enhancement, and availability of plant genetic resources for the development of new plant types.

The PPV&FR Act recognises farmers' different roles in producing, maintaining, creating, and choosing varieties. The Act refers to the economic importance that farmers put on wild species, traditional varieties, or germplasms through selection and identification while producing or choosing kinds.

⁴² UPOV Conventions <http://www.upov.int/en/publications/conventions/> (Last visited Jan 19 2023)

⁴³ MONDAQ, <https://www.mondaq.com/india/patent/1048568/challenges-in-plant-variety-protection-in-india>, (last visited Jan 20 2023)

⁴⁴ Usha Kiran, Nalini Kant Pandey. "Transgenic food crops: public acceptance and IPR", Elsevier BV, 2020

⁴⁵ The protection of plant varieties and farmers' rights act, 2001, No.53, Acts of Parliament 2001 (India)

One of the significant contributions of the Act is the Chapter on Farmers' Rights. It is intended to comprehensively address simultaneous promotion and sustenance of informal innovation in agriculture along with formal modern breeding.⁴⁶

Hence, the farmers' rights in the Act include⁴⁷:

(a) the right to register new and existing varieties bred, evolved, and developed by farmers; (b) benefit sharing, recognition, and award for farmers and communities in recognition of their contribution to the evolution, conservation, and improvement of farmers' varieties used in breeding new varieties; and

(c) the right to save, use, sow, resow, exchange, share, or sell farm produce, including seeds of new varieties.

(d) recompense from the breeder of the new variety for the failure of the new variety's performance.

(e) defence against unintentional infringement.

(f) authorization for the use of essentially derived variety from farmers' variety in breeding; (g) exemption from all types of statutory costs.

(h) the establishment and use of the Gene Fund; and

Breeders who register novel plant varieties have the right to prevent those kinds from being sold, exported, imported, or produced without their permission. It may also be illegal to use, sell, export, import, or manufacture any variety that is confusingly similar to the registered variety. Exemptions for using registered varieties as sources for new varieties and conducting tests are among the Act's safeguards for researchers' rights.⁴⁸ To use a registered variety as a parental line for commercial production on a regular basis, however, breeder approval is required.

⁴⁶ *Publications (2023) IPR Law India - Indian IP Law Resources*. Available at: <https://iprlawindia.org/publication/> (Accessed: January 8, 2023).

⁴⁷ The protection of plant varieties and farmers' rights act, 2001, No.53, Acts of Parliament 2001 (India)

⁴⁸ Kumar, Amarjeet, "Plant Varieties and Farmers' Rights Act, 2001, IIPRD BLOG INTELLECTUAL PROPERTY DISCUSSIONS (Jan. 17 2023) <https://iiprd.wordpress.com/2016/01/>

Farmers' varieties, whether already in existence or recently bred, are the product of traditional natural breeding techniques used by farming communities. These techniques involve skill, effort, and patience in careful observation, seed selection, saving, re-sowing, and other seed-related activities.

It is important to acknowledge the National Commission on Farmers' concerns over the plight of Indian farmers, which emphasised issues such as restricted access to and control over basic resources and a lack of a generalised public distribution system for food. In terms of possessing a monopoly and having a say in matters relating to the long list of rights accorded to them under international models, breeders have been significant.

These breeding procedures are sometimes referred to as "collective breeding," and many claim that farmers' varieties belong to communities/groups rather than individual farmers. This is a representation of the farmers' variety' traditional names. Even while a particular farmer may have created a variety and it bears his or her name, it has long been believed that the community as a whole bears responsibility for its sharing, preservation, and promotion. Farmers' varieties are now treated as the collective property of the communities as a result of these actions. Therefore, there were strong arguments made in favour of treating farmers' rights as "community rights" at the time the Act was passed.⁴⁹

The rationale behind granting breeders exclusive rights is that without them, there is a high chance of third parties profiting from the new varieties' distinctive and commercially important characteristics. The genetic material of the new variety is one of its most important properties. Because this genetic material self-replicates naturally, it can be replicated using seeds or other propagating materials, making it especially vulnerable to being utilised for reasons other than those intended by the designer.⁵⁰ Once more, in the absence of such rights, plant breeders are compelled to labour in secrecy and future employees will not have access to the specifics of trials and research.⁵¹

⁴⁹ Agarwal, P. and Agarwal, P. (2018) *Problems with the Indian plant varieties regime (v): Farmers' rights – a myth or Reality (i)?*, *SpicyIP*. <https://spicyip.com/2018/10/problems-with-the-indian-plant-varieties-regime-v-farmers-rights-a-myth-or-reality-i.html#:~:text=The%20problems%20that%20are%20faced,enjoyment%20of%20the%20IP%20rights>.

⁵⁰ Wani, Tabasum 2008. "Patenting Seeds In India: Boon or Bane for Indian Farmers"(Jan 14) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1114522

⁵¹ Mohan Dewan, *IPR Protection in Agriculture: An Overview*, JOURNAL OF INTELLECTUAL PROPERTY RIGHTS (Jan. 19. 2023) <http://nopr.niscpr.res.in/>

A protected variety is issued a plant variety protection certificate, which bans others from reproducing and promoting the variety, as well as utilising it to produce another variation. However, the Act does not forbid other breeders from using the protected variety to generate a new variation that is noticeably different from the protected variety. The protected variety can be utilised as a parent in hybridization or mutation experiments, as well as in other basic and practical research. Similarly, the Act does not forbid farmers from saving and growing seed for the next harvest, or even selling seed, if their primary activity is not seed production and sale services. Thus, within certain conditions, the Act provides for a "breeder's exemption" and a "farmer's exemption."⁵²

Farmers' rights, however, must be appropriately recognised and protected in light of emerging-market economies. Plant breeders' rights, a new intellectual property rights have created new challenges for farmers, necessitating new responses. With the establishment of this new IPR, farmers were forced to defend themselves in order to keep their prior freedoms. Farmers supply the majority of seed needs in developing countries, and a large amount of those needs are met through farmer-to-farmer trade.⁵³

Though such protection supports breeders, it limits farmers' ability to self-grow and, in certain cases, reuse seeds, thereby boosting the market for the breeder's seeds. The majority of farmers reused, exchanged, or sold informally to neighbours, and the annual purchase of new seeds remained a relatively infrequent activity. However, in the current scenario, annual purchases have become the norm. This situation puts farmers at odds with breeders.

Farmers are recognised and compensated under agricultural policy on the basis of "equity, fairness, and justice." which states that someone who has gone to great lengths to protect and preserve something should have first priority over it, whether in the form of a property right or not.

Other Forms of IP Protection in Agriculture

Commercial marks can be applied to agricultural as well as industrial products and services. Trademarks can be used to market products such as seeds or spraying services. A trademark's principal function is to distinguish one company's goods and services from those of another,

⁵² Surya Mani Tripathi, *Intellectual Property Rights in Agricultural Research System*, Rajiv Gandhi School of Intellectual Property Law, Indian Institute of Technology Kharagpur (Jan 16 2023)

⁵³ Worldinformation (1970) *Wildlife conservation, Wildlife Conservation*. Available at: <https://projectworkworld.blogspot.com/2011/04/wildlife-conservation.html> (Accessed: January 10, 2023).

thereby protecting consumers from fraudulent items. This type of protection prevents unauthorised commercial mark use and is not time-limited, though registration may need to be renewed on occasion.

Geographical indicators are a sort of business mark that is used more frequently in agriculture than in industry (GI). These are trademarks associated with things originating in a country, region, or locality where the features of the product are predominantly linked to its geographical origin. Many GIs are linked to agricultural products or items made from them. Famous examples are 'Darjeeling' for Indian tea, 'Devgad or Ratnagiri' for mangoes, and 'Tasgaon' for grapes..⁵⁴

Plant varieties produced using traditional knowledge and related with a certain region can also be protected as GI, with the extra benefit of not being time-limited, as with plant patents or plant breeders' rights. Commercial benefits, on the other hand, may be realized only when the name of a location is connected with an agricultural product.

To safeguard hybrid plant varieties, for example, the agriculture sector can use trade secret protection. Each state in the United States has its own set of trade secret laws. Unlike patents, trade secret protection is not time restricted, and there is no requirement to disclose original or innovative ideas to society; yet, such protection is lost the moment it is independently discovered by a third party..⁵⁵⁵⁶

Conclusion

The government must revise the Acts in order to effectively and correctly conserve and safeguard the interests of people while not excluding local industries, farmers, scientists, and marketplaces while also benefiting the larger part of society.

Patent rights must be understood as an incentive system in which the attraction of a temporary monopoly motivates innovators to create new technologies and publicly disclose the ideas that emerge.

However, if the patent incentive is distributed haphazardly, it may not attract inventors to reveal their ideas with any significant profit. The nature of the breakthrough has a big influence on its

⁵⁴ Mohan Dewan, *supranote 4*

⁵⁵ " Intellectual Property Protection of Plant Varieties in Asian Developing Countries *Wenqi Liu and Lingyun Gu*, *Biotechnology Law Report* 2008 27:6, 525-531

⁵⁶ *Supranote 56*

impact; some innovations have negative consequences, while others have favorable consequences. If the former is given patents without concern for the implications, it may lead to the proliferation of hazardous technology while inhibiting the development of safer alternatives. Even allowing a brief monopoly may limit access to the rich, which would violate fundamental principles of justice and human rights. This is notably true for drugs, medical treatments and equipment, as well as agricultural systems and items. As a result, the breadth of patentable subject matter should be tailored to accommodate the aforementioned issues.

In light of growing concern in the majority of the world's economies, particularly in developing and least developed countries, India has attempted to develop a balanced approach to addressing concerns and assimilating the aspirations of various actors and participants in terms of preserving, securing, and guaranteeing their rights and privileges in proportion to their participation. While the Plant Variety preservation and Farmers Rights Act 2001's unique concept of preservation and benefit sharing is often viewed as progressive, it is not without practical challenges that must be addressed with pruden.