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**THE PROTECTION OF PLANT VARIETIES AND
FARMERS' RIGHTS ACT, 2001 AND ITS IMPACT ON
FARMERS' RIGHTS IN INDIA: A STUDY WITH SPECIAL
REFERENCE TO KERALA**

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I do hereby declare that the dissertation titled, “**THE PROTECTION OF PLANT VARIETIES AND FARMERS’ RIGHTS ACT, 2001 AND ITS IMPACT ON FARMERS’ RIGHTS IN INDIA: A STUDY WITH SPECIAL REFERENCE TO KERALA**” researched and submitted by me to the National University of Advanced Legal Studies, Kochi in a partial fulfilment of the requirement for the award of Degree of Master of Law in International Trade Law, under the guidance and supervision of **Dr. JACOB JOSEPH**, is an original, bonafide and legitimate work and it has been pursued for an academic interest. This work or any type thereof has not been submitted by me or anyone else for the award of another degree of either this University or any other University.

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6. PepsiCo India Holdings Pvt. Ltd. v. Bipin Patel, Commercial Trademark Suit Number 23 of 2019.

ABBREVIATIONS

PPV&FRA	The Protection of Plant Varieties & Farmers Rights Act, 2001.
MNC	Multi-National Companies
UPOV	International Union for the Protection of New Varieties of Plants
GATT	General Agreement on Tariffs and Trade
FAO	Food and Agricultural Organization
IPR	Intellectual property rights.
TRIPS	Trade-Related Aspects of Intellectual Property Rights
PVP	Plant Variety Protection
SAI	Seed Association of India
NGO	Non-Governmental Organizations
PBR	Plant Breeders' Rights
FR	Farmers' Rights
RR	Researchers' Rights
GOI	Government of India
SAUs	State Agricultural Universities
DUS	Distinctiveness, Uniformity, and Stability
NDUS	Novelty, Distinctiveness, Uniformity, and Stability
ICAR	Indian Council of Agricultural Research

PVPAT	Plant Varieties Protection Appellate Tribunal
IPAB	Intellectual Property Appellate Board
NSL	Nuziveedu Seeds Limited
MMBL	Mahyco Monsanto Biotech Limited
PGR	Plant Genetic Resources
TK	Traditional Knowledge
KAU	Kerala Agriculture University
GI	Geographical Indications
NV	Notified variety
TLV	Truthfully Labelled Variety

CHAPTER 1

1.1 INTRODUCTION

Farmers' rights have consistently been at the forefront of global discussions due to their critical role in the social and political landscape of societies worldwide. As primary stewards of agricultural biodiversity, farmers are indispensable in the conservation and sustainable use of plant genetic resources, which are the backbone of global food systems. Recognizing and protecting farmers' rights is not just about acknowledging their contribution to food security but also about ensuring their ability to continue playing this vital role¹.

The protection of farmers' rights encompasses several key aspects. Firstly, it involves recognizing their invaluable knowledge and traditional practices in agriculture, which have been passed down through generations and are essential for the development of sustainable farming practices. Secondly, it includes supporting farmers in their right to use, exchange, save and sell farm-saved seed, which is fundamental to biodiversity and the resilience of food systems. Thirdly, it's about ensuring farmers' participation in governing with respect to the sustainable use and conservation of plant genetic resources. This participatory approach strengthens the governance of these resources, ensuring that policies and practices are inclusive and reflect the needs and priorities of the farming communities.

That is, the protection of farmers' rights is multifaceted, encompassing a range of critical dimensions essential for fostering sustainable agriculture and ensuring food security globally. At the core of these rights is the recognition of farmers' invaluable knowledge and traditional agricultural practices. Passed down through generations, this knowledge serves as the bedrock for advancing sustainable farming techniques, ensuring that agriculture remains responsive and adaptive to changing environmental conditions and societal needs.

¹ C.S. Srinivasan, *Exploring the Feasibility of Farmer's Right*, 21(4) Development Policy Review 419-447 (2003).

Furthermore, supporting farmers in their right to save, utilize, exchange, and sell farm-saved seed is paramount. This practice is not only a cornerstone of agricultural biodiversity but also plays a crucial role in enhancing the resilience of our food systems against pests, diseases, and environmental stresses. By promoting the free exchange and utilization of seeds, we can ensure the conservation of plant genetic diversity, which is indispensable for crop improvement and the future security of our food supply.

Moreover, the active participation of farmers in the decision-making processes concerning the conservation and sustainable use of plant genetic resources is vital. A participatory approach in governance enables the development of policies and practices that are not only inclusive but also accurately reflect the needs, wisdom, and priorities of the farming communities. By involving farmers directly in these dialogues, we can develop a sense of ownership and responsibility among them, ensuring that the conservation efforts are more effective and sustainable in the long run.

It is clear that the protection of farmers' rights is not merely a matter of ethical consideration but a strategic imperative for the sustainability of global agriculture. By respecting these rights, we are laying the foundation for a resilient, equitable, and sustainable food system that benefits not only the current generation but also future generations. It is incumbent upon all stakeholders, including governments, agricultural organizations, and civil society, to work collaboratively towards the full realization of farmers' rights, thereby ensuring the long-term viability of our global food systems.

Furthermore, safeguarding farmers' rights is crucial for fostering an environment where farmers can access, benefit from, fairly distribute the advantages that result from using plant genetic resources. plant genetic resources. This not only promotes the sustainable management of these resources but also supports the livelihoods of farmers, thereby contributing to rural development and poverty reduction².

² Ronan Kennedy, *International Conflicts over Plant Genetic Resources: Future Development*, 20(1) TELJ, 1- 42, 2 (2006).

In essence, the protection of farmers' rights is integral to achieving food security and sustainable agriculture globally. It calls for concerted efforts from commercial industry, civil societies, and international organizations and governments to implement policies and measures that recognize and support the multifaceted roles of farmers. By doing so, we ensure a future where agricultural biodiversity thrives, and with it, the health and well-being of generations to come.

Since the beginning of time, farming communities all over the world have shared resources and knowledge. Among these traditional agricultural traditions³, the most significant aspect may be the sharing of seeds among farmers. Unfortunately, the people who created these riches stayed anonymous in trade and business, and the private agrarian sector took advantage of their resources. In spite of their centuries' worth of labour and accomplishments, they were neither consulted, benefitted from, nor even informed. The Multinational Companies (MNCs) acquired ownership rights with the establishment of the Intellectual Property Regime. For their own financial benefit, they wilfully exploited the resources of underprivileged and illiterate farmers in developing countries. The impoverished farmer lost their source of income and continued to be impoverished as a result of having to purchase seeds at fixed prices set by private businesses. The abrupt change in stance from the "anti-commons" to the "commons" camp has had an impact on farmers' socioeconomic and political standing and there arose a need for the exclusive protection of Farmers' rights⁴.

The International union for The Protection of New Varieties of plants (UPOV)⁵, established in 1961, constituted a critical turning point in the international effort for the protection of the rights of farmers and breeders. This initiative was born out of the recognition of the critical need to safeguard novel plant varieties. Such protection was deemed essential not only for the benefit of the agricultural community but also for ensuring food security and fostering innovation in plant

³ Stephen B. Brush, *Farmers' Rights and Genetic Conservation in Traditional Farming Systems*, 20(11) World Development 1617-1630 (1992)

⁴ Food and Agricultural Organization, Report of the Second Session of the Governing Body of the International Treaty in Plant Genetic Resources for Food and Agriculture held in Rome, 29 October – 2 November 2007, Doc. No. IT/GB-2/07/Report.

⁵ UPOV Conventions <http://www.upov.int/en/publications/conventions/> (Last visited Jan 19 2023)

breeding. UPOV sought to balance the interests of farmers, breeders, and the wider public by introducing an intellectual property system tailored for plant varieties.

The UPOV Convention underwent several revisions – in 1972, 1978, and most recently in 1991 – reflecting the evolving understanding of agricultural needs, technological advancements, and the changing landscape of plant breeding. These amendments aimed to strengthen the protection offered while ensuring that the system remained adaptable and responsive to new challenges and opportunities in agriculture.

Central to the UPOV agreement is the recognition of the dual necessity to preserve existing plant varieties and to provide robust protection for the new ones. By doing so, UPOV facilitates the introduction of innovative plant varieties, which can lead to increased agricultural productivity, improved crop resilience, and enhanced food security. This, in turn, supports the livelihoods of farmers and contributes to the economic and social well-being of communities around the world.

Furthermore, the UPOV system emphasizes the importance of sharing the benefits arising from the use of protected plant varieties. It encourages the dissemination of knowledge and technology related to plant breeding, thereby fostering a collaborative setting that is advantageous to all those who are engaged in the agricultural sector.

The establishment of UPOV was a groundbreaking step towards recognizing and protecting the intellectual property rights of plant breeders and farmers. Through its conventions and revisions, UPOV continues to play a vital part in advancing global food security, biodiversity, and agricultural growth.

The legal right granted to an inventor or creator to keep their idea or innovation secret for a predetermined amount of time is known as intellectual property rights, or IPR. Legislators began recognizing the creation of minds through a term called Intellectual Property Rights. The goal of the development of intellectual property (IP) is to safeguard the rights of creative individuals, which allows a creator to acquire his creation as property and enjoy rights over it to the

extent of preventing others from using it. This was done in an effort to satiate that kind of human urge as well as to support research and development. The goal of the development of intellectual property (IP) is to safeguard the rights of creative individuals.

Intellectual property rights (IPR) protection was extended to agriculture following the Uruguay Round of negotiations in 1994, even though some wealthy countries had prior protection.

The extent of farmers' rights has been highlighted in TRIPS⁶ under Article 27. According to Article 27.3(b)⁷ of the TRIPS agreement, which addresses trade-related aspects of intellectual property rights, member nations are advised to safeguard the rights of plant breeders and farmers by implementing either a sui generis system or a patent system that includes distinct provisions for the protection of plant varieties and farmers. India, in order to fulfil the TRIPS obligations, has enacted PPV&FRA (Protection of Plant Varieties and Farmers' Rights Act, 2001) since adopting UPOV as it is not advantageous for a developing agricultural nation like India as UPOV favours the industrialist countries. Hence, most of the developing nations construe sui generis systems in this behalf. Also, under the subjects of TRIPS, there is no mention of need for adherence to UPOV.

India's legislation for protection of Plant Varieties known as 'Protection of Plant Varieties & Farmers Rights Act, 2001' chose sui generis option as provided in TRIPS. India is one of the few countries having specific legal provisions addressing farmers' rights. Since farmers' rights are primarily the concern of developing countries, an analysis of farmers' rights regime in India has particular relevance.

The present Indian Patent Act of 1970 excluded agricultural and agribusiness practices from being patentable. The sui generis method was developed to

⁶ Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex IC.

⁷ "Plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof."

preserve plant types while taking into consideration the rights of farmers, village communities, and breeders as well as the challenges of equitable benefit distribution.⁸

The printed version of the Act is published in the News-letter of Seed Association of India. The Act has 11 chapters and is divided in 97 clauses. The first chapter has title, and the definitions used in context of the Act. The last chapter is on miscellaneous clauses. The other nine chapters deal with PPV&FR authority, registration of plant varieties', duration and effect of registration and benefit sharing, surrender and revocation of certificate, farmer's rights, compulsory licence, plant varieties protection appellate tribunal, finance, accounts, audit, infringement, offences and penalties, etc.

The legislation's "Farmers' Rights" section, included in Chapter VI, is its most important component. Farmers' methods are generally recognized and safeguarded by the PVP Act. Farmers shall have the same rights under the to "save, use, sow, resow, exchange, share, or sell" agricultural products, such as protected variety seed, as they did before the PVP Act⁹.

1.2 STATEMENT OF THE PROBLEM

The protection of plant varieties & farmers' rights act (PPV&FRA) was passed, but there is still a big lacuna in guaranteeing that farmers' rights are fully protected in relation to plant variety protection. The PPV&FRA's benefits are difficult for farmers to obtain, there are insufficient procedures for enforcing the law and addressing rights violations, and there are a number of other issues that contribute to this issue. The problem is further made worse by the ineffective cooperation between stakeholders, including government organizations, seed corporations, and farmer groups.

The absence of robust mechanisms for the recognition and protection of farmers' contributions to agricultural biodiversity and their traditional knowledge

⁸ Ibid at pg.26.

⁹ Farmers' variety is defined in the PVP Act as a variety which - (i) has been traditionally cultivated and evolved by the farmers in their fields; or (ii) is a wild relative or land race of a variety about which the farmers possess the common knowledge. See Protection of Plant Varieties and Farmers' Rights Act, 2001, Section 2(l).

hampers sustainable agriculture practices and undermines the socio-economic well-being of farmers, particularly smallholders and marginalized communities. Furthermore, the potential exploitation of farmers' varieties without their consent or fair compensation threatens their livelihoods and perpetuates inequities in the agricultural sector.

1.3 RESEARCH QUESTIONS

- How effectively the Protection of Plant Varieties and Farmers' Rights act, 2001 protected the rights of farmers', including seed saving and seed exchange practices?
- Whether the Protection of plant Varieties and Farmers' Rights act, 2001 influence the access of small-scale farmers to improve and diverse plant varieties?
- What are the gaps and ambiguities present in the act, particularly in relation to farmers' rights?
- To what extent the farmers are aware of their rights and entitlements as stipulated in the PPV&FRA, 2001

1.4 SCOPE OF THE STUDY

The study aims to assess and evaluate the efficacy of the protection of plant varieties and farmers' rights act, 2001 in safeguarding the rights of the farmers and to examine the impact of the PPV&FRA, 2001 on small scale farmers and their agricultural practices. The study also analyses the existing gaps and ambiguities within the legislation and its actual implementation, with a view to identify areas that may require improvement. The study also focuses on empirical method to assess the awareness of farmers' rights with respect to the act.

1.5 HYPOTHESIS

The PPV&FRA, 2001 has effectively protected the intellectual property rights of farmers', allowing them to engage in seed saving and seed exchange

practices without undue restrictions. However, a majority of the farmers have limited awareness and understanding of their rights in the act leading to underutilisation of the legal protections and benefits afforded to them under the law.

1.6 RESEARCH METHODOLOGY

The study will employ a combination of doctrinal and non-doctrinal methods. legislations and case laws will be analysed to understand the scope and extent of the legal framework. Quantitative data with respect to awareness will be collected using the survey method and qualitative data with respect to effectiveness and related matters will be collected using the interview method by interviewing agricultural scientists, farmers from selected districts of Kerala and Academics working in the field of Intellectual Property Rights.

1.7 CHAPTERIZATION

- 1.7.1 CHAPTER 1-** This chapter lays out the Introduction of the topic of study, discusses the scope of the dissertation, reviews the relevant literature referred and studied, and establishes the hypothesis for the study.
- 1.7.2 CHAPTER 2-** The chapter involves the historical perspective and evolution of the Protection of Plant Varieties and Farmers' Rights Act, 2001, its objectives, salient features, its implementation, functions of the authority in the implementation of the Act, the chapter also depicts the need for IPR protection in plant varieties and its intersection with the farmers' rights. The chapter also focuses on the new PPV&FRA amendment bill no.117 of 2021 which awaits implementation.
- 1.7.3 CHAPTER 3-** The chapter revolves around the balancing of intellectual property rights and farmers rights, it also deals with the gaps and ambiguities in the legislation and some case analysis which shows the gaps and ambiguities in the legislation, the chapter also focuses on the inconsistencies of seed policies with that of PPV&FRA and PPV&FRA's intersection with the GI's as well important implementational challenges have been discussed under this chapter.

The chapter is also focused on examining the empirical data collected concerning the efficient implementation of PPV&FRA. The empirical analysis is conducted based on information gathered from farmers in the Kadamakkudy region, Ernakulam, including direct conversations with the Secretary and Vice President of the Padasekharam Samithi in Kadamakkudy, interactions with the officer at Krishi Bhavan in Kadamakkudy Panchayat, and consultations with some Agricultural Scientists, Officers, and Academics active in the sector. The primary emphasis of the chapter is on identifying significant obstacles to the successful enforcement of PPVFRA, along with measuring the level of awareness about this act among its stakeholders, particularly the small-scale farmers.

1.7.4 CHAPTER 4- It includes the conclusion of my study; The conclusion of my study encapsulates the critical insights garnered from an extensive exploration of the Act. These insights were meticulously derived through a multi-faceted approach that included a detailed analysis of the relevant legislation, a thorough review of pertinent case laws. Additionally, the study benefitted greatly from conducting interviews with a with a wide range of candidates, which includes farmers who are directly impacted by the Act and experts who has a deep knowledge and understanding of the legal and socio-economic dimensions of the legislation. Through this comprehensive investigative process, the study unveils important findings that shed light on the effectiveness, challenges, and broader implications of the Act, offering a nuanced perspective on its real-world impacts and potential pathways for future policy development.

1.8 LIMITATIONS OF THE STUDY

The study primarily adopts a doctrinal methodology, complemented by an empirical analysis based on a survey conducted among the farming community within the Kadamakkudy Panchayat, located in the Ernakulam district of Kerala, India. This aimed to understand the awareness levels and understanding among the farmers regarding the Protection of Plant Varieties & Farmers' Rights (PPV&FR) Act, alongside assessing the direct benefits they have reaped under

the provisions of this legislation. To enrich the empirical data and gain a comprehensive insight into the intersection of Intellectual Property Rights (IPR) and Agriculture, in-depth discussions were also held with a selected group of academics and subject-matter experts who have dedicated a significant part of their careers to studying and working within these fields. Through this multifaceted research approach, the study seeks to provide a detailed overview of the impact of the PPV&FR Act on the agricultural practices and livelihoods of the farmers in Kadamakkudy Panchayat, and offer recommendations for enhancing the efficacy and reach of this pivotal legislation within the agrarian society of Kerala.

1.9 LITERATURE REVIEW

M.S. Swaminathan, *The Protection of Plant Varieties & Farmers' Rights Act: From Legislation to Implementation*, *Journal of Intellectual Property Rights*, 7 *JIPR*, 324-329(2002). This article has endorsed the protection of plant varieties by sui generis law. According to his opinion, the Act's provisions cannot be implemented effectively unless significant efforts are made to raise awareness and empower people with information. He has emphasized that resource centres for farmers' rights are necessary to guarantee that farmer-breeders and conservators receive the acknowledgment and compensation granted under the Act.

Philippe Cullet, 'Plant Variety Protection: Plant Breeder's Rights and Sui Generis Systems', *EWP*, 3607(2005). The article has investigated PVP and the how the plant variety protection regime upholds the interests of plant breeders. The implementation of plant variety protection in India carries substantial consequences, as seed was formerly mostly provided by public and farmer organizations, with the private sector holding a minor role in most crops until recently. He also opines that in the context of the widespread ratification of TRIPS and the increasingly tenuous nature of farmers' hold over their resources and knowledge, it is necessary to go beyond criticism and understand the additional requirements of the current international legal system with respect to the needs of farmers and more broadly of food security for all individuals.

Bala Ravi, S., “Effectiveness of Indian Sui generis Law on Plant Variety Protection & its Potential to Attract Private Investment in Crop Improvement”, 9 JIPR, 533-534(2004). The author in this article has further declared that the lack of a definition for the sui generis system of plant variety protection in Trade-Related Aspects of Intellectual Property Rights (TRIPS) has made it controversial. He also agrees that India enacted the Plant Varieties Protection and Farmers' Rights Act in 2001, a sui generis law, and published its regulations in 2003. The breadth and clarity of the legislation's legal provisions, related rules, and regulations determine how effective it is. The efficacy is also influenced by how these are put into practice. The Act is effective in both design and scope, according to a review of its regulations that applies some de minimis conditions necessary to guarantee the effectiveness of an IPR system.

Dr. Madhu Sudan Dash Head of the Department, P.G. Department of Law, Utkal University, Bhubaneswar, Odisha, “Plant Variety Protection in India–The Issues and Challenges”, 4, .3-5(2015). According to the author, India has attempted to develop a balanced approach in addressing the concerns and assimilating the aspirations of various actors and participants in terms of preserving, securing, and guaranteeing them their rights, privileges in proportion to their participation. This is in light of the growing concern in the domain of food security in most of the world economies, especially the developing and least developed countries. Although the Plant Variety Protection and Farmers Rights Act of 2001's innovative benefit-sharing and protection mechanism is widely acknowledged to be progressive, there are still a number of real-world issues that need to be carefully considered.

N. Lalitha, “Intellectual Property protection for Plant Varieties: Issues in focus”, 39 EWP, 1921-1927(2004). In this article, N. Lalitha meticulously underscores the pivotal significance of achieving an equitable balance between the proprietary rights of plant breeders and the traditional rights of farmers. She delves into the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA), highlighting its role as a comprehensive legal mechanism designed to safeguard plant varieties while simultaneously upholding the rights and interests of farmers. Despite its robust framework, the author points out the Act's

effectiveness is considerably undermined by a myriad of operational challenges. These include, but are not limited to, the hurdles faced in its implementation, a pervasive lack of awareness about the Act among its key stakeholders, and notable resource limitations that hinder its scope and reach.

Parameswaran Prajeesh, "Farmers' Rights to Seeds: Issues in the Indian Law", 50 EWP, 16-18(2015). This article discusses the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001. Author states that this legislation recognizes farmers' rights to use, exchange, save and sell seeds, but also imposes an annual maintenance fee for the legal protection of registered varieties. Even though, the Act defines farmers as cultivators, conservators, and breeders, granting them nine specific rights, the requirement to pay fees contradicts the Act's aim to support economically disadvantaged farmers, raising concerns about its implementation and fairness.

Shaila Seshia, "Plant Variety Protection & Farmers' Rights: Law-Making and Cultivation of Varietal Control", Economic and Political Weekly, Vol. 37, No. 27, pp. 2741-2747(2002). This article delves deep into the complex issue of proprietary claims and the intricate legal landscape that surrounds them. It examines how these claims and the laws recognizing them emerge from a multifaceted interplay of several factors. The discussion begins with an exploration of international frameworks, highlighting how global agreements and conventions provide a backdrop against which nations frame their proprietary laws. Through this, the article aimed to investigate how proprietary rights to Plant Genetic Resources (PGRs) are established via the evolution of India's Protection of Plant Varieties and Farmers' Rights legislation.

P. Venkatesh, I. Sekar, G. K. Jha, Premlata Singh, V. Sangeetha and Suresh Pal, "How do the stakeholders perceive plant variety protection in Indian seed sector?", 110 Curr sci., 2239-2244(2016). A perception survey was conducted among stakeholders in the seed industry across India during 2011-2012. The study found that contrary to the belief that IPR does not contribute to innovation, the majority of stakeholders had a positive view of plant variety protection (PVP). They recognized PVP as a driver of innovation and beneficial for the agricultural sector. However, the study also highlighted the challenges and areas

where the Indian PVP system could be improved, such as the need for greater awareness and streamlined processes for better implementation and benefit distribution among different stakeholders, including farmers and breeders.

CHAPTER 2

OVERVIEW OF THE PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS ACT, 2001

2.1 HISTORICAL PERSPECTIVE ON FARMERS' RIGHTS AND EVOLUTION OF PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS ACT, 2001

India's agricultural sector forms the backbone of its economy, supporting the livelihood of a significant portion of its population. Recognizing the pivotal role played by farmers in nurturing and preserving the country's rich genetic diversity through their meticulous observation and expertise, the Indian government took a landmark step by enacting the Protection of Plant Varieties and Farmers' Rights Act of 2001 (PPV&FRA). This legislation was introduced to align India's policies with the requirements of the Trade-Related Aspects of Intellectual Property Rights (TRIPS), marking a significant milestone in the country's legislative landscape.

The PPVFRA is notable for being one of the pioneering initiatives worldwide to explicitly acknowledge and protect farmers' rights, positioning India at the forefront of global efforts to safeguard these rights¹⁰. Characterized by its sui generis nature, the Act is designed to delicately balance the interests of both farmers and breeders, reflecting the complex interplay between agricultural innovation and biodiversity conservation against the backdrop of India's vast farming community.

India's commitment to protecting the rights of both farmers and breeders under this Act is a testament to its innovative approach to intellectual property rights in the agricultural sector. By enabling farmers to register and protect their varieties, the legislation empowers them to actively participate in the conservation and sustainable use of the country's genetic resources. This, in turn, contributes to the broader objectives of food security and agricultural development, ensuring that India's agricultural heritage is preserved for future generations.

¹⁰ Dr. Madhu Sudan Dash, *Plant Variety Protection in India—The Issues and Challenges*, 4 IJSR,3-5(2015).

Moreover, the PPV&FRA underscores India's leadership role among developing nations in advocating for the protection of farmers' rights on the international stage. Through its proactive stance in international negotiations, India has become a key player in shaping the global discourse on agricultural biodiversity and farmers' rights supporting legislation that identifies and compensates invaluable contributions of farmers to the preservation of genetic diversity.

India is predominantly an agricultural country. Farmers' rights are very crucial in developing countries like India to ensure present and future food security where the farmers are majorly responsible for development of vast genetic diversity resources through keen observation and intelligence. India passed the Protection of Plant Varieties & Farmers Rights Act of 2001(PPV&FRA) in order to comply with its TRIPS requirements. With the passage of the Protection of Plant Varieties & Farmers Rights Act, 2001 (PPV&FR)¹¹, India became one of the first nations in the world to offer farmers' rights. The Act is a unique sui generis system which attempts to strike a balance between the rights of farmers and breeders in light of the nation's sizable farming population. The law of India is distinct in that it seeks to safeguard farmers and breeders at the same time. It makes an effort to give farmers the ability to register their inventions and safeguard current (existing) varieties. India is a nation abundant in genetic resources and biodiversity. India is a pioneer in the developing world, leading international negotiations to guarantee the defence of farmers' rights.

The New Seed Policy of 1988, which let large Indian and multinational (MNC) corporations to invest in the production of hybrid seeds and agricultural biotechnology, marked a significant shift in India's Plant Variety Protection policy¹². This made it possible to acquire seeds and work with international businesses on agricultural research projects. As a result, Indian subsidiaries of international corporations established themselves well and by 1985 established the Seed Association of India (SAI). A SAI-organized conference resulted in

¹¹ The Protection of Plant Varieties and Farmers' Rights Act, No. 53 of 2001; INDIA CODE (2001) available at <http://indiacode.nic.in/fullactl.asp?tfnm=200153>. (Hereinafter, PPVFA). The President of India has assented to the PPVFA but the enactment has not come into force as of January 2007.

¹² Shaila Seshia, *Plant variety protection and farmers. rights: law-making and cultivation of varietal control*, M.Phil. Dissertation. Sussex, England: University of Sussex, 2001

groundbreaking laws protecting plant variety. Many NGOs and farmer organizations protested against the exclusive rights granted to breeders, calling for the agriculture environment to be treated as a unique instance and to make use of the flexibility afforded by TRIPs. The initial version of the Bill, which was drafted in 1993–1994, was heavily criticized for giving plant breeders rights in order to comply with UPOV. This draft was also criticized for failing to include the idea of ownership rights under farmers' rights. The first statute gave the public sector some thought by registering rights over "extant variety." This draft included provisions protecting farmers' rights to preserve, use, trade, share, and sell seed propagation material, with the exception of branded seed sales, and community rights to profits resulting from the usage of their genetic material. However, the idea of farmers gaining ownership rights through registration was non-existent. In 1996 and 1997, the Ministry of Agriculture drafted a second and third draft in response to considerable opposition from NGOs and industry¹³. The third draft of the law was dubbed the Plant Variety Protection & Farmers' Rights Act and included the words "Farmers' Rights" in the title. However, NGOs attacked both of the laws for failing to give farmers enough protection. NGOs asserted that the bill's benefit sharing provisions were ambiguous, that farmers were not represented on the Authority, and that there was no mechanism in place for registering farmer varieties. The fourth draft was introduced in Parliament in 1999 which was sent to a Joint Parliamentary Committee to redraft the bill considering opinions of NGOs, industry, scientists and farmers. The final and fourth version of the bill was introduced in 2001 and became law. The Act found new chapter on registration of farmers' varieties and detailed provision on farmers' rights. NGOs accepted the bill as it provided for a mechanism for granting protection for farmers' varieties on par with breeders' varieties.

The Protection of Plant Varieties & Farmers' Rights Act (PPV&FR Act) of 2001 marks a groundbreaking advancement in the establishment of a balanced and comprehensive legal framework within India. This pivotal legislation is designed to uphold and advocate for the rights and interests of both farmers and

¹³ Ashish Kumar Singhal, *Plant Patenting and Farmers Right Under Iprs Law with Special Reference to Indian Iprs Law*, 1 JABE, 26-35 (2014).

breeders, ensuring that their contributions to the agricultural sector are recognized and protected. The Act serves a dual purpose. Firstly, it encourages the registration and safeguarding of new plant varieties, thereby contributing to the enhancement of India's rich genetic reservoir. By providing a structured mechanism for the recognition of breeders' rights, the Act paves the way for innovation and development in the field of agriculture. This, in turn, promotes the introduction of superior plant varieties that can lead to increased agricultural productivity and sustainability.

Secondly, and most importantly, the PPV&FR Act places farmers at the core of India's agricultural policies, acknowledging their invaluable role in maintaining and enriching biodiversity. It recognizes the traditional knowledge and contributions of farmers by granting them rights that include conserving, using, sowing, re-sowing, exchanging, and selling their farm produce, albeit with certain restrictions to protect the rights of registered breeders. This ensures that farmers are not sidelined by the commercial interests of breeding companies and that their contributions towards the conservation of plant genetic resources are duly acknowledged and rewarded.

The Act, therefore, acts as a bridge between the protection of breeders' intellectual property rights and the preservation of farmers' traditional rights. By doing so, it addresses the critical challenges of food security and agricultural sustainability in India. It stands as a testament to India's commitment to agricultural innovation, the protection of genetic diversity, and the honouring of the foundational role farmers play in this ecosystem¹⁴.

Moreover, the Act's emphasis on both conservation and development reflects India's broader commitment to sustainable agriculture and food security.

The Protection of Plant Varieties and Farmers' Rights Act of 2001 is not merely legislation; it is a visionary approach towards achieving sustainable agricultural development. It encapsulates India's strategic efforts to harmonize the roles of breeders and farmers in propelling the agricultural sector forward, while ensuring that the nation's genetic treasures are preserved and utilized

¹⁴ Pratibha Brahma, *The Protection of Plant Varieties and Farmers' Rights Act of India*, 86, *Curr. Sci.*, 392,394-397(2004).

responsibly. As such, the act stands as a critical element in India's pursuit of a more sustainable, equitable, and prosperous agricultural future, embodying the country's dedication to nurturing the symbiotic relationship between its land, its people, and their collective future.

2.2 INTELLECTUAL PROPERTY RIGHTS AND FARMERS' RIGHTS

Protecting intellectual property (IP) is essential for encouraging innovation and creativity, which are critical for a nation's development. Intellectual property rights primarily aim to stimulate new inventions by offering the possibility of exclusive rights for a certain period as an incentive for being innovative. These rights cover a broad spectrum of creations, including books, software, TV shows, performances, medicines, and genetically engineered plants. The primary mechanism for achieving this is by enabling creators to keep competitors from joining the market for a designated time¹⁵. The main goal behind these rights is to foster industrial innovation by promising greater rewards than what would typically be available in the market. As a result, intellectual property rights led to the commodification of their subjects. Additionally, the intellectual property rights of farmers have emerged as a significant area within the IP framework, aimed at safeguarding the proprietary rights of farmers over their plant varieties and promoting sustainable agricultural development. IP protection for farmers is designed to support them in their roles as guardians and innovators of agricultural biodiversity, by acknowledging and compensating them for their contributions to the worldwide reservoir of genetic resources¹⁶.

Plants and their derivatives have long been at the centre of patent litigation, tracing back to the inception of the first generation of patent laws. Initially, the scope of these laws did not extend to plants, agricultural products, or the methods employed in agriculture and horticulture, leaving a significant portion

¹⁵ Ashish Kothari and R.V. Anuradha, *Biodiversity, Intellectual Property Rights, and the GATT Agreement: How to Address the Conflicts?* 2 *Bio policy Journal*. (1999).

¹⁶ Regine Andersen, *About Farmer's Rights*, The Farmers' Rights Project, (Mar 3, 2024) <http://www.farmersrights.org/about/index.html>.

of biological innovation outside the realm of patent protection¹⁷. This was a reflection of the times, as many countries that began to implement patent laws as early as the nineteenth century adhered to a narrow interpretation of what constituted an invention worthy of such protection. According to these early statutes, only a limited range of inventions, primarily mechanical or industrial in nature, were deemed eligible for patents.

This exclusion from patent eligibility presented a significant challenge to innovators in the fields of botany, agriculture, and horticulture, who sought recognition and protection for their contributions to these vital areas of human endeavour. The evolution of patent laws over time has gradually broadened the criteria for what is considered patentable, including a more inclusive approach to biological inventions. This shift has sparked a complex and ongoing debate about the balance between encouraging innovation through patent protection and ensuring the accessibility of essential biological resources and agricultural practices.

The journey of plant-related patents from their initial exclusion to their contentious inclusion underscores the dynamic nature of patent law and its attempt to adapt to the expanding frontiers of human invention. As we move forward, the challenge remains to craft laws that adequately protect the rights of inventors while also considering the broader impacts on biodiversity, food security, and the rights of farmers and indigenous communities¹⁸.

Every patent awards the holder the authority to prevent others from manufacturing, using, or marketing the patented product or method. Nonetheless, patents need to be accessible to the public through patent documentation. In Europe and the US, plant inventions failed to meet the legal criteria, which include originality, novelty, an inventive step, usefulness, and sufficient disclosure.

The Patent Act of 1970, along with its amendments in 1999 and 2002, was introduced in India. These laws primarily allowed for patents in the field of agricultural tools, machinery, and the processes involved in developing

¹⁷ *Supra* note 23.

¹⁸ *Ibid.*

agricultural chemicals. Patents were mainly granted for agricultural equipment, machinery, or methods related to the development of agriculture or horticulture¹⁹. This included life forms or microorganisms, such as plant varieties, animal strains or breeds, fish, or birds, and products resulting from chemical or biochemical processes. However, any method for medical, surgical, healing, preventive treatments, or any other treatment for animals or plants aimed at making them disease-free or enhancing their economic value or that of their products were not considered eligible for patents under this regime. The legislation did not provide protection for plant varieties and failed to secure farmers' rights²⁰.

The previous few decades have seen significant improvement and innovation in agriculture and IPR²¹. Over the last twenty years, the scope of intellectual property (IP) protection has significantly expanded, encompassing a broad spectrum of knowledge, materials, and products related to food and agriculture. This extension is largely due to the recognition of the critical role that intellectual property plays in fostering innovation and economic growth within these sectors. However, the application of IP rights to living organisms, including microorganisms, plants, animals, and their respective components, has introduced a complex array of ethical issues and raised questions about the limits of patentability²².

The expansive nature of patent rights over living entities has necessitated substantial changes in national laws and the legal frameworks of numerous jurisdictions worldwide. These changes reflect a growing need to balance the interests of different stakeholders in the agriculture sector, including those of inventors, farmers, and the broader public. One of the most contentious issues arising from this legal evolution is the impact of IP rights on farmers and the legitimacy of their traditional practices. The enforcement of patents on seeds and other biological materials can restrict farmers' access to these resources,

¹⁹ Welcome to ICAR | भारतीय कृषि अनुसंधान परिषद (Jan 3, 2023), <https://icar.org.in/>

²⁰ BNLEGAL <https://bnlegal.com/article/agriculture-ipr-india/> (Jan 17 2023)

²¹ World information (1970) Wildlife conservation, Wildlife Conservation., (Jan 10, 2024) <https://projectworkworld.blogspot.com/2011/04/wildlife-conservation.html>.

²² Swaminathan, M S, *Ensuring Food for All. In: Science and Technology for Achieving Food*, EHS 123- 168. (1996).

thereby affecting their livelihoods and the sustainability of agricultural practices that have been passed down through generations.

Moreover, the commercialization and industrialization of agriculture have placed unprecedented pressure on the world's biological diversity. The push for high-yield, patent-protected varieties of plants and animals often leads to a decrease in the genetic diversity of crops and livestock. This reduction in diversity not only undermines the resilience of agricultural systems to pests, diseases, and changing environmental conditions but also poses a significant threat to global food security.

As the agricultural sector continues to evolve within the global economy, it is imperative to find executable solutions that address the rights and interests of all stakeholders, including plant breeders, growers, and other participants in the market²³. The challenge lies in crafting policies and legal frameworks that support the development and dissemination of innovative agricultural technologies while also ensuring that these advances benefit society as a whole.

Ensuring the intellectual property rights to different plant varieties is essential for incentivizing investment in agricultural research and development. Such investment is crucial for advancing genetic improvements, enhancing the nutritional quality and yield of crops, and developing resistance to pests and diseases. Furthermore, a robust IP system can play a vital role in alleviating poverty by promoting economic development and self-sufficiency in agricultural communities.

Since, the Patent Act, 1970 did not provide protection for plant varieties and failed to secure farmers' rights²⁴, The Government of India passed "The Protection of Plant Varieties and Farmers' Rights" (PPV&FR) Act, 2001, a sui generis system of plant variety protection, in accordance with the TRIPS Agreement and other policy developments²⁵.

²³ Kshitij Kumar Singh, *Intellectual Property Rights in Agricultural Biotechnology and Access to Technology: A Critical Appraisal*, 18 ABDR, (2023)

²⁴ Supra note 23

²⁵ The protection of plant varieties and farmers' rights act, 2001, No.53, Acts of Parliament 2001 (India)

All intellectual property rights (IPRs) are designed to maintain a balance between individual profits granted through exclusive rights and the public advantages that should derive from the implementation of these rights. Particularly, the exclusive rights bestowed by Plant Breeders' Rights (PBR) grant a form of monopoly over the sale of new plant varieties' seeds or propagating material. However, it's critical that these materials are accessible to those in need, especially small-scale and marginalized farmers, providing them with the means to increase their income or realize other direct benefits to society. The financial benefits enjoyed by holders of PBR through their exclusive sales rights are meant to encourage further investment in the enhancement of crops or other agricultural areas, ultimately benefiting the broader agricultural community and the Indian farmers in particular. In essence, if the monopolization of a plant variety or its cultivation method becomes prohibitively expensive for most farmers, the PBR fails to deliver the public benefit it was supposed to. This situation is especially critical in countries with a large number of financially disadvantaged farmers, highlighting the need for public policies that can equitably balance the costs of technology and the profits of PBR holders with the technology's affordability for farmers. One policy mechanism employed in the legislation of many countries to address this concern is the compulsory license, a tool that allows regulatory bodies to monitor and curb monopolistic practices that are against the common good, especially when the technology has significant public value, with little to no alternatives available and is crucial for the livelihoods of many.

The PPV&FR Act incorporates four critical mechanisms that are aimed at ensuring balance: Farmers' Rights (FR)²⁶, Researchers' Rights (RR)²⁷, compulsory licensing²⁸, and the possibility of revoking registration. While FR and RR are not primarily designed as balancing tools, they do serve a purpose in creating equilibrium. The FR might alter the exclusivity of rights variably, influenced by the propagation technique and technology deployed in mass production of breeding materials. RR has the potential to reduce the commercial

²⁶ PPVFRA, supra note 18.

²⁷ Supra note 35.

²⁸ PPVFRA, S.47-S.53.

lifespan of a plant variety, especially when competitors utilize the same genetic materials, including the registered variety, to create enhanced breeds. The enhancement of genetics in crops benefits both the public and the country at every stage. Additionally, monopolizing genetic resources under a strict IPR framework and restricting access for further development for public benefit is deemed unethical and immoral. Compulsory licensing is a strategy designed to protect public interests from monopolistic tendencies, including the failure of an IPR-holder to utilize the intellectual property rights effectively. A key aim of the Act is to ensure that Indian farmers have access to high-quality seeds and planting materials. Sections 47 to 53 of the PPV&FR Act outline the criteria for compulsory licensing, which comes into play if the rights-holder of a Plant Breeders' Right (PBR) consistently cannot satisfy the demand for seeds or other propagation materials at reasonable costs. A plant variety is eligible for compulsory licensing three years after its registration, considering the necessary infrastructure and time for producing commercial planting materials. The PPV&FR Authority has the authority to initiate compulsory licensing actions, either on its own initiative or based on a complaint. The process of granting such licenses includes providing fair compensation to the PBR-holder. Another objective of this Act is to foster accelerated agricultural progress through the development of genetically enhanced plant varieties. The Authority has the mandate to either independently or upon receipt of a specific complaint, revoke the registration of a variety that poses a threat to national or regional agricultural interests. The next chapter will be dealing with the balancing of IPR and Farmers Rights in detail and the challenges associated with it.

2.3 IMPLEMENTATION OF THE ACT

On November 11, 2005, in an effort to implement the provisions of the Act concerning the protection of plant varieties and the rights of farmers, the Ministry of Agriculture, Department of Agriculture and Farmers Welfare, Cooperation and Farmers Welfare, under the Ministry of Agriculture established this Authority. This move underscored the government's commitment to safeguarding biodiversity and the rights of those who cultivate and conserve it.

The Authority was established under Section 3 of PPV&FRA. It is led by a chairperson, who serves as the Chief Executive, ensuring that the organization's objectives are met efficiently and effectively. The structure of the Authority is designed to be inclusive and representative, comprising 15 members who are appointed as per the notification by the Government of India (GOI). This diverse composition includes eight ex-officio members who represent various Departments and Ministries, reflecting the interdisciplinary nature of agricultural and environmental governance. Their roles are crucial in integrating the Authority's objectives with broader governmental policies and initiatives. Additionally, the Authority includes three members from State Agricultural Universities (SAUs) and State Governments. These members are pivotal in bridging the gap between agricultural research, education, and policy implementation at the state level, ensuring that the Authority's endeavours are in sync with regional agricultural priorities and challenges.

The representation doesn't stop there; the Central Government nominates one representative each for farmers, tribal organizations, the seed industry, and women's organizations involved in agricultural activities. This inclusion ensures that the Authority is grounded in the realities of those directly involved in agriculture, from traditional knowledge holders to commercial stakeholders. It embodies a holistic approach to agricultural development and making sure that their voices are heard in the decision-making processes.

Lastly, the Registrar General serves as the ex-officio Member Secretary of the Authority. This role is pivotal for the administrative and operational functioning of the Authority, facilitating the implementation of its decisions and the execution of its mandate.

Overall, the establishment of the Protection of Plant Varieties and Farmers' Rights Authority represents a significant step towards safeguarding the interests of farmers and conserving plant varieties. Its inclusive and comprehensive

structure ensures a broad range of perspectives are considered in its governance, making it a key player in the agricultural sector's sustainable development²⁹.

2.4 FUNCTIONS OF THE AUTHORITY

The establishment of the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Authority, as articulated in the Act, is a fundamental component for the successful execution of its mandates. This Authority is given the significant role of fostering, using various appropriate strategies, the development and introduction of novel plant varieties. Moreover, it holds the important duty of protecting the interests of both farmers and breeders, a task that is explicitly detailed within Section 8 (1) of the Act. To achieve these objectives, the Authority is bestowed with several specific responsibilities. By effectively fulfilling these responsibilities, the PPV&FR Authority plays a pivotal role in enhancing the agricultural sector's growth and sustainability. Through its actions, it supports the creation of an environment which is in the path of innovation and progress in plant breeding, thereby ensuring food security and economic prosperity for all stakeholders involved³⁰.

- Creating DUS test guidelines (Distinctiveness, Uniformity, and Stability) for novel plant species- Creating guidelines for Distinctiveness, Uniformity, and Stability (DUS) tests is a crucial step towards ensuring that novel plant species are adequately protected and can be clearly differentiated from existing varieties. These guidelines serve as a framework for the evaluation of new plant species, aiming to certify that they meet certain criteria before being officially recognized.
- Creating a representation and record of the assortments enlisted- Creating a detailed and comprehensive documentation that accurately captures and catalogues the variety of elements enlisted, ensuring that each item is carefully described and recorded for future reference and analysis. This process not only facilitates a clear understanding of the existing assortment

²⁹ Protection of Plant Varieties and Farmers' Rights Act, 2001, Vikaspedia, (Jan, 20, 2024), <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>.

³⁰ Smita Mishra, *Community agro biodiversity conservation continuum: an integrated approach to achieve food and nutrition security*, 109 CS, 474, 478-484(2015).

but also aids in maintaining an organized and accessible record for stakeholders to review, study, and utilize in decision-making processes.

- **Mandatory listing offices for any kind of plant assortment-** For the purpose of regulation and oversight, it is imperative that offices are designated with the specific mandate of overseeing the cataloguing and listing of any variety of plant assortments. These offices are crucial for maintaining biodiversity, ensuring the ethical sourcing of plant materials, and facilitating research concerning different species.
- **Recording, listing, and arranging of farmer assortments-** The process of recording, listing, and arranging farmer assortments entails meticulously documenting each variety of crops that farmers cultivate, alongside their respective quantities. This includes keeping detailed records that outline the different types of grains, fruits, vegetables, and other agricultural products. By listing these assortments, one can organize and manage the diversity of crops more effectively, facilitating easier identification, tracking, and planning for future planting seasons. It also aids in understanding the agricultural landscape's biodiversity, helping in crop rotation and sustainable farming practices.
- **Acknowledging and compensating farmers, as well as the network of farmers, particularly the inborn and provincial networks involved in preservation and advancement-** The PPVFRA (Plant Protection, Varieties, and Farmers' Rights Authority) plays a crucial role in recognizing and financially compensating farmers and their networks. This includes especially those native and rural communities engaged in the important work of preserving and advancing agricultural practices. Through its initiatives, the authority has the duty not only to acknowledge the invaluable contributions of these communities to agriculture and biodiversity but also aims to provide them with the appropriate rewards and incentives that reflect their hard work and dedication. This structured support furthers the sustainable development of agricultural practices and ensures that traditional knowledge is preserved, celebrated, and passed down through generations. Additionally, by facilitating a robust network of farming communities, the PPVFRA fosters a collaborative environment for sharing innovative farming

techniques, thereby enhancing productivity and sustainability in agriculture across diverse ecosystems.

- The National Gene Bank, the National Register of Plant Varieties, and the Preservation of Plant Hereditary Assets of Financial Plants and Their Wild Family Members are all being maintained- The PPVFRA authority plays a crucial role in protecting the rich biodiversity and ensuring the sustainability of agriculture by managing and maintaining several vital repositories. These include the National Gene Bank, which serves as a centralized collection for the genetic material of various plant species. The objective is to safeguard these genetic resources for future research, breeding programs, and restoration projects. Furthermore, the National Register of Plant Varieties functions as an official record that catalogues all the registered plant varieties, facilitating the protection of breeders' rights and encouraging the development of new, improved plant varieties. This register is essential for preserving biodiversity and supporting the agricultural sector. Lastly, the Preservation of Plant Hereditary Assets focuses on financial plants and their wild relatives. This initiative is critical for conserving the genetic diversity of economically valuable plants and their wild counterparts, which may possess valuable traits for disease resistance, climate adaptability, and agricultural productivity. By maintaining these vital resources, the PPVFRA authority ensures the long-term sustainability of agriculture and food security, supporting both current and future generations.

The Authority is tasked with overseeing various activities through the establishment of suitable institutional frameworks. To accomplish this, there are three potential approaches the Authority could consider:

- (a) An independent entity could be established and operated under the Authority's supervision to create assessment methodologies for potential varieties and to set up other institutional frameworks.

(b) The Authority could utilize the existing infrastructure and resources at ICAR³¹ crop-based centres, State Agricultural Universities, Krishi Vigyan Kendra's, and All India Coordinated projects.

(c) ICAR itself could develop an appropriate system independently.

2.5 OBJECTIVES OF THE ACT

- (i) To provide for the establishment of an effective system for protection and conservation of plant varieties.
- (ii) To provide for the rights of farmers and plant breeders.
- (iii) To stimulate investment for research and development and to facilitate growth of the seed industry.
- (iv) To ensure availability of high-quality seeds and planting materials of improved varieties to farmers³².
- (v) The act aims to recognize the rights of farmers and plant breeders, to establish a strong foundation for the protection of plant assortments, and to stimulate the development of new plant varieties.
- (vi) To understand and protect farmers' rights with respect to the promises they make when they monitor, enhance, and make plant genetic resources available for the development of new plant varieties.
- (vii) To accelerate rural development across the country, protect the rights of plant breeders, and encourage creative thinking for the development of novel plant assortments in both the public and private spheres. to promote the growth of the country's seed business, which would ensure that farmers have access to high-quality seeds and planting materials.

To establish an effective system for the protection of plant varieties, it is crucial to provide a regulatory and legal framework that safeguards the interests and rights of both breeders and farmers. This will not only protect the intellectual property of those who develop new plant varieties but also ensure that farmers have access to a diverse range of high-quality seeds and planting materials. As well, by granting rights to farmers and plant breeders, the goal is to acknowledge and reward their efforts and innovations, fostering a culture of respect and

³¹ Indian Council of Agricultural Research.

³² Pratibha Brahmi, supra note 14.

mutual benefit. This approach motivates breeders to continue innovating while giving farmers the freedom to choose from the best possible genetic resources for their crops. This dual focus on farmers and breeders is key to sustaining agricultural advancements and ensuring food security. Stimulating investment in R&D is another crucial aspect, as it drives the creation of improved plant varieties that can meet the changing needs of agriculture, such as climate resilience, disease resistance, and higher yield potential. By encouraging financial input into the agricultural science sector, the potential for groundbreaking discoveries and innovations is significantly amplified.

The development and growth of the seed industry are essential for ensuring that farmers have access to quality seeds of improved varieties, vital for achieving higher productivity and sustainability in agriculture³³. A robust seed industry supports the dynamic development of agriculture, catering to the evolving demands of both local and global markets and recognizing and protecting the rights of farmers in relation to their contribution to the conservation and enhancement of plant genetic resources is vital. By acknowledging the traditional knowledge and practices of farmers in improving plant varieties, their role as custodians of genetic diversity is reinforced, thereby facilitating the continuous evolution of crops adapted to various ecosystems and agricultural practices³⁴.

Lastly, accelerating rural development is an inherent benefit of fostering an environment that supports the creation and dissemination of new plant varieties. This not only aids in protecting the rights of plant breeders but also encourages innovation and creativity in the agricultural sector. Enhanced rural economy through improved agriculture can lead to significant socio-economic changes, including better living standards and reduced poverty.

Overall, the act is designed to create a balanced and forward-looking framework that safeguards plant varieties, empowers farmers and plant breeders, and fuels innovation and development within the agricultural sector. By recognizing and protecting the contributions of all stakeholders, the act aims to enhance the

³³ Ramesh Chand, *The Seeds Bill, 2011: Some Reflections*, 46 EWP, 22, 23-24(2011).

³⁴ N. Anil Kumar, *Community agro biodiversity conservation continuum: an integrated approach to achieve food and nutrition security*, 109 *Curr sci.*, 474, 478-487(2015).

agricultural landscape through stimulating research, investment, and the cultivation of high-quality plant varieties. This comprehensive approach is intended to boost the seed industry, support rural development, and ensure that farmers have access to the resources they need³⁵, ultimately contributing to a more sustainable and prosperous agricultural future.

2.6 SALIENT FEATURES OF THE ACT

Agriculturists and horticulturists were not allowed to patent their methods of production under the Indian Patent Act of 1970. In order to conserve plant varieties, the sui generis system was created, taking into account the problems of fair benefit distribution as well as the rights of farmers, village communities, and breeders. Compared to similar laws that are in place or being developed in other nations, it provides flexibility regarding the protected genera/species, level, and duration of protection³⁶. Except for microbes, all plant types are covered by the Act.

Three important legs offered by the Protection of Plant Varieties and Farmers' Rights Act, India:

- First, farmers are viewed as cultivators of plants, and they are allowed to employ their varieties;
- Second, farmers who work to preserve landraces and wild relatives of commercial plants and enhance them through selection and preservation are viewed and paid; and
- Third, preserving the traditional practices of farmers that involve saving seeds from one harvest and using those seeds to plant for the following harvest or to give to neighbours' who own homesteads.

It acknowledges farmers not just as cultivators but also as contributors to the development of new plant varieties through their traditional knowledge and practices. The act gives farmers the liberty to save, use, sow, resow, exchange, share, or sell their farm produce including seeds of protected varieties, provided

³⁵ Ramesh Chand, supra note 33

³⁶ Ravi Shanker, A. S., Kochhar, Archak, S. and Gautam, P. L., *Plant Variety Protection: Lessons from cross-country perspective*. Policy Brief No. 11. National Centre for Agricultural Economics and Policy Research (ICAR), New Delhi, 2000

they do not sell branded seed. As well, the farmers who contribute to the conservation and enhancement of plant genetic resources of economic plants and their wild relatives are recognized and rewarded for their contributions and enables the registration of new, extant (existing), essentially derived, and farmers' varieties, providing legal protection to the breeders of plant varieties and their investment in breeding new and improved varieties. The Act is also aimed at encouraging the development of new varieties of plants and granting intellectual property rights (IPR) to the breeders of such varieties, thereby stimulating investment in plant breeding and provides for the establishment of a Protection of Plant Varieties and Farmers' Rights Authority to ensure the effective administration of plant variety protection.

2.6.1 DEFINITION OF FARMER

The Protection of Plant Varieties and Farmers Rights Act, 2001 of India defines a farmer as any person who:

- (i) *cultivates crops either by cultivating the land himself;*
- (ii) *cultivates crops by directly supervising the cultivation of land through any other person;*
- (iii) *conserves and preserves, severally or jointly, with any person any wild species or traditional varieties or adds value to such wild species or traditional varieties through selection and identification of their useful properties³⁷*

The Protection of Plant Varieties and Farmers' Rights Act, 2001 of India offers a comprehensive definition of a farmer. This legislation identifies a farmer as any individual engaged in agriculture in several distinct ways³⁸, emphasizing the multifaceted role that farmers play in the agricultural ecosystem and the preservation of biodiversity.

Firstly, a farmer is recognized as someone who actively cultivates crops. This cultivation can occur through direct involvement in farming activities. In

³⁷ PPVFRA, Section 2 (k)

³⁸ P. Venkatesh & Suresh Pal, *Impact of Plant Variety Protection on Indian Seed Industry*, 88 JIPR, 91, 93 (2014).

essence, this includes individuals who are hands-on in tilling the land, sowing seeds, and undertaking the myriad tasks involved in growing crops. It encompasses those who labour on their fields, whether small family plots or larger agricultural holdings, representing the traditional image of a farmer engaged in the day-to-day work of agriculture.

The Act further broadens the definition of a farmer to include individuals who may not physically work the land themselves but are nonetheless integral to the cultivation process. This covers persons who undertake the cultivation of crops by overseeing and directing the agricultural activities on the land. It acknowledges the role of individuals who manage, supervise, and make decisions critical to the farming operations, even if they are not the ones physically performing the tasks. These individuals might employ others to work on their behalf or might be involved in cooperative farming operations where tasks are distributed among members of the community. Beyond the active cultivation of crops, the Act also recognizes the significance of conservation and the enhancement of plant genetic resources. It identifies farmers as those who engage in the conservation and preservation of wild species and traditional varieties of plants. This aspect highlights the important role that farmers play in maintaining agrobiodiversity and protecting the genetic heritage of plants which could be crucial for future agricultural resilience and sustainability. This includes efforts to identify, select, and perfect varieties that have desired traits such as drought resistance, pest resistance, or improved nutritional value.

The Act also acknowledges those who add value to these wild species and traditional varieties. Through the process of selection and identification, farmers are able to identify plants that possess beneficial properties, thereby contributing to the evolution of new varieties that can better serve human needs. This crucial work supports the broader agricultural community by enhancing the diversity and utility of plant varieties available for cultivation and use. This definition underscores the multifunctional role of farmers, not just as producers of crops, but as stewards of the earth's agricultural and biological diversity.

2.6.2 RIGHTS OF FARMERS UNDER THE ACT

Chapter VI of the Act highlights the advantages and rights of farmers concerning their ability to develop and maintain certain crop varieties. It enables farmers to save, utilize, plant, replant, exchange, and distribute agricultural products of a protected variety. However, commercial transactions, particularly the sale of branded seeds, fall under exceptions as outlined in Section 39(1)(i)–(iv) of the Act, and are not included in these privileges.

(i) a farmer who has bred or developed a new variety shall be entitled for registration and other protection in like manner as a breeder of a variety under this Act;

(ii) the farmers' variety shall be entitled for registration if the application contains declarations as specified in clause (h) of sub-section (1) of section 18;

(iii) a farmer who is engaged in the conservation of genetic resources of land races and wild relatives of economic plants and their improvement through selection and preservation shall be entitled in the prescribed manner for recognition and reward from the Gene Fund:

Provided that material so selected and preserved has been used as donors of genes in varieties registrable under this Act;

(iv) a farmer shall be deemed to be entitled to save, use, sow resow, exchange, share or sell his farm produce including seed of a variety protected under this Act in the same manner as he was entitled before the coming into force of this Act³⁹:

The Protection of Plant Varieties and Farmers Rights Act, 2001 (PPVFR) grants farmers nine rights that can be categorized as:

Rights to Seed: One of the main objectives of the farmers' rights movement has been the ability for farmers to share and preserve seed. The goal of the Act in India is to grant farmers the same rights they had prior to the Act, including the ability to store, use, exchange, and sell seed. The farmer's ability to sell seed is

³⁹ PPVFRA, S.39.

limited, though, since the seed cannot be sold in a packaged form with the registered name⁴⁰.

Right to Register Varieties: IPR applications for their varieties are accepted from farmers as well as commercial breeders. Novelty is not necessary for variety registration; instead, the criteria is similar to those used by breeders and include distinctness, uniformity, and stability. India's laws are special in that farmers' variety can grant IPR-style rights. "A variety that has been traditionally cultivated and evolved by farmers in their fields; or is a wild relative or landrace of a variety about which the farmers possess common knowledge" is the definition of a farmers' variety. The exclusive right to produce and distribute the seed of registered varieties from farmers' varieties bearing the registered name is provided by the plant breeders right issued on farmers' varieties⁴¹. Affidavits stating that the variety contains no genes or gene sequences involving terminator technology, complete passport data of the parental lines from which the variety has been derived, and statements outlining the qualities of novelty, distinctiveness, uniformity, and stability are not required when applying for registration of farmers' varieties. This privilege gives farmers the exclusive authority to produce, sell, market, distribute, import, or export the variety, as well as to exercise and benefit from the benefits intended to be bestowed by variety registration.

Right to Reward and Recognition: A National Gene Fund is to be established in accordance with the Act. Farmers who have contributed to the preservation and varietal development of plants might get rewards and recognition from the National Gene Fund. The National Gene Fund will receive the fee that breeders who are required to pay for benefit sharing are compelled to pay. Funds raised through the National Gene Fund may be utilized to encourage and compensate farmers who practice conservation. The Act offers this broad clause to

⁴⁰ Section 39 (iv) of the Act provides that, 'a farmer shall be deemed to be entitled to save, use, sow, resow, exchange, share or sell his farm produce including seed of a variety protected under this Act in the same manner as he was entitled before the coming into force of this Act: Provided that the farmer shall not be entitled to sell branded seed of a variety protected under this Act. Explanation: For the purposes of clause (iv), "branded seed" means any seed put in a package or any other container and labelled in a manner indicating that such seed is of a variety protected under this Act.'

⁴¹ Nagarajan, S P Yadav, *Farmers' variety in the context of Protection of Plant Varieties and Farmers' Rights Act, 2001*, 94, Curr sci., 709-713(2008).

encourage conservation, but it makes no further recommendations about how to achieve it. The duty of operationalizing these right falls to the Authority established under the Act⁴².

Recognition and compensation are contingent on the usage of the enhanced and conserved genetic materials as gene donors registered under the PVP Act. The PVP Act's right to recognition and reward recognizes the important role farmers have played and continue to play in the preservation and enhancement of crop genetic resources. It also provides compensation for these farmers should their conserved and protected genes be used to create a new variety that the PVP Act will allow for registration.

Right to Benefit Sharing: The Act suggests creating a National Gene Fund that would be centralized and enable benefit sharing. Publication of the registered varieties and invitations to submit benefit-sharing claims are mandated by the Authority. According to the Act, any individual, group of individuals, business, governmental body, or nongovernmental organization may file a benefit sharing claim. A farmer or community will only be eligible to receive incentives from the gene fund if they can demonstrate that they helped choose and preserve the components used to create the registered variety.

Right to Information and Compensation for Crop Failure: The Act's Section 39(2) mandates that the breeder disclose the anticipated performance of the registered variety. Under the Act, farmers are entitled to compensation if the material is not performing as expected. This clause tries to prevent seed producers from misleading farmers with false statements on performance regarding pest resistance, yield, etc. It allows farmers to file an application with the Authority for compensation in the event that they lose money as a result of the variety's inability to reach the goals set forth by the corporations⁴³.

Right to Compensation for Undisclosed use of Traditional Varieties: If it is determined that a breeder has concealed the origin of a variety that is part of a specific community, the Gene Fund may be able to provide compensation. If the

⁴² Thomas Cottier, *The Protection of Genetic Resources and Traditional Knowledge: Towards More Specific Rights and Obligations in World Trade Law*, 7(2) JIEL, 555, 562 (1998).

⁴³ Carlos M. Correa, *Options for the Implementation of Farmers' Rights at the National Level*, Trade-related Agenda, Development and Equity (TRADE) Working Paper 8, December 2000.

breeder has withheld traditional knowledge or community resources, any NGO, private citizen, or government agency may submit a claim for compensation on behalf of the local community⁴⁴.

Right to Adequate Availability of Registered Material: Breeders must ensure that the public has access to a sufficient supply of the variety's seeds or material at a fair price. If the breeder does not continue to register the variety after three years, anybody may apply to the Authority for an obligatory license. Compulsory licenses allow third parties to produce, distribute, or sell the registered variety while rescinding the breeder's exclusive right⁴⁵.

Right to Free Services: Farmers are exempt from paying fees under the Act for variety registration, variety testing, registration renewal, opposition, and fees related to any court proceedings involving the Act.

Protection from legal infringement in case of lack of awareness: Given the low literacy rate in the nation, the Act offers protections against farmers' innocent violations. If a farmer can demonstrate that they were unaware that breeders' rights existed, they will not face consequences for inadvertently violating their rights.

2.6.3 NATIONAL GENE FUND

The Government of India established the National Gene Fund as specified in section 45 of the Plant Varieties Act, 2001. This fund is dedicated to various initiatives, including supporting the conservation and sustainable usage of genetic resources, which covers both in-situ and ex-situ collections.

As dictated by section 70 (2)(a) of the PPV&FR Rules, 2003, the Government, in coordination with the relevant Authority, launched the Plant Genome Savior Community Award. This award, which started in the financial year 2009-10, provides Rs. 10 lakhs each to five farming communities or farmers. It specifically targets those from tribal and rural backgrounds who are actively involved in conserving, improving, and protecting the genetic resources of

⁴⁴ Bongo Adi, *Intellectual Property Rights in Biotechnology and the Fate of Poor Farmers' Agriculture*, 9 JWIP, 91–112 (2006).

⁴⁵ Craig Borowiak, *Farmers' Rights: Intellectual Property Regimes and the Struggle over Seeds*, 32 (4) *Politics & Society*, 511-543 (2004).

economically significant plants and their wild counterparts, particularly in regions identified as agro-biodiversity hotspots (spanning across 22 identified hotspots and 7 agro-ecological zones).

Additionally, the Plant Varieties and Farmers Rights (Recognition and Reward from the Gene Fund) Rules of 2012 were introduced by the Indian government. Under these rules, farmers who dedicate themselves to conserving genetic resources of landraces and wild species of economically important plants, along with enhancing them through selection and preservation, are eligible for the “Plant Genome Savior Farmer Reward & Farmer Recognition.” This comes with a monetary award from the National Gene Fund.

Annually, this initiative awards 10 rewards, each including a citation, a memento, and a cash prize of Rs. 1.5 lakhs, along with 20 recognitions that each come with a Rs. 1 lakh cash prize, citation, and memento.

2.6.4 PPV&FRA RULES, 2003.

The PPVFRA specifies the regulatory framework and procedures that must be followed to ensure these protections and rights are effectively implemented. These rules⁴⁶ set out the conditions under which plant breeders can apply for rights, the scope of farmers’ rights and how they are protected, and the mechanisms in place for addressing disputes. They also outline the requirements for the registration of new plant varieties, which includes a thorough examination of their novelty, distinctiveness, uniformity, and stability (NDUS criteria). Through the detailed regulations outlined under the rules, India aims to foster an environment conducive to both agricultural innovation and the sustainable use of its plant genetic wealth. The rules deal with the registration of both the new and extant (traditional) plant varieties upon the condition that the varieties must be distinct, uniform, and stable. It also consists of detailed procedures for applying for the registration of plant varieties, including the necessary documentation and fees as well the rules for the examination of plant variety applications to ensure they meet the criteria for registration

⁴⁶ In exercise of the powers conferred by section 96 of the Protection of Plant Varieties and Farmers' Rights Act, 2001 (53 of 2001) read with section 22 of the General Clauses Act, 1897 (10 of 1897)

2.6.5 PLANT VARIETY PROTECTION APPELLATE TRIBUNAL.

According to Chapter VIII of the legislation, the Plant Varieties Protection Appellate Tribunal (PVPAT), which holds the same authority as a District Court and consists of a chairperson along with Judicial and Technical Members, is established to resolve conflicts stemming from the act's interpretation or execution. The act specifies severe punishments for violations through Sections 65 and 66, and 70 to 73, including penalties ranging from a minimum of three months in prison or a fine of Rs 50,000, to a maximum of three years in prison or a fine up to Rs 20 lakhs, or both. For offences involving seed companies, Section 77 is applicable. An individual has the right to appeal the PVPAT's decisions in the High Court within their jurisdiction, as directed by Section 55. The legislation also permits the issuance of ex party injunctions for Plant Breeders' Rights (PBR) infringements under Sections 65 and 66. While the PVPAT is instructed to try and conclude appeals within one year of their filing, in the absence of the PVPAT, the Intellectual Property Appellate Board (IPAB), set up under the Trademarks Act of 1999, will assume its responsibilities, incorporating a specific change. This change mandates that the Technical Member of the IPAB panel, designated to undertake PVPAT's judicial duties, should be appointed following Section 55(3) of the PPV&FR Act. Notably, the Ministry of Agriculture's regulations on the PPVFR Act have not commented on the composition of the PVPAT or the appointment process for the Technical Member. With the recent enactment of the "Tribunal Reforms Ordinance, 2021" by the President of India, it has been established that appeals previously addressed under Section 56 of the Act, will now be directed to the High Court rather than the PVPAT. Additionally, any cases that were ongoing at the PVPAT will be moved to the High Court.

2.6.6 THE PROTECTION OF PLANTS VARIETIES AND FARMERS' RIGHTS (AMENDMENT) BILL, 2021.

The bill is been introduced in the Parliament and is awaiting its approval. The bill No. 117 of 2021 has the following features such as. The title of this legislation is designated as the Protection of Plants Varieties and Farmers'

Rights (Amendment) Act, 2021. Its enactment will be effective from a date determined by an official notification by the Central Government in the Official Gazette. It consists of the insertion of a new section, 39A, into the Protection of Plant Varieties and Farmers' Rights Act, 2001, which mandates that breeders of a variety that is registered under this Act are required to provide a crop card to the farmer, or a collective of farmers, at the time of the sale of propagating material for the registered variety. This crop card is essentially a guarantee for the farmers, ensuring them the right to claim compensation should the variety not perform as expected under specified conditions. The details included in the crop card must cover the anticipated performance and the conditions necessary for such performance to be realized, including the signature and seal of the breeder on the propagating material's packaging, and information regarding the district authority to be contacted for compensation claims should the variety fail to meet the expected performance. Furthermore, the Act stipulates the creation of a district authority by the Authority⁴⁷, which is tasked with addressing and resolving compensation claims from farmers due to the unsatisfactory performance of a variety. This section also outlines that the Authority⁴⁸ is responsible for developing guidelines to determine the compensation to be awarded by the district authority to the farmers or groups of farmers in instances of failure. In its adjudicatory capacity, the district authority is expected to consider all pertinent factors to fix the compensation amount and issue a reasoned decision. Lastly, the district authority is required to process and settle compensation claims within three months from receiving an application for compensation, adhering to the procedures outlined in this Act.

2.7 CONCLUSION

The Protection of Plant Variety and Farmers Rights Act of 2001, commonly known as the PPVFR Act, is designed to create a robust system for the protection and development of new plant varieties. It also aims to safeguard the rights of farmers by promoting the growth of the seed industry and ensuring farmers have access to high-quality seeds and planting material. Under this Act, breeders must

⁴⁷ PPVFR Act, S.3

⁴⁸ Ibid.

inform the buyer, be it a farmer, a group of farmers, or any farmer organization etc. about the "expected performance" of the variety being sold. If the variety fails to meet this expected performance, farmers have the right to seek compensation. This measure is intended to prevent companies from making false or unrealistic claims about a variety's potential. Breeders are also required to specify the conditions ("given circumstances") needed to achieve this expected performance. However, there are several challenges with the provision for farmer compensation. First, there are no guidelines on how the information about expected performance should be communicated. Secondly, the Act does not provide a timeline for authorities to resolve claims, potentially delaying decisions for years. Despite section 39(2) of the Act allowing for farmer compensation, the lack of specific instructions regarding the disclosure of expected performance and given circumstances, the discretionary power of the authority, and a general lack of awareness create a legislative gap in effectively realizing farmers' rights. To address these issues, amendments to the original Act propose that breeders issue a crop card when selling registered variety propagating material. This card would enable farmers to claim compensation if the propagated material does not perform as expected under the specified conditions.

As well, within the ever-changing landscape of the global economy, it's critical to identify effective solutions that safeguard the interests of all players in the agricultural sector, including plant breeders, farmers, and market participants. The challenge revolves around establishing policies and legal structures that not only promote the creation and spread of innovative agricultural technologies but also ensure that these innovations are beneficial to society overall. Guaranteeing the rights to intellectual property for various plant varieties is paramount in encouraging investments in agricultural research and development. Such investments are vital for driving genetic enhancements, improving the nutritional value and productivity of crops, and fostering resistance to pests and diseases. Moreover, a strong intellectual property system is key to reducing poverty by fostering economic growth and independence within farming communities.

CHAPTER 3

BALANCING INTELLECTUAL PROPERTY RIGHTS AND FARMERS' RIGHTS

3.1 INTRODUCTION

The necessity for intellectual property rights for farmers arises because while Plant Breeders are granted Plant Breeders' Rights (PBR) for creating a new, distinct, uniform, and stable plant variety under the intellectual property system, the farmers who have developed and preserved biological resources and their related knowledge do not receive similar rights. The varieties developed by farmers are utilized not only by the global community for consumption but also by plant breeders in the creation of new plant varieties⁴⁹. This highlights the dual contribution of farmers to both food security and agrobiodiversity. Additionally, farmers play a crucial role in ensuring food safety, as the varieties they maintain, protect, and cultivate are harmonious with nature and therefore, not detrimental to the health of living organisms. Despite the fact that India has implemented Protection of Plant Varieties and Farmers Rights for the effective protection of the rights of farmers, it is found that the Act do have certain gaps and ambiguities in the legislation itself and in its actual implementation, also there are certain areas which requires improvement.

3.2 GAPS AND AMBIGUITIES IN THE LEGISLATION

3.2A. AMBIGUITY IN SECTION 15(3) OF PPVFRA.

CASE ANALYSIS

*Maharashtra Hybrid Seed Co and Anr v. Union of India and Anr*⁵⁰

This case focused on how the Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPVFR Act) was understood in terms of registering parent lines of

⁴⁹ S. Bala Ravi, Manual on Farmers Rights (2004) M.S. Swaminathan Research Foundation, 2004.

⁵⁰ Maharashtra Hybrid Seed Co and Anr v. Union of India and Anr (2015) 217 DLT 175], W.P.(C) 4330/2012.

existing hybrid varieties as new plant varieties. The central question revolved around the novelty of the parent lines if the hybrid seeds produced by them had already entered commercial use.

The applicants, Maharashtra Hybrid Seeds Co. Ltd. (MHSCL) among others, were companies involved in the cultivation and sale of various hybrid seeds, including those of cotton. They sought to register the parent lines of their existing hybrid varieties as new plant varieties under the PPVFR Act. Nonetheless, their requests were denied by the Registrar of the Plant Variety Protection Authority, who reasoned that the parent lines of an already existing and recognized hybrid variety could not be deemed novel for the purposes of registration.

The issues concerned were the need for inquiry into if the original parent strains of current hybrid varieties qualify as new and can thereby be registered as new plant varieties under the PPVFR Act and an examination of Section 15(3)(a) of the PPVFR Act that outlines the criteria for novelty required for the registration of a new plant variety.

Section 15(3): -

(3) For the purposes of sub-sections (1) and (2) as the case may be, a new variety shall be deemed to be—

(a) novel, if, at the date of filing of the application for registration for protection, the propagating or harvested material of such variety has not been sold or otherwise disposed of by or with the consent of its breeder or his successor for the purposes of exploitation of such variety—

(i) in India, earlier than one year; or

(ii) outside India, in the case of trees or vines earlier than six years, or, in any other case, earlier than four years, before the date of filing such application:

Provided that a trial of a new variety which has not been sold or otherwise disposed of shall not affect the right to protection:

Provided further that the fact that on the date of filing the application for registration, the propagating or harvested material of such variety has become

a matter of common knowledge other than through the aforesaid manner shall not affect the criteria of novelty for such variety;

(b)distinct, if it is clearly distinguishable by at least one essential characteristic from any other variety whose existence is a matter of common knowledge in any country at the time of filing of the application.

Explanation. —For the removal of doubts, it is hereby declared that the filing of an application for the granting of a breeder's right to a new variety or for entering such variety in the official register of varieties in any convention country shall be deemed to render that variety a matter of common knowledge from the date of the application in case the application leads to the granting of the breeder's right or to the entry of such variety in such official register, as the case may be⁵¹.

The petitioners maintained that the parent lines are novel because they exhibit unique characteristics not found in the hybrid seeds. They argued that the hybrids resulting from the cross of parent lines aren't considered the same as the parent lines' harvested material. Thus, they believed the commercial use of the hybrid seeds should not compromise the novelty status of the parent lines. On the other hand, the respondents, including the Union of India and other intervening parties, held that once the hybrid seeds resulting from the parent lines are commercially used, those parent lines can no longer be seen as novel. Therefore, they cannot be registered as new varieties. Their argument was supported by the interpretations of the International Union for the Protection of New Varieties of Plants (UPOV) regarding similar scenarios under the UPOV Convention⁵².

The Delhi High Court addressed several concerns related to specific clauses in the Act, initially clarifying that a hybrid seed is not considered 'propagating material' as defined by the Act because it cannot reproduce any of the parent line varieties. The term "propagating material" is explicitly defined in Section 2(r) of the Act as a plant or seed with the capability to regenerate, whereas "harvested material" lacks a definition within the Act. Furthermore, the court

⁵¹ PPV&FRA, sec.15.cl.3.

⁵² Supra note 5.

found that the sale of hybrid seeds does not conform to Section 15(3) of the Act in instances where those seeds might grow into one of the parent plants, which could lead to the unauthorized use of these plants. According to the interpretation of the Act by the petitioner, this would enable them to have exclusive control over both the hybrid and parent seeds for a duration of 45/54 years, a substantially longer period than the 15/18 years stipulated by the Act.

In making its decision against the appellants, the High Court applied the mischief rule due to the unclear wording of Section 15(3). This approach was taken because it's a well-recognized principle that in cases of statutory ambiguity, the courts should adopt an interpretation that aligns with the legislative purpose. The primary objective of the PPVFRA is to protect the rights of farmers and plant breeders. Furthermore, in a comparable case, the Administrative and Legal Committee of UPOV under the 1991 Act's Article 6(1) determined that the novelty status of parent lines is forfeited following the commercial sale of their hybrids, rendering such arguments untenable. By ratifying the TRIPS agreement, India committed to upholding the intellectual property rights for specific plant varieties.

The decision delineates that the original parental strains of existing hybrid varieties are not eligible for registration as new plant varieties if these hybrids have already been commercially utilized⁵³. This is because it would contravene the novelty criterion outlined in the PPVFR Act. The ruling seeks to establish a balance between incentivizing plant breeders and safeguarding farmers' rights by restricting the exclusivity duration under the PPVFR Act. The case of *Maharashtra Hybrid Seeds Co. Ltd. vs. Union of India*⁵⁴ elucidates the interpretation of the novelty requirement for registering plant varieties under the PPVFR Act. This decision maintains the equilibrium between plant breeders' and farmers' rights, in line with the Act's legislative purpose. Furthermore, the judgment underscores the significance of considering international insights and expertise when addressing complex issues surrounding the protection of plant varieties.

⁵³Thushar Girdhar, Mahyco Case, Gobind Singh Indraprastha University, <https://www.studocu.com/in/document/>

⁵⁴ Supra note 33

3.2B. AMBIGUITY IN SECTION 24(5)

CASE ANALYSIS

Section 24(5): *The Registrar shall have power to issue such directions to protect the interests of a breeder against any abusive act committed by any third party during the period between filing of application for registration and decision taken by the Authority on such application.*

*Mahyco Monsanto Biotech Ltd & Nuziveedu Seeds Ltd BT Cotton Seed*⁵⁵

In 2008, MAHYCO MONSANTO initiated proceedings by submitting an application under Section 24(5) of the PPV&FR Act, requesting that the Registrar impose an immediate injunction against Nuziveedu Seeds Limited (NSL). The injunction sought by MONSANTO MAHYCO aimed at directing NSL, along with its agents and distributors, to cease selling any variety similar to their own, demanding an account rendering, seeking the appointment of a Local Commissioner, and instructing farmers to refrain from selling or planting any such variety.

PIONEER OVERSEAS also filed a similar legal action against KAVERI SEED LIMITED, demanding the same kind of injunction concerning Kaveri's KMH-50 variety⁵⁶.

In response, Infini Juridique, representing both NSL and Kaveri, contested the notices issued by the Registrar in each case, and further challenged the constitutional validity of Section 24(5) of the PPVFRA.

In the nuanced legal landscape surrounding the protection of plant varieties and breeders' rights in India, the dispute between NSL (Nuziveedu Seeds Limited) and MMBL (Mahyco Monsanto Biotech Limited) emerged as a testament to the complexities of integrating intellectual property rights with agricultural innovation. This protracted legal battle, characterized by its intricate legal arguments and far-reaching implications, culminated in a landmark judgment

⁵⁵ Mahyco Monsanto Biotech Ltd & Nuziveedu Seeds Ltd BT Cotton Seed, 2018 SCC Online Del 8326.

⁵⁶ Prabhat Agri Biotech Ltd. And Anr. vs Registrar of Plant Varieties and Ors, W.P.(C) 250/2009

by the Delhi High Court (DHC) in 2017, focusing on the interpretation and application of section 24(5) of the Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA). Specifically, this provision entrusted the Registrar with the authority to issue directives aimed at protecting breeders against any "abusive acts" committed by third parties during this period. The intention behind this legislative text was ostensibly to act against infringement or other forms of malfeasance that could potentially undermine the commercial and proprietary interests of breeders awaiting formal recognition and protection of their innovations. But the provision itself can act in an abusive manner by hindering the rights of the third parties especially that of farmers rights in claiming their rights regarding a variety.

NSL's challenge to this provision was rooted in a critique of its breadth and ambiguity. The company argued that section 24(5) of the PPV&FRA endowed the Registrar with excessively broad and discretionary powers, effectively granting applicants a quasi-rights regime that could be manipulated to unjust ends. This, according to NSL, positioned the provision as 'ultra vires' and is beyond the permissible bounds of legal authority, given its capacity to confer wide-ranging powers without a clear demarcation of what constitutes an "abusive act." This lack of specificity, NSL contended, rendered the provision not only over-expansive but also prone to misuse, allowing for an array of actions to be potentially classified as abuses without a stringent legal framework to delineate permissible boundaries.

The Delhi High Court's scrutiny⁵⁷ of this argument unveiled several critical judicial insights. Firstly, the Court affirmed the problematic nature of the provision's vague articulation, recognizing that the undefined term "abusive act" indeed opened the floodgates to a broad spectrum of interpretations. This, in turn, could lead to an unchecked expansion of what could be considered an abuse of plant breeder's rights, stretching the provision's scope to an indiscriminate extent. Furthermore, the Court observed a discernible disparity between the goals of this provision and the precise, carefully circumscribed

⁵⁷ Judgement delivered by division bench of J. Ravinder Bhatt and J. R.K. Gauba of Delhi High Court holds section 24(5) of the Protection of Plant Varieties & Farmers' Rights Act, 2001 as void.

language typically employed in other intellectual property legislation. This discrepancy highlighted an incongruence not only in legislative drafting but also in the fundamental approach to protecting intellectual property in the agricultural sector.

In delivering its judgment, the Court did not merely dwell on these legislative and interpretative inconsistencies. It delved deeper into the constitutional foundations, juxtaposing the provision's expansive and discretionary nature against the bedrock principles of equality before the law enshrined in Article 14⁵⁸ of the Indian Constitution. The Court concluded that the provision's susceptibility to abuse and its inherent arbitrariness not only diluted the essence of legal certainty but also stood in contradiction to the constitutional guarantee of equality.

In a decisive move, the Delhi High Court declared section 24(5) of the PPV&FRA void, effectively nullifying a legislative clause that it found to be at odds with fundamental principles of legal and constitutional jurisprudence. This judgment did not merely address the specifics of the legal dispute between NSL and MMBL; it underscored the imperative of legislative precision, the safeguarding of constitutional values, and the delicate balance needed in crafting laws that navigate the complex terrain of intellectual property rights in the agricultural domain which protects the farmers rights in par with the breeders' rights. The ruling thus stands as a cornerstone, illuminating the critical intersections between legal authority, innovation protection, and the overarching framework of constitutional rights.

Even though, the Division Bench of the Delhi High Court ruled Section 24(5) of the PV Act as unconstitutional, the Supreme Court put a hold on this ruling, which brings up inquiries regarding how this affects the decision made by the High Court. The status of Section 24(5) was clearly explained in *UPL Limited v. Registrar & Anr*⁵⁹. Division Bench's declaration has no binding effect during the stay. Section 24(5) continues to be in force until the Supreme Court makes a final determination. Thus, the argument that section 24(5) has been erased

⁵⁸ Article 14, The Constitution of India, The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.”

⁵⁹ *UPL Limited v. Registrar & Anr*, C.A.(COMM.IPD-PV) 3/2022, I.A. 16633/2022.

from the statute was rejected. Still this ambiguity is present and is providing abusive rights to the applicants especially to the breeders and is affecting third parties who claim against it especially the farmers.

3.2 C INVOKING OF SECTION 64

CASE ANALYSIS

PEPSICO INDIA HOLDINGS PVT.LTD V/S STATE OF GUJARAT⁶⁰

The case involving PepsiCo Corporation and a group of farmers from Gujarat, India, has become a notable example of the conflicts between multinational corporations and local farmers over intellectual property rights. In 2019, PepsiCo initiated legal action against four Gujarat farmers, alleging that they were unlawfully growing a specific potato variety that PepsiCo had registered for exclusive use in its Lay's potato chips. The company argued that by cultivating and selling this potato variant, the farmers were violating its intellectual property rights, as they did not have the necessary permissions or had not paid any royalties. The farmers defended themselves by stating they had been growing the potato variety for years without knowledge of PepsiCo's exclusive claims and had received no prior notification about the need to secure permission from the company. The lawsuit prompted a significant backlash from activists and farmers' rights groups, who viewed it as an example of a large corporation attempting to take advantage of small-scale farmers. They advocated for the farmers' rights to save and share seeds, a practice they deemed vital for their subsistence.

The PPVFRA faced significant challenges when PepsiCo India brought legal actions against four Gujarati farmers, demanding 1.05 crore from each for purportedly unauthorized cultivation of a potato variety that PepsiCo had registered under the Act, thereby allegedly infringing on its Intellectual Property Rights. The company argued that these farmers violated its patent rights by cultivating the potato variety used in its Lays chips product. PepsiCo's legal

⁶⁰ PepsiCo India Holdings Pvt Ltd versus Atop Food Products Pvt Ltd R/SCA No. 6244 of 2018, PepsiCo India Holdings Pvt Ltd versus M/s Krishna Cold Storage Civil Suit No. 8 of 2018, PepsiCo India Holdings Pvt Ltd versus M/s Prabhudas Patel & Others Civil Suit No. 7 of 2018, SPECIAL CRIMINAL APPLICATION NO. 3509 of 2012.

strategy involved leveraging Section 64 of the Act⁶¹, which restricts the selling, exporting, importing, or production of the variety to either the breeder or a licensee registered for that variety. This incident raises a crucial issue regarding the limitations imposed by the Intellectual Property Rights regime on what crops can be grown. PepsiCo had registered two potato varieties, FL 1867 and FL 2027, in February 2016 for a 15-year period, with the latter being marketed as FC-5. FL 2027, also known commercially as FC - 5, stands out as the perfect potato variety for chip production due to its high dry matter and low sugar levels, alongside a reduced moisture content. Consequently, contracts were established with Indian farmers to cultivate these specific types solely for the fabrication of PepsiCo's Lay's chips. However, it was discovered that a number of farmers in Gujarat were unauthorizedly cultivating and distributing FL - 2027 potatoes, breaching their contractual obligations and infringing upon PepsiCo's intellectual property rights. However, under Section 39 of the PPVFRA, the act of planting a registered variety is not illegal in itself, and the accused farmers defended their actions by stating they were not engaging in the sale of the branded seeds of the registered variety.

The issues raised were, there a connection between the safeguarding and implementation of IPR and plant varieties, Is PepsiCo justified in alleging that the farmers were using its registered variety name FL-2027 without permission, are the application and understanding of the clauses in the Protection of Plant Varieties and Farmers Rights Act, 2001 adequate in this instance and is there a fair balance between safeguarding intellectual property rights and the rights of farmers, especially concerning access to seeds, farming methods, and livelihood.

The farmers contended that the demands of PepsiCo could adversely impact their economic and social well-being. Their primary source of livelihood was the cultivation of these specific potato variants. The farmers maintained that their cultivation methods were derived from traditional knowledge and widely recognized agricultural practices. They argued that such knowledge and practices should not be subjected to monopolization by corporate entities under

⁶¹THE PPVFRA ,2001.

the guise of intellectual property rights. The agreement with Frito Lay, according to the farmers, was explicitly for the procurement of potatoes exceeding 45 mm in diameter. Smaller potatoes were saved by them for replanting, a practice not covered under any formal contract. For the past four years, they had been replanting these smaller potatoes, unaware of cultivating a legally protected variety until a legal notice was issued to them.

The Gujarat government expressing support for the farmers. This resulted in a settlement out of court between the government and the corporation, which subsequently led to the withdrawal of the majority of its lawsuits.

Upon analysis, it is found that FC-5 was acknowledged as a pre-existing “extant” variety, which was already known before its registration. However, the case of *PepsiCo India Holdings Pvt. Ltd. v, Bipin Patel*⁶² suggests that the corporation erroneously filed it as a “new” variety, rather than an “extant” one. This practice has been criticized because it allows corporations to claim ownership over well-known varieties and pursue legal action against farmers for using them. The case also pointed out the ambiguous aspects of the law in these matters, leading to differing viewpoints. Activists argue that such practices infringe upon the rights of farmer

3.3 IMPLEMENTATIONAL CHALLENGES

3.3 A DEFINITION OF FARMERS

A farmer is a person or a collective engaged in agriculture either through direct involvement or by overseeing others. They preserve traditional knowledge related to plant genetic resources (PGR), maintain control over PGR, and engage in the saving, utilizing, exchanging, and re-using of plant genetic resources.

Based on this definition, individuals or entities holding Traditional Knowledge (TK) are granted specific rights during its access. Similarly, holders of Plant Genetic Resources (PGR) are entitled to corresponding rights, and rights to use, save, swap, and reuse PGR, are awarded to plant breeders engaged in agriculture, playing a pivotal role in future production. Property rights are

⁶² Commercial Trademark Suit Number 23 of 2019, Commercial Court at City Civil Court, Ahmedabad.

allocated to those who have conserved, preserved, or enhanced the particular PGR or TK. A pertinent question arising from this definition concerns whether a corporate farmer, who engages in farming solely through employed labour for purposes such as trading (selling, marketing, distributing, or exporting) seeds, falls under this definition. If they are included, they should also receive rights to use, save, exchange, and sell the seeds of the protected variety. Nonetheless, these farmers have not made any contributions towards the conservation or preservation of the PGR, treating seeds purely as commercial goods. Therefore, rights associated with conservation and preservation, including property rights, Prior Informed Consent (PIC), and benefits sharing, should not extend to them. However, considering the control corporate farmers have over the seeds and how the seeds' failure impacts them, it could be argued for granting them the right to use, save, exchange, and sell seeds. Ultimately, it is the duty of the state to identify those who have conserved, preserved, or developed PGR or TK, award them appropriate rights, and offer protection. Hence, if a corporate farmer is discovered to have contributed to the conservation or preservation of PGR or TK in any form, he too would be entitled to the Farmer's Rights (FR).

The current framing of farmers' rights akin to property rights tailored for commercial breeders may not be significantly relevant for the farmer, particularly those who are small-scale or marginal. Certain scholars suggest that the proprietary model adopted in Indian legislation might be unsuitable, proposing instead the stewardship model used in Brazil⁶³. Wealthier farmers and the private sector, endowed with the motivation and ability to stay commercially competitive, will gain substantially more from the Act's protections compared to other farmers.

3.3 B APPLICATIONS FOR REGISTRATION

There has been increase in the number of applications for registration of varieties across the private and public sector but the distribution of applications seems to be different in both the private and public sector. The distribution of private sector applications in agriculture is uneven, primarily focusing on new

⁶³ Karine Peschard, *Seed wars and farmers' rights: comparative perspectives from Brazil and India*, 44 JPS, 144-168 (2017).

crop varieties and hybrids like cotton, maize, and rice due to their high seed replacement ratios⁶⁴. The private sector also targets high-value crops like vegetables and certain pulses and oilseeds⁶⁵. The enactment of the PPVFRA has seen an increase in applications from companies, representing about 10% of India's seed industry, with small and medium companies managing to coexist with larger ones⁶⁶. However, smaller firms struggle with registration costs, impacting their competitive standing. Large companies register 66% of their products, compared to 15% by small companies. The public sector, in contrast, focuses on filing for traditional varieties and neglected crops like pulses, emphasizing the importance of agrobiodiversity and the role of low-value, high-volume crops in agricultural development.

As per a study⁶⁷, the majority of applications submitted under the law are for farmers' varieties, with about 80% focusing on just one crop, that is, rice specifically from the Orissa region. This preference for rice, a crop of significant commercial value, is linked to Orissa's long-standing tradition of paddy cultivation and the government's initiatives to streamline and encourage the application process. When excluding rice, the number of registrations for varieties in other crops is minimal compared to the actual diversity that exists. This is mainly due to the gaps in knowledge of their rights being protected. Overcoming the vast gaps in knowledge and infrastructure is essential for the registration of farmers' varieties. The study points out the necessity of government support, awareness campaigns, and programs that involve various stakeholders to motivate farmers to participate in the registration process. According to the study, almost 90% of farmers were unaware of the legislation, though they might be familiar with certain practices, such as safeguards against seed failure. My study focusses on this aspect of awareness of farmers regarding the legislation and their rights being protected under the Act.

⁶⁴ Mrinalini Kochupillai, *The Indian PPV&FR Act, 2001: Historical and Implementation Perspectives*, 16 JIPR 88, 95 (2011).

⁶⁵ Government of India, Protection of Plant Varieties and Farmers' Rights Authority <http://plantaauthority.gov.in/> (last visited 8th April, 2017).

⁶⁶ *Supra* note 35

⁶⁷ 3 P. Venkatesh & Suresh Pal, *supra* note 38.

The main reasons for pursuing registration primarily include the avoidance of unauthorized use of resources by others and the enablement of commercial use of the registered breeds. These reasons, however, may only play a minor role in encouraging farmers to engage in the registration process. For certain plant species, such as rice, which holds commercial value for both breeders and farmers, the motivation to safeguard against unauthorized use could be particularly strong. Whereas, in scenarios where breeders and farmers do not compete directly, the urgency to secure resources through registration may not be as significant for the farmers. Additionally, if a breed has been developed not for commercial purposes but only for its attributes like flavour, texture, which might be the case for a substantial portion of farmers' breeds, then the urge to register becomes somewhat diminished.

3.3 C INTERSECTION OF PPVFRA WITH GI'S

Geographical indications (GIs) are recognized under industrial property rights as signs denoting a product as originating from a specific country, region, or locality. Such indications serve as a marker of quality and uniqueness largely due to the product's geographical origin. According to the Paris Convention for the Protection of Industrial Property, specifically Articles 1(2) and 10, GIs are protected as a form of intellectual property rights (IPRs). Furthermore, they are safeguarded under Articles 22 to 24 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which emerged from the Uruguay Round of General Agreement on Tariffs and Trade (GATT) negotiations⁶⁸.

Article 9 of the International Treaty⁶⁹ acknowledges the significant contributions made by farmers worldwide in the advancement and preservation of food and agricultural production. It ensures the protection of farmers' indigenous knowledge and their rights to benefit from such knowledge, engage in national discussions on relevant subjects, and the freedom to save, utilize, re-exchange, and market seeds saved from their own farms. Similarly, food security

⁶⁸ Department for promotion of industry and trade in India, <https://www.ipindia.gov.in/gi.htm>.

⁶⁹ FAO, 2012. Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture Adopted by the FAO Council, Nov 29 2011, paragraph 18(e).

is crucial for a country's national security. A nation that fails to safeguard its seed and food resources jeopardizes its own security⁷⁰.

The PPV&FR focuses on the registration of varieties introduced by farmers, while the GIs Act oversees the naming conventions used in marketing these varieties. Misunderstandings can occur when trying to apply these legislations to farmers' varieties, highlighting the need for a clear distinction and understanding of each law's purpose and objectives, which are markedly different. There's often confusion about which law to use for protecting goods or farmers' varieties. This section explores why such confusion arises and proposes solutions. A common source of confusion for those looking to register is the fact that a single geographical indication can encompass multiple rice varieties. For instance, the "Navara Rice" indication includes both yellow glumed and black glumed varieties. Similarly, the "Palakkadan Matta" indication encompasses ten different varieties: Kunjunj, Vattan Jyothy, Chitteni, Aryan, Aruvakkari, Chettadi, Chenkazhama, Poochamban, Thavalakanna, and Eruppu, with the potential for additional varieties to be registered upon further examination if they originate from the Palakkad region (The Hindu, 2008)⁷¹. It's important to note that geographical indications pertain solely to the marketing rights associated with a registered name, without affecting the farmers' rights to cultivate the varieties covered by these designations.

CASE STUDY

Navara Rice Controversy:

A petition was submitted by Mr. P Narayanan Unni, a local farmer and the initiator of both the Navara Eco Farm and Navara Foundation situated in Chittoor, Palakkad, to register the traditional medicinal rice variety known as Navara under the Protection Plant Variety and Farmers Right Act of 2001. Navara Rice, distinguished by its deep red hue, has a cultivation history of over 2000 years in the Palghat area. However, in the past 40 to 50 years, it has nearly

⁷⁰ Sahai, S, *Farmers' Rights and Food Security*, 35 EWP, 878-880(2005).

⁷¹Recognition for Two Rice Varieties, The Hindu, (Feb 23, 2024), <https://www.thehindu.com/todayspaper/tp-national/tp-Kerala/Recognition-fortwo-rice-varieties/article15185764.ece>.

vanished due to the introduction of several new hybrid strains. The applicant has filed for patenting of Navara rice (Sushma, 2018)⁷². The Kerala State Government and the Kerala Agriculture University (KAU) argue against Mr. Unni's petition for registration, citing Navara⁷³ as a traditional variety grown throughout Kerala. Nonetheless, Mr. Unni argues that the specific type he grows in Chittoor is unique, warranting its registration⁷⁴.

It was argued that the method of rice cultivation in question is not innovative, given that rice farming has been practiced for centuries. Moreover, it was deemed unethical to grant a patent right to an individual farmer for this activity, as it lacks novelty and hence should not be eligible for patenting. This has led to confusion among some people. The individual in question had sought to register Navra rice under the Protection of Plant Varieties and Farmers' Rights (PPVFR) Act, despite having already secured a geographical indication (GI) for it under the GIs Act. This GI registration merely allows the farmer to maintain the exclusive right to cultivate Navara rice in the specified region and use the designation for marketing purposes. Furthermore, according to Section 15(4) of the PPVFR Act, a new variety cannot be registered if its denomination consists wholly or partially of a geographical name. Nonetheless, the Registrar has the authority to register a variety if its denomination, even when partially or wholly geographical, is used in a manner deemed honest under the specific conditions at hand. This provision allows for the registration under the PPVFR Act⁷⁵ in particular instances.

The importance of this issue revolves around the fact that the Navara Rice Dispute revolves around the question of whether it's possible or ethical to register this variety, raising doubts about the integrity of the Protection of Plant Varieties and Farmers' Rights Act of 2001. Several farmers cultivate the same

⁷² Sushma, M. (2018). Navara Rice Controversy: Plant Variety Act Doesn't Protect Farmers' Interests, Say Experts, Down to Earth, June 1. Available online at: <https://www.downtoearth.org.in/news/navara-rice-controversy-plantvariety-act-does-not-protect-farmers-interests-say-experts-60728> (accessed March 20, 2024).

⁷³ Shaji, K. (2018). Navara lands in IP rights row. The Hindu. (Sep. 8, 2018), <https://www.thehindu.com/news/national/kerala/navara-lands-in-ip-rights-row/article24017583.ece>.

⁷⁴ Balachandran, P. (2015). Navara, the rice that cures. Downtoearth.org.in. (Sep. 9, 2018) <https://www.downtoearth.org.in/coverage/navara-the-rice-that-cures-2521>.

⁷⁵ Blakeney et al. 2020, Agricultural Innovation and Traditional Rice Varieties: Kerala a Case Study, Research Gate, January 2020.

species of rice or its lower varieties and have rights to these. The controversy centres on Navara Rice, a traditional breed developed and grown by local farmers in the Palghat area for generations. Granting a patent to a single farmer for this traditional variety could infringe on the rights of others. Additionally, there's typically no established database for such traditional crops since they've been naturally developed and adapted over time. Without a database, it's challenging to compare the so-called new variety a farmer claims with the existing traditional one. The Protection of Plant Varieties and Farmers' Rights Act of 2001 appears to overlook that traditional varieties result from collective efforts by numerous farmers long before the act came into existence. Consequently, registering an enhanced traditional variety might undermine the liberty of farmers to use similar or inferior varieties of the same species by different names.

Mr. P Narayanan Unni's request to have the traditional Navara Rice variety registered has highlighted potential weaknesses in the Protection of Plant Varieties and Farmers' Rights Act. The act's insufficiency in maintaining a comprehensive database means registration could be wrongly awarded to anyone claiming to have developed the variety. It overlooks the reality that various farmer communities might have been maintaining and nurturing the same variety, possibly under different names, acting as its true custodians. The policy of awarding registration on a first-come, first-serve basis is ineffective. Large Scale Farmers especially the Breeders with better resources or information might learn about the registration process earlier, thus having an unfair advantage over the small-scale farmers in getting the variety registered.

That is, when a new variety is submitted for registration under the Act, there's no existing database of traditional varieties to compare it against. If information on traditional varieties were accessible, officials could make comparisons and certify the new variety accordingly. However, as it stands, registration can be awarded to anyone who claims to have developed a new variety. The method adopted by PPV&FRA is problematic because it operates on a first-come-first-served basis. This overlooks the reality that various farming communities might both have preserved the same variety, possibly under different names. Also, it is to be noted that better-off farmers are likely to learn about this registration

system first and secure registration for a variety. This effectively negates the recognition of contributions from others in conserving and maintaining a variety.

According to Sections 8(1) and 8(2)(c) of the PPVFR Act, it is the duty of the Authority to actively record and catalogue varieties developed by farmers. This was meant to be the initial step taken.

3.3 D INCONSISTENCIES WITH THE SEED POLICIES

To protect the interests of farmers and the broader national agricultural economy, it is crucial for a country to implement legislation and guidelines specifying, overseeing, and managing minimum standards and quality criteria for seeds (or other planting materials). Enacting a seed legislation is vital to prevent the sale of fake and low-quality seeds in the market, ensuring only authentic seeds are available for farming⁷⁶. Additionally, such legislation may offer legal support and opportunities for seed developers to create a unique market presence by allowing them to register their seeds. This not only facilitates the rights to export and import these registered seeds but also connects the right of seed registration with intellectual property rights (IPRs) like plant breeders' rights, trademarks, or trade secrets⁷⁷. This aims at fostering the seed industry to better support the agricultural community.

3.3.D.1 PPVFR AND THE SEED ACT OF 1966

The Seed Act of 1966⁷⁸ established the Central Seed Committee (CSC), which serves as the premier body in the country for overseeing seed standards, release, certification, and other related provisions of the Act. To support its functions, the CSC is backed by two key groups at the national level, the Central Seed Certification Board and the Central Variety Release Committee, as well as their

⁷⁶ N. Lalitha, *Intellectual Property Protection for Plant Varieties: Issues in Focus*, 39 EWP, 1921-192(2004).

⁷⁶ Vandana Shiva, *Agricultural Biodiversity, Intellectual Property Rights and Farmers' Rights*, 31 EWP, 1621-1623(1996).

⁷⁶ THE SEEDS ACT, 1966. (ACT NO. 54 OF 1966). [29th December, 1966].

state-level counterparts, the State Seed Certification Agency and the State Variety Release Committee. The legislation permits the trading of seeds in two distinct categories. The first category, known as the notified variety (NV), includes seeds endorsed based on agronomic insights from multicentric trials conducted by public research bodies after approval by either the Central or State Variety Release Committees. The second category, termed the "truthfully labelled" variety (TLV), encompasses seeds that, while not subjected to these multicentric trials nor notified, do meet the standards as indicated on their labelling, thus excluding traditional farming seeds from the Act's ambit⁷⁹. The Seed Rules also set minimum quality standards for different seed classes such as breeder, foundation, and certified seeds, for each crop species. Certification for both notified and other commercial seeds is conducted by state or central seed testing labs. This framework dissociates seed marketing from plant breeder rights or variety ownership, primarily because there's no mandate for disclosing seed pedigree, particularly for TLVs, allowing for a commercial monopoly driven by pedigree secrecy. Within the seed distribution chain, comprising producers, processors, and stockists/traders. A transaction license is obligatory only for stockists/traders, who must also publicly display the seed stock and pricing. Seed law enforcement is carried out by Seed Inspectors under state control, though enforcement is generally considered ineffective with mild penalties. While the Act is applicable to horticultural crops, it exempts horticultural nurseries, vegetative propagules barring potatoes, tissue-cultured bananas, and sugarcane.

3.3.D.2 PPVFRA AND THE SEED BILL, 2004

The intention behind introducing the Seed Bill 2004 was to nullify and replace the Seed Act of 1966⁸⁰. Nevertheless, the regulations proposed in the Bill faced severe critique for being heavily biased against the interests of farmers, leading to widespread criticism from both farmers and societal organizations across India. They argued that the Bill seemed to be crafted primarily to benefit the

⁷⁹ Suresh Pal, Robert Tripp, Niels P. Louwaars, *Intellectual Property Rights in Plant Breeding and Biotechnology: Assessing Impact on the Indian Seed Industry*, 42 EWP, 231-240(2007).

seed industry, undermining the age-old rights of the farming community. Owing to such backlash, the Indian government directed the bill for review to the Parliamentary Standing Committee on Agriculture (PSCA), which submitted its observations in 2006. Despite an amended version of the Seed Bill being put forward in 2008, it has yet to be ratified. As a result, the Seed Act of 1966, along with its subsequent amendments, remains in effect.

The Seed Bill lacks crucial components, such as, a variety that hasn't been registered under the PPVFR Act can still be registered under the Seed Bill, also it doesn't mandate the disclosure of a registered variety's lineage or proof of the applicant's ownership of it. there are no measures within the Bill to control the pricing of seeds. Additionally, it doesn't offer any mechanism for pre-opposition, which could have ensured transparency in the registration of new kinds or varieties.

The legislation in question dilutes the supportive measures for farmers and primary conservators present in both the PPVFR Act of 2001 and the Biological Diversity Act of 2002 by⁸¹,

- Imposing the minimum standards of germination, and physical and genetic purity required for commercial seeds on the farmer seed system impairs the seed rights of farmers as laid out in the PPVFR Act.
- The bill positions farmers as seed producers, thereby subjecting them to the regulatory framework established for commercial seed producers, processors, and distributors.
- The lack of a requirement to disclose the lineage or proof of ownership for a submitted variety could enable seed corporations to monetize any public domain variety, including those developed by farmers. This potentially allows for the exploitation of these varieties without any obligation to share benefits, contrary to the stipulations of the Convention on Biological Diversity (CBD), as well as permitting the unregulated and lawful exchange of Plant Genetic Resources (PGRs).

⁸¹ K. M. Gopakumar, Sanjeev Saxena, *SEEDS BILL 2004: FOR WHOM?*, 47 JILI, Vol. 47, 483-501(2005).

- The bill does not specify the essential characteristics considered for the registration of a variety. Without any regulation on seed pricing, it leaves an opening for seed companies to impose random and exorbitant prices, thereby causing the small-scale farmers in distress.
- The legislation does not specifically exempt farmer varieties from the mandate that only registered varieties can be sold, thus stripping farmers of their age-old right to sell their seeds.
- It introduces a loophole for approving genetically modified food crops for commercial release without the necessary safety approvals through a provisional registration mechanism. This could compromise the integrity of the national biosafety framework and risk unleashing irreversible harm.
- The certification of private seed entities, who significantly influence the seed market, for self-certification or private accreditation may lower seed quality standards and create a substantial conflict of interest, adversely affecting farmers and their means of support.
- Extending the registration duration could lead to seed industry monopolies, lessening the incentive to develop new and improved varieties and contradicting the registration term set by the PPVFR Act.
- The proposal to compensate farmers only based on the "expected performance under given conditions" mentioned on the seed package could lead to unnecessary legal battles, rendering this critical provision ineffective. Addressing such disputes through the Consumer Protection Act 1986 is also impractical and time-consuming, especially since Consumer Courts are not equipped to handle seed disputes.
- Although the bill gives Seed Inspectors significant authority to enforce its provisions, it does not establish a clear protocol or required approvals from superior officials. This broad delegation of power could lead to abuse, biased actions, or harassment of farmers.
- The penalties for violations remain lenient, necessitating more severe punishments to deter infractions effectively, aligning them more closely with those outlined in the PPVFR Act.
- Regarding penal actions, the bill provides loopholes for senior company officials to evade accountability if they can demonstrate ignorance of the

offense, ignoring the need to hold both individual and collective management members accountable for their company's operations.

The most notable drawback is that the PPVFR Act requires that any sold registered seed must include information on its expected performance under certain conditions. Should a farmer not achieve the promised performance under these conditions, they are eligible for compensation from the breeder of that particular registered variety, as decided by the PPVFR Authority.⁸² Conversely, the Seed Bill contains a more complicated compensation mechanism, both in terms of the claims process and the calculation of compensation. According to the Bill, a farmer can seek compensation from the producer, distributor, or seller, which may lead to confusion about who the claim should be filed with. Additionally, seeking compensation according to the Consumer Protection Act 1986⁸³ can be a long, difficult, and costly process for the farmer, owing to the limitations of Consumer Courts in India. These courts, situated in urban areas, lack specialization in issues related to seeds and agriculture, rendering the Seed Bill's compensation provision almost unattainable for most farmers living in remote rural regions.

3.3.D.3 THE SEED BILL, 2010.

The Seed Bill of 2010 excludes farmers from its scope, following the Standing Committee's advice⁸⁴. This legislation explicitly ensures that it won't limit farmers' rights to grow, plant, replant, save, exchange, share, or sell their own farm seeds and planting materials unless they are in the business of selling branded seeds. Moreover, the bill broadens the definition of 'farmer' to encompass individuals who, alone or with others, conserve or enhance traditional seed varieties by selecting and identifying beneficial traits. Given that the Seed Bill of 2010 centres on the commercial production, sale, and

⁸² C. Niranjan Rao, Indian Seed System and Plant Variety Protection, 39 EWP, 845-852(2004).

⁸³ CONSUMER PROTECTION ACT, 1986. [Act No. 68 of Year 1986, dated 24th. December, 1986]

⁸⁴ S BALA RAVI, Fault Lines in the 2010 Seeds Bill, 45 EWP, 12-16(2012)..

⁸⁴ HARBIR SINGH, RAMESH CHAND, The Seeds Bill, 2011: Some Reflections, 46 EWP, 22-25(2011).

distribution of quality seeds by both seed companies and public sector entities, leaving farmers and traditional seed conservation methods outside its coverage, some recommendations are being proposed to strengthen the legal framework and address misconduct in the seed industry. As it stands, the Seed Bill of 2010 seems more like a continuation of earlier efforts to oversee and regulate the seed market rather than a significant reform. The suggested revisions yet again tilt in favour of private seed entities and corporations, detrimentally affecting farmers. The continued sale of fake and inferior seeds, combined with a lack of price control, not only dupes farmers but also places an increasing financial burden on them, making agriculture less profitable.

3.3.D.4 THE SEED BILL 2011.

The revised version of the Seed Bill clearly outlines that it won't limit a farmer's ability to cultivate, plant, replant, conserve, utilize, exchange, share, or sell their agricultural seeds or planting resources. Additionally, it states that farmers will not fall under the definition of 'producer.' However, the legislation does prohibit the sale of such seeds or materials under a trademark. Currently, the Bill characterizes a farmer not only as someone who grows crops but also as an individual who, alone or in collaboration with others, maintains or conserves traditional seed varieties or enhances these varieties by recognizing and selecting their beneficial traits. Nevertheless, these changes are still insufficient to safeguard the comprehensive ancestral rights of farmers as growers, conservators, and developers of new seed varieties. It is essential for the Seed Bill to ensure farmers' rights to cultivate, breed, select, sow, replant, conserve, utilize, exchange, share, distribute, or sell all seed types. The existing version of the Seed Bill lacks measures for controlling prices and royalties or for guaranteeing seed provision. There's a need for the Bill to enforce strict regulation over pricing and royalties, along with seed availability. The legislation mandates mandatory registration and certification of all commercially sold seeds, except for those classified as farmer varieties. It sets forth a registration period of 10 years for annual and biennial seeds and 12 years for perennial seeds with the option for renewal. Consequently, this permits the commercial sale of registered seeds for a duration of 20 years for annual/biennial

varieties and 24 years for perennials, potentially enabling the formation of seed monopolies through indirect means which is against the aim of PPV&FRA.

3.3.D.5 DRAFT SEEDS BILL, 2019.

A proposed seed bill is currently pending in Parliament, aiming to update the outdated Seed Act from 1966⁸⁵. This new bill is essential for regulating the seed industry and trade, ensuring that farmers receive protection from fake seeds and mandating that only high-quality seeds are marketed. However, the drafted bill seems to favour the seed industry's interests over those of farmers. Contrastingly, the 2001 Protection of Plant Varieties and Farmers Rights Act (PPVFRA) was more aligned with protecting farmers' rights. The draft seeds bill appears to counteract several of the beneficial measures provided under the PPVFRA. For example, the PPVFRA stipulates that the government should regulate seed prices and availability through mandatory licensing, but the new bill lacks such mechanisms, potentially leading to higher seed prices and possible shortages. The agriculture parliamentary standing committee has highlighted the importance of embedding seed supply and price regulation within the legislation itself.

Furthermore, the proposed bill does not mandate the disclosure of parental lineage for registered seed varieties. This omission eliminates the possibility of benefit-sharing as outlined in the PPVFRA, which requires plant breeders using farm-sourced varieties for their new breeds to contribute a portion of their profits to a national gene bank. The absence of this data allows seed proprietors unfettered access to the full spectrum of crop genetic diversity without prior consent or benefit-sharing, effectively sanctioning the theft of genetically valuable materials, commercially successful strains, and farmer-developed breeding lines.

Notably, the PPVFRA includes a provision allowing for public objections before rights are granted, to prevent potential misuse. This protective measure is missing from the seeds bill. Additionally, while the PPVFRA offers a framework

⁸⁵ Suman Sahai, the draft seeds bill favours the industry over farmers | Opinion, Hindustan Times, December 04, 2019, <https://www.hindustantimes.com/analysis/the-draft-seeds-bill-favours-the-industry-over-farmers-opinion/story-T3xuLM0ApoL2Z7fHInUT4H.html>

for farmers to seek compensation for poor-quality seeds directly, under the new bill, farmers are redirected to consumer courts under the Consumer Protection Act, a process that can be both costly and time-consuming, with no guaranteed outcome.

The proposed legislation's penalties for breaches by seed companies are too lenient, and an exemption clause absolves company officials from liability for infringements committed unknowingly. This aspect of the bill weakens accountability and does little to deter exploitation of farmers.

Since its initial draft in 2004, numerous experts and the Parliamentary Standing Committee have suggested revisions to make the seeds bill more equitable. Efforts, including a national consultation organized by Gene Campaign and the National Commission on Farmers, have aimed at refining the bill to better serve farmers' interests. The government's commitment to doubling farmer incomes contrasts sharply with a bill that undermines farmers' livelihoods at their core.

3.4. CHALLENGES IN THE ENFORCEMENT OF THE PPV&FRA.

This section delves into the detailed analysis of the empirical data gathered for validating the findings of this comprehensive study. Specifically, the empirical data under examination was obtained to shed light on the dynamics of the effective enforcement of the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA). The survey is done within the agricultural community of the Kadamakkudy region, located in Ernakulam.

To ensure a holistic understanding, this study included direct interviews with the agricultural community of Kadamakkudy, including the Secretary and Vice President of the Padasekharam Samithi. These interactions provided invaluable insights into the grassroots level challenges and operational dynamics related to the PPVFRA. Additionally, discussions were held with the Officer in charge at the Krishi Bhavan, located within the Kadamakkudy Panchayat. These discussions were complemented by engaging with a range of Agricultural Scientists, Officers, and Academics who have dedicated their careers to the field

of agriculture. This diverse pool of viewpoints and expertise contributed to a well-rounded analysis.

One of the focal points of this analysis is the level of awareness regarding the act among its key stakeholders. This is particularly significant in the context of small-scale farmers, who are crucial to the agricultural sector yet often find themselves on the periphery of policy impacts and implementation strategies. The analysis highlights that despite the act's critical importance in protecting plant varieties and ensuring the rights of farmers, there is a palpable gap in awareness that needs to be addressed.

By delving into these aspects, this section not only aims to highlight the challenges encountered in the enforcement of PPVFRA but also serves as a bridging point towards devising strategic solutions that can enhance the effectiveness of this crucial act. The overarching goal is to create a more inclusive, aware, and empowered farming community that can leverage the protections and opportunities provided by the PPVFRA, thereby fostering a more robust and sustainable agricultural framework.

3.4.1 METHODOLOGY

The relevant data was collected by interviewing a number of 15 farmers directly as well through phone, the Secretary and Vice President of the Padasekharam Samithi, Officer of the Krishi Bhavan, Kadamakkudy Grama Panchayat. As well, a questionnaire which consists of a mix of demographic and specific questions were prepared and the relevant data was obtained from the farmers. To ensure a structured and effective collection of data, a meticulously prepared questionnaire was utilized. This questionnaire was designed to cover a broad spectrum of topics, including demographic details and more specific, targeted questions relevant to the agricultural field. This tool proved instrumental in extracting valuable insights directly from the farmers themselves. Moreover, the research effort was strengthened by engaging in discussions with experts in the agriculture sector. This included Agricultural Scientists and Officers, along with other professionals working in areas related to agriculture within Kerala. Their expert opinions and insights added a deeper layer of understanding to the research.

Furthermore, discussions were initiated with academics who specialize in agriculture and Intellectual Property Rights (IPR). These conversations aimed at capturing a holistic view of the agricultural landscape, focusing not only on the practical aspects of farming but also on the theoretical and legal frameworks that support agricultural innovation and protection.

Through this multi-faceted and comprehensive approach, the study aimed to capture a wide range of perspectives and insights, from the grassroots level of individual farmers to the more abstract level of policy and intellectual rights, thereby providing a rich and nuanced understanding of the current scenario.

3.4.2 SURVEY DEMOGRAPHICS

The survey was conducted among the farmers especially, small scale farmers, corresponding persons associated with the Padasekharam Samithi which is the organization of those farmers in the Kadamakkudy Panchayat. As per the data collected, about 51 acres of land are being used for Pokkali Rice which is a variety having GI tag and the same land is been used for prawn farming too. In a year, Pokkali rice as well the prawn cultivation is done alternatively. After Monsoon, the farmers will be sowing Pokkali seeds and after its harvest, prawn cultivation is done. The land is apt for Pokkali rice variety. The growing period is 120 days. As per the farmers there is no additional requirements and expenses in manure procurement hence their pre-harvest expenses are only limited to the procurement of seeds. As per the details provided by Secretary and Vice President of the Padasekharam Samithi, about 500 to 550 farmers are there in the Panchayat which includes both the large scale as well as small scale farmers, where small scale farmers contribute to most of the population. Most of the land is being cultivated by the farmers who owns the land. Land owned by the farmers ranges from 40 cents to 400 cents as per the details provided by them.

3.4.3 SURVEY RESULTS

The first set of questions were commonly asked to the farmers as well as the concerned authority in the Kadamakkudy Panchayat. These questions aimed to understand the prevailing agricultural challenges, gauge the effectiveness of current policies, and identify areas needing improvement or support.

The Farmer's response to the question whether they have heard about The Protection of Plant Varieties & Farmers Rights Act, 2001 was that they haven't heard of the said act, the Secretary and Vice President of the Padasekharam Samithi had a mixed response. The Officer of the Krishi Bhavan's response was that he is aware of the said act⁸⁶.

In response to my subsequent inquiry, the farmer indicated a lack of awareness regarding the mentioned legislation and its associated advantages. The Secretary and Vice President of the Padasekharam Samithi expressed the opinion that the sole benefits accrued by the farmers within the Panchayat are facilitated through the Krishi Bhavan. The Officer at the Krishi Bhavan mentioned he is recently appointed and therefore not familiar with the provisions and benefits outlined in the Act.

The subsequent questions were asked in response to their apparent ignorance regarding the Act, aiming to ascertain if they are indirectly benefitting from the provisions of the PPVFRA despite being unaware of it. The objective is to shed light on any inadvertent advantages they might be receiving, thus highlighting the importance of a comprehensive understanding of the Act's implications and benefits even among those who might not be directly engaging with it. The Farmer's responded that they used to get training programs regarding their cultivation practices and procurement of seeds, the Secretary and Vice President of the Padasekharam Samithi were of the same opinion and also added that all the programs are conducted through Krishi Bhavan and mostly the awareness programmes will be related to some Central Government Policies such as PMFBY, which aims in providing insurance service for their farmers. and not regarding any protection of their rights. The Officer of the Krishi Bhavan's response was that since he is newly appointed, he is not aware of the programs being conducted.

The next set of questions was directed specifically to the farmers in order to gain a deeper understanding of their level of awareness regarding the assortment of benefits provided to them and the specific conditions attached to these benefits.

⁸⁶ fig 3.1: Awareness of the farmers about PPV&FRA, at pg.109.

This initiative aimed at identifying the gaps in knowledge and understanding among the farmers concerning the aids and subsidies offered by various organizations and government bodies, assessing how well-informed they are about the eligibility criteria, application processes, and the effective utilization of these supports to improve their farming practices and livelihood.

The majority of farmers in the region were unfamiliar with the concept of Geographical Indications (GI) tags, indicating a significant gap in awareness and understanding of intellectual property rights related to agricultural products. Only a select few, primarily those engaged in specialized breeding activities, had any awareness or knowledge of GI tags. This lack of awareness is a concerning issue, as GI tags serve as a certification that certain products have a specific geographical origin and possess qualities or a reputation due to that origin. Essentially, these tags can play a critical role in protecting the uniqueness of the products, thereby potentially enhancing their market value and ensuring that the cultural heritage and the livelihoods of the local farmers are safeguarded. The absence of this knowledge not only hinders the potential economic benefits that could be accrued through the proper use of GI tags but also leaves the traditional products vulnerable to imitation and misuse in the global market. It underscores the need for targeted educational and outreach programs aimed at bridging this information gap and empowering farmers with the tools and knowledge to protect and promote their products on a larger scale. The farmers, those who have been tending to their fields day in and day out, were surprisingly oblivious to the existence of the Geographical Indication (GI) tag that had been awarded to the Pokkali rice, a distinction that not only celebrates its uniqueness but also safeguards its production⁸⁷.

In addressing the inquiry on whether farmers possess the capability to breed new plant varieties and the subsequent ownership rights associated with such innovations, a group of farmers provided an insightful response. They disclosed a lack of awareness regarding the processes of registering new plant varieties, as well as the potential advantages that registration might entail, indicating a gap in knowledge surrounding the legal frameworks designed to protect agricultural

⁸⁷ fig 3.2: Awareness of GI tag among the farmers at pg.109.

innovations. Consequently, they were uncertain about the ownership rights over new varieties they might develop.

Despite this shortfall in information concerning formal recognition and protection, these farmers have actively engaged in crop innovation. They proudly cited the development of a novel rice variety, designated as "Vyttila-6." This particular variety stands out due to its short growing period of just 90 days, alongside its enhanced tolerance to saline conditions, among other advantageous traits.

When inquired about their practices regarding the development and exchange of seeds, along with any challenges they face in securing necessary materials for farming, such as seeds or new varieties, the farmers elaborated on their reliance on external suppliers for their seed needs. They clarified that they do not cultivate their own seeds; instead, they procure them either from private suppliers, who set their own prices, or from governmental sources like Krishi Bhavan. The farmers highlighted a significant challenge in this procurement process, especially evident during the peak sowing seasons when the demand for seeds surges dramatically. Due to the heightened demand, the prices of seeds can escalate considerably, forcing farmers to purchase them at higher rates. This situation adversely impacts their profitability and income, as the increased cost of seeds directly affects their overall expense structure, thereby squeezing their already tight profit margins. This insight into the farmers' experiences underscores the broader systemic and logistical issues affecting agricultural productivity and financial viability, reflecting a critical area of concern that requires attention and intervention for sustainable agricultural development⁸⁸.

When enquired about the ways in which the government helps them with regards to actual funds, subsidies etc, and how beneficial it has proved to them, the farmers elaborated on their experiences, recalling that they had access to various training programs focused on enhancing their cultivation techniques and the procurement of quality seeds. They highlighted that these educational sessions were primarily organized through Krishi Bhavan, serving as a vital conduit for

⁸⁸ fig: Development of seeds by farmers, at pg.110.

information and resource distribution. Moreover, they emphasized that a significant portion of these awareness programs was directly linked to central government initiatives aimed at supporting the agricultural sector. One such policy that was frequently discussed during these sessions is the Pradhan Mantri Fasal Bima Yojana (PMFBY), an insurance service designed with the farmers' welfare in mind. Through PMFBY, the government seeks to mitigate the risks associated with crop failure, offering a layer of financial security to the agricultural community. This engagement not only helped in updating the farmers' knowledge base but also facilitated a better understanding of how government policies could be leveraged for their benefit, leading to more informed decision-making and efficient farming practices.

3.4.4 ANALYSIS & CONCLUSION

From the relevant data collected it is found that there is lack of awareness of PPVFRA among the farmers as well as the concerned people of the organizations in which these farmers are a part of. Also, they are not aware of the rights conferred under the PPVFRA or the option to register the varieties they have developed. There is also no knowledge of the GI tag and the exclusive rights associated with it among them. They don't even have an idea that the rice variety they cultivate is having GI tag. There is lack of proper awareness and training programmes. The officer of the Krishi Bhavan is new to this field and he is not able to provide much information.

The only awareness programmes being conducted are regarding Central government's policies such as PMFBY and some other related insurance policies and some relief programmes. All programs are conducted through Krishi Bhavan.

The farmers in this region are organized under Padasekharam Samithi. This Samithi meets once in every year and will be hearing the grievances of the farmers and will be discussing various aspects related to farming and will send a report to Krishi Bhavan.

The farmers are mostly small-scale farmers, who are engaged in Pokkali rice and prawn farming alternatively. The farmers are not self-sufficient in seeds,

instead they procure it from outside. The problem with the procurement from private breeders and companies as pointed out by the farmers are they will supply the seeds only at a high cost and they are not able to negotiate it since there is no other source. Medium scale and large-scale farmers are able to meet the situation effectively, but the small-scale farmers are not able to. Hence, sometimes during the sowing season, Krishi Bhavan will procure the seeds and will supply the same to the farmers.

The harvested crops are directly bought by the co-operative banks at a minimal cost. The farmers are not directly involved in selling. The income of the farmers is not up to the mark and they are continuing this farming practice for generations. Most of the farmers cultivates Pokkali in their own fields itself which have passed on to them from generations.

The creation of Vyttila-6 underscores the farmers' potential to contribute significantly to agricultural progress through the development of new varieties tailored to meet specific challenges, such as improving crop resilience and reducing the cultivation timeline.

This instance illuminates the essential role that farmers play in the continuous improvement of agricultural practices and the cultivation of crops that are better suited to the changing environmental conditions and agricultural needs. It also highlights the need for increased awareness and support regarding intellectual property rights in agriculture, to ensure that innovators, including farmers who develop new plant varieties, are recognized and rewarded for their contributions. Through appropriate guidance and support in the registration process, farmers can secure ownership rights over their innovations, fostering an environment that encourages continuous innovation and the sharing of beneficial agricultural advancements.

Based on my analysis, it is evident that there is a pressing need for the implementation of comprehensive awareness programs through Krishi Bhavan. These programs are essential for educating farmers and organizational leaders about the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA), Geographical Indications (GI) tags, and the various rights afforded to farmers under the PPVFRA. It has come to my attention that there is a notable lack of

awareness among farmers regarding the existence of this Act. As the primary beneficiaries of this legislation, it is crucial that farmers are not only informed about the existence of the PPVFRA but are also well-versed in the various provisions contained within the Act that are of benefit to them.

Moreover, there exists a critical imperative to implement comprehensive and meticulous training programs for Agricultural Officers prior to their appointment. Such a strategic approach is fundamental in ensuring that these officers possess the requisite knowledge, skills, and expertise to effectively advocate for, promote, and safeguard the interests of farmers within their designated regions. This proactive measure will not only elevate agricultural standards but also significantly contribute to the sustainable development of the agricultural sector, thereby securing the livelihoods of farmers and enhancing food security nationally.

3.5 ACADEMICS VIEW ON THE EFFECTIVENESS OF PPVFRA IN THE PROTECTION OF FARMERS RIGHTS.

For the purpose of collection of data, I have talked with my professors who taught me in LL. B, who have expertise and specialization in IPR. Also, I have tried to gather the different views of Academics through various articles, newspaper writings, conference reports, brochures, reports of various awareness and training programmes conducted by ICAR etc. The result of my discussions and analysis was well going with my findings of the topic.

The positive aspects discussed by the academics were, the PPVFRA encompasses a broad understanding of the integral role that farmers play in the conservation and improvement of plant genetic resources. This formal recognition by the act is not merely a nod of acknowledgment but a crucial step in valuing the deep-seated traditional knowledge and practices that have been passed down through generations of farmers. These practices, inherently sustainable and environmentally friendly, have contributed significantly to the biodiversity of crops and the overall health of our ecosystems.

Also, the provisions outlined in the PPVFRA, which empower farmers to freely save, use, sow, re-sow, exchange, share, or sell their farm produce, including

seeds, resonate deeply with the principle of autonomy over one's resources. This empowerment goes beyond the mere act of farming; it is about ensuring that farmers maintain control over their means of production and the fruits of their labour. This level of control is not just a matter of economic independence but also a safeguard against the erosion of traditional agricultural practices and knowledge systems.

Another important aspect stated by them was that the compensation offered to farmers if a registered variety fails to deliver as promised mark a progressive approach to risk-sharing in agriculture. Traditionally, the burden of crop failure, often exacerbated by the unpredictable nature of climatic conditions and the potential for seeds not performing as expected, lies heavily on farmers. By introducing a formal mechanism for compensation, the PPVFRA acknowledges these risks and offers a buffer that can help to mitigate the financial uncertainty that farmers face. This is particularly important in the context where farming is not just a livelihood but a way of life for entire communities.

The other important provision which came under discussion was the benefit-sharing provisions enshrined in the act which is a testament to an evolving understanding of justice in the agricultural sector. By ensuring that farmers and local communities receive an equitable share of the benefits derived from the commercial use of plant genetic resources, the act seeks to rectify historical injustices where the contributions of local and indigenous communities were overlooked. This approach not only honours the invaluable contributions of these communities but also incentivizes the continued conservation and sustainable use of biodiversity.

Also, the establishment of the National Gene Fund under the auspices of the PPVFRA is a visionary move towards securing the future of genetic resources. By allocating resources towards the conservation and sustainable use of these resources, the fund acts as a catalyst for initiatives that aim to maintain, enhance, genetic diversity. This is crucial in an age where the threats to biodiversity are multifaceted and ever-increasing. Through such funding, the act ensures that conservation efforts are not only sustainable but also adaptive to the challenges posed by climate change and other environmental pressures.

The drawbacks or negative aspects of PPVFRA was also pointed out by them at the same time, within the academic community, there's considerable consensus that the PPVFRA's effectiveness in protecting plant varieties and farmers' rights is significantly hampered by a pervasive lack of awareness among the farming community about their entitlements under this legislative framework. They strongly emphasize the acute necessity for extensive education and outreach initiatives targeting farmers to bridge this knowledge gap. They argue that such initiatives should not only aim to raise awareness but also to empower farmers with the knowledge to effectively utilize the Act for their benefit.

It is also pointed out by them that the procedure for registering plant varieties, as it stands, is criticized for its complexity and the bureaucratic hurdles it presents, especially to small and marginal farmers who often lack the resources and expertise to navigate these processes. This complexity erects barriers to protection under the law, inadvertently favouring more resource-rich entities, such as commercial breeders. They propose a simple registration process, advocating for it to be made more farmer-friendly, thereby democratizing access to the benefits of the Act.

Moreover, they pointed out the problems with the enforcement of the Act's provisions as a notable area of weakness. Scholars observe that despite the well-meaning framework of the Act, discrepancies and gaps in implementation at the grassroots level significantly dilute the protection it offers to the farming community. These gaps not only weaken the Act's effectiveness but also erode trust among farmers regarding the utility of engaging with the legal framework meant to protect them.

As well, the Act's benefit-sharing provisions, although crafted with good intentions, are plagued with issues pertaining to their actual execution and the equitable distribution of benefits. The lack of transparency and inefficiency in how these mechanisms operate further exacerbates farmers' positions, often leaving them without the promised share of benefits. This situation calls for a structural re-evaluation of benefit-sharing mechanisms, to ensure they serve the interests of farmers effectively and fairly.

One of the major criticisms shared by the academics were, the Act falls short in providing robust protection for traditional knowledge and in safeguarding against biopiracy. Concerns are expressed about the unauthorized use and misappropriation of genetic resources and traditional knowledge by entities without due compensation or acknowledgement to the indigenous communities and farmers who have nurtured and preserved these resources over generations. This oversight raises ethical and fairness issues, spotlighting the need for the Act to incorporate stronger provisions against biopiracy and to better recognize and reward the contributions of traditional communities and small-scale farmers.

They have also added that while the PPVFRA endeavours to balance the rights and interests of breeders with those of farmers, achieving this equilibrium in practical terms is fraught with challenges. The academic discourse suggests that the current balance tends towards favouring commercial breeders, thereby undermining the standing of farmers. There are calls for the introduction of more robust safeguards within the legislation to ensure that farmers' rights are not overshadowed by the interests of more powerful commercial entities. These safeguards are viewed as pivotal in enabling a fairer and more equitable sharing of benefits arising from plant breeding and ensuring that the Act fulfils its intended role of protecting and promoting the interests of all stakeholders, particularly those of the farming community especially that of small-scale farmers.

They have also provided me with some valuable suggestions and recommendations to remove the ambiguities and disparities concerned with the legislation. To further enhance the effectiveness of agricultural policy, they underscore the necessity of amplifying educational endeavours and awareness programs aimed at farmers, concerning their entitlements and the mechanisms for registering crop varieties, in addition to delineating the process for claiming benefits rightfully due to them. To this end, it is proposed that a comprehensive strategy be adopted, involving the organization of training programs, workshops, and other educational forums through various organizations directly having contact with the farmers. Also suggested that the use of local languages

in these educational activities is crucial to ensure that the information is accessible to the widest possible audience among the farming communities.

Moreover, it is suggested that the process for registering new plant varieties should be made more straightforward and less cumbersome, thereby minimizing bureaucratic obstacles that currently hinder the participation of many farmers. By simplifying these procedures, a larger number of agricultural producers can be encouraged to utilize the legal protections and benefits that the legislation in question envisages.

Most importantly, strengthening the mechanisms for the enforcement of the Act is essential. This implies not only enhancing the legal and administrative framework but also ensuring the provision of adequate resources and infrastructure at the grassroots level. Such enhancements would facilitate the Act's implementation, thereby making its benefits more tangible for the intended beneficiaries.

Transparency and fairness in the sharing of benefits derived from the use of plant varieties are of paramount importance. Rightful compensation and benefit-sharing mechanisms should be clearly outlined, with explicit guidelines on the calculation and distribution of benefits. This approach is vital to maintain trust and encourage the continued participation of farmers and local communities in the system.

According to them, addressing the challenge of biopiracy demands the implementation of more robust measures to safeguard traditional knowledge and genetic resources from exploitation. It's imperative to ensure that the use of these resources is accompanied by appropriate compensation and benefits to the communities, especially the indigenous communities that have preserved them over generations.

They also pointed out the need for investing in R&Ds in order to ensure the continuous improvement of the Plant Variety Protection and Farmers' Rights Act (PPVFRA), and for that ongoing research and monitoring are indispensable. These activities will help in evaluating the impact of the Act and identifying potential areas for refinement. Collaboration with academic institutions can play

a key role in this context, offering valuable insights and data that can inform policy decisions and adjustments.

3.5.1 ANALYSIS & CONCLUSION

Academics widely regard the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA) as a pivotal advancement in the endeavour to safeguard the rights and interests of farmers across India. This recognition comes with an understanding that the Act not only aims to protect the proprietary rights of plant breeders but also acknowledges and secures the invaluable contributions of farmers to the conservation and development of plant genetic resources. However, while the Act represents a crucial legislative gap, scholars identify several critical areas that require attention to fully realize its objectives.

One of the primary concerns raised pertains to the level of awareness about the PPVFRA among the very demographic it seeks to benefit. Despite its potential, the effectiveness of the Act is hampered by a lack of widespread knowledge and understanding among farmers and farming communities. Enhancing awareness through comprehensive education and outreach programs is deemed essential for ensuring that farmers not only recognize their rights under the Act but also understand how to invoke these rights effectively. In addition to awareness, accessibility to the mechanisms and benefits provided under the Act poses another significant challenge. Many farmers, especially those in remote areas, find it difficult to navigate the legal and bureaucratic processes required to register plant varieties or to claim benefits which is obvious as per my findings in the survey conducted among the farming community in the Kadamakkudy Gramapanchayat. Simplifying these procedures and making the system more user-friendly would greatly increase the utility of the PPVFRA for farmers across the country.

Enforcement is another crucial area highlighted by academics. The current enforcement mechanisms of the PPVFRA often fall short in protecting the rights it grants. Strengthening these mechanisms and ensuring they are adequately resourced and empowered to act against infringements of farmers' rights is necessary for the Act to be truly effective. Furthermore, the issue of benefit-sharing mechanisms under the Act is a point of contention. While the PPVFRA

ostensibly supports fair and equitable sharing of benefits arising from the use of plant genetic resources, the practical implementation of this principle is fraught with difficulties. Establishing clear, fair, and easily navigable paths for benefit-sharing that recognize the contributions of both breeders and farmers is critical.

By addressing these challenges by enhancing awareness, improving accessibility, strengthening enforcement, and refining benefit-sharing mechanisms, the PPVFRA can significantly advance its mission of supporting farmers and preserving agricultural biodiversity in India. If policymakers heed these recommendations, they can markedly amplify the protection afforded to farmers' rights and the conservation of biodiversity. Such advancements would go a long way in ensuring that agricultural practices remain sustainable, equitable, and profitable for future generations, thereby securing food security and livelihoods for millions of people.

3.6 CONCLUSION

The PPVFR Act in India stands out from other nations in terms of offering enhanced protection to farmers, largely due to India's deep-rooted agricultural traditions and the crucial role farming plays in its economy⁸⁹. With a history steeped in agriculture, India relies on the sector not only for food security but also as a primary source of livelihood for the majority of its inhabitants, making a significant contribution to the nation's GDP. In acknowledgment of farmers' pivotal function, the Indian government has put forth policies and legislations designed to shield their welfare⁹⁰. Notably, the PPVFR Act includes clauses that permit farmers the rights to save, use, exchange, share, or even sell farm-saved seeds of protected varieties under specific circumstances. This mirrors India's commitment to upholding farmers' rights, giving nod to the enduring practices of seed saving and sharing that have long been integral to Indian farming. The Act in permitting these practices, appreciates farmers' wisdom and their role in seed selection, conservation, and in adapting to the environmental specifics of

⁸⁹ Sanjeev Saxena, B. S. Dhillon, *The Protection of Plant Varieties and Farmers' Rights Act of India*, *Curr sci.*, 86, 392-398(2004).

⁸⁹ N. Anil Kumar, *supra* note 34.

⁹⁰ *ibid.*

their locales. It also shows a commitment to preserving agricultural biodiversity and the survival of crop types that are optimally suited to certain areas. Moreover, the Act's provision that allows farmers to use protected varieties for their own use or in the development of new varieties is key to the continuation of agricultural advancements in India. It enables farmers to advance their crops through selection and breeding, without being heavily limited by intellectual property laws. This focus on safeguarding farmers' interests is in line with India's dedication to sustainable farming, ensuring food security, and the well-being of its farming communities. By increasing protection for farmers, the government aims to support their ongoing involvement in agriculture, foster rural development, and secure the nation's food independence. It's pivotal to recognize, however, that while India prioritizes farmers' rights within its unique agricultural and socio-economic context, thus balancing breeders' and farmers' interests, a significant challenge remains in educating farmers about intellectual property rights (IPR).

CHAPTER 4

CONCLUSIONS AND SUGGESTIONS

4.1 CONCLUSION

The Indian government's focus on food security, agricultural research, and the development of new plant varieties is a testament to its long-standing commitment to ensuring the well-being of its population and the sustainability of its agricultural sector. This dedication stems from an understanding of the critical importance of agriculture not just as an economic activity, but as a lifeline for a significant portion of the population. Recognizing the need to balance innovation in agriculture with the protection of plant varieties, India, along with other members of the World Trade Organization, is subject to the provisions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement. Article 27.3(b) of the TRIPS Agreement provides a framework through which member countries can protect new plant varieties. Specifically, it allows for the protection of these varieties either by patents, a sui generis (unique) system, or a combination of both. This provision is crucial as it offers flexibility to countries in determining how best to protect the intellectual property rights associated with agricultural innovations, taking into account their own legal systems and socio-economic realities. According to the TRIPS Agreement, member nations must offer protection for intellectual property rights related to plant varieties. The government of India has opted for a sui generis approach, considering the needs and interests of different groups such as farmers, breeders, and organizations focused on agriculture.

In the case of India, this flexibility allows the government to tailor its approach to protecting plant varieties in a way that supports its goals for food security and agricultural development. By fostering an environment that encourages research and innovation in agriculture while ensuring that new plant varieties are protected and rewarded, India aims to enhance its agricultural productivity and sustainability. This balanced approach seeks to ensure that farmers have access

to innovative agricultural techniques and plant varieties, ultimately contributing to the country's food security goals and the well-being of its people⁹¹.

India had chosen this sui generis system on the context that the UPOV model is not suitable for a developing country⁹² like India since the system focuses more on the Breeders rights and ignores the Farmers rights.

The Indian Protection of Plant Varieties and Farmers' Rights (PPVFR) Act stands out as a pioneering legal framework for its comprehensive approach in recognizing and safeguarding the rights of farmers regarding their contributions to plant breeding and variety preservation. At the heart of this legislation is an acknowledgment of the pivotal role that farmers play in the conservation, enhancement, and dissemination of plant genetic resources, essential for the development of new and improved plant varieties. Recognizing these efforts, the Act seeks to protect farmers from being unjustly penalized for inadvertent infringement, thereby ensuring their continued contribution to agricultural diversity and innovation.

The PPV&FR Act underscores the multifaceted roles of farmers not merely as cultivators but as innovators and stewards of biodiversity. It appreciates the intricate knowledge systems employed by farmers in the selection, breeding, and conservation of plant varieties. This includes their adept skills in recognizing the potential of wild species, traditional varieties, and germplasms, utilizing these resources to produce or select new varieties through a sophisticated understanding of their ecological and cultural environments.

One of the Act's hallmark features is its dedicated chapter on Farmers' Rights, which exemplifies the legislation's intent to create a balanced and inclusive framework. This specific provision aims at bridging the gap between informal agricultural innovations fostered by traditional knowledge and the formal scientific advancements of modern plant breeding⁹³. By doing so, it not only

⁹¹ Kumar, Amarjeet, "Plant Varieties and Farmers" Rights Act, 2001, IIPRD BLOG INTELLECTUAL PROPERTY DISCUSSIONS (Jan. 17 2023) <https://iiprd.wordpress.com/2016/01/>

⁹² Sahai.S, Protection of New Plant Varieties: A Developing Country Alternative, EWP, 6-19(1999).

⁹³ Publications (2023) IPR Law India - Indian IP Law Resources. (Mar 20, 2024), <https://iprlawindia.org/publication/> (Accessed: March 9, 2023)

acknowledges but actively promotes the invaluable contributions made by farmers in nurturing plant biodiversity and ensuring food security.

Moreover, the Act facilitates a supportive environment for farmers to engage in the sustainable use of plant genetic resources and the equitable sharing of benefits arising from their use. In essence, it sets a precedent for recognizing the rights of farmers not only as beneficiaries but as key contributors to the national and global genetic pool.

The critical role of allowing farmers the autonomy to sell seeds is crucial within the Indian seed production landscape. In India, farmers are the primary source of seeds, supplying roughly 87% of the more than 60 lakh tons needed annually by the country. Prohibiting farmers from selling seeds would lead to significant financial losses for them. More significantly, it would shift the role of the main seed supplier away from the farming community. Additionally, safeguarding farmers by waiving fees is essential to maintain their status as the nation's principal provider of seeds.

Lack of robust Farmers' Rights, such as the prohibition on seed sales, enables seed corporations to monopolize the seed sector because farmers are prevented from acting as seed vendors. This space, left by them, will be occupied by the seed businesses because public sector entities have been significantly weakened by financial reductions, rendering them unable to compete. Consequently, the seed industry would emerge as the primary source of seeds. On the other hand, strong Farmers' Rights, which permit farmers to remain an essential source of seeds, empower the agricultural community to be a strong competitor and a formidable obstacle against the corporate sector's attempt to monopolize the seed market. Having control over seed production is crucial for food security, which plays a pivotal role in national security⁹⁴.

Overall, the Protection of Plant Varieties and Farmers' Rights Act represents a significant stride towards creating a respectful and reciprocally beneficial relationship between the agricultural community and the realm of scientific research and development. By harmonizing the interests of these diverse

⁹⁴ Sahai, S., An Analysis of Plant Variety Protection and Farmers right act, 2001, Gene Campaign, New Delhi,2001

stakeholders, the Act paves the way for a more sustainable, innovative, and inclusive future in agriculture.

Despite its efficient setup, the PPVFRA's efficiency in safeguarding the rights of farmers encounters numerous obstacles. A significant barrier is the minimal awareness among farmers regarding their entitlements afforded by the Act, leading to many being unacquainted with the PPVFRA's details. This lack of knowledge hampers their capacity to leverage the Act's advantages, highlighting the urgent requirement for extensive education and outreach initiatives to eliminate this information deficit. The process to register plant varieties often involves complicated and bureaucratic hurdles. It is imperative to streamline these processes to enhance accessibility for small-scale and marginal farmers. This improvement could entail minimizing paperwork, offering support in regional languages, and facilitating an easier navigation through the system. Another issue lies in the enforcement of the Act's regulations, where discrepancies between legislation and practical application persist. Augmenting the capabilities of local enforcement bodies and ensuring they are well-resourced are critical measures to close this enforcement gap. Although the intent behind benefit-sharing regulations is positive, their execution has encountered problems regarding transparency and equity. It is necessary to establish clear guidelines and stringent monitoring systems to assure a fair distribution of benefits, ensuring that farmers are rightfully compensated. Furthermore, the Act requires bolstered defences against biopiracy and the unauthorized use of indigenous knowledge. Enhancing legal measures and guaranteeing stringent enforcement could protect the intellectual property rights of agricultural communities effectively. Striking a balance between the rights of breeders and those of farmers presents a challenging endeavour. While it is vital to protect breeders' rights to promote innovation, these rights should not impinge upon the traditional rights of farmers. Ongoing discussions and modifications to the legal structure are vital to achieve this equilibrium.

The core of my research was aimed at assessing the impact of the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA) on the agricultural community and biodiversity conservation. The culmination of these efforts brought to light the substantial positive reverberations the PPVFRA has had in

recognizing the indispensable role of farmers in the conservation of plant genetic resources. This legislative framework has not only acknowledged their contributions but has also empowered them by granting them rights over their produce. A pivotal component of this empowerment is the establishment of mechanisms for compensation and benefit-sharing, which are particularly crucial in instances involving risks and the commercial utilization of plant genetic resources. Another noteworthy stride made possible through the act is the establishment of the National Gene Fund, aimed squarely at bolstering efforts related to the conservation of biodiversity.

Despite these advancements, the course of my research also unveiled several challenges that necessitate prompt attention. A glaring observation was the apparent deficiency in awareness among the farmer communities regarding the rights conferred upon them by the act. This lack of awareness starkly contrasts with the intended empowerment, rendering the rights somewhat ineffective in practice. Furthermore, my dialogues unveiled bureaucratic entanglements that significantly hamper the registration process of plant varieties. This cumbersome process not only discourages farmers from securing their rights but also poses potential setbacks to the conservation and sustainable use of plant genetic resources. Moreover, issues pertaining to the enforcement of the act were highlighted, signalling a gap that could undermine the act's effectiveness.

Drawing from these findings, it becomes evident that there is an exigent need for initiatives aimed at enhancing education and outreach to the farming communities. Such initiatives should not only aim at raising awareness about the rights and benefits under the PPVFRA but also at simplifying the registration process. Making the process more accessible and less intimidating for farmers is crucial to ensuring that the act's benefits are felt across the entire farming community. This approach would not only address the challenges at hand but also fortify the foundation for a more sustainable and equitable utilization of plant genetic resources, aligning with the overarching goals of the PPVFRA.

4.2 FINDINGS AND SUGGESTIONS.

My study focused on the effectiveness of PPV&FR Act in protecting the rights of farmers especially, small-scale farmers, and it aimed to find out the gaps and ambiguities in the legislation and if so, what are the corrective measures adopted by the government, to understand the awareness of the said Act among the farmers since they are the main recipients of the benefits provided under the Act.

The PPVFRA is a comprehensive piece of legislation that balances the rights of plant breeders with the traditional rights of farmers. It aligns with international treaties like the TRIPS Agreement. It was implemented on November 11, 2005. The Authority was established under Section 3 of PPVFRA and the authority so established does a number of functions proposed under the Act. Even though, the authority is the backbone of the Act, the PPV&FR Authority faces budgetary constraints, limiting its ability to carry out its functions effectively. Adequate funding is crucial for operational efficiency, outreach programs, and enforcement activities. Also, inadequate infrastructure, including technological and logistical support, can hinder the Authority's ability to process applications, conduct examinations, and enforce regulations.

The PPVFRA specifies the regulatory framework and procedures that must be followed to ensure these protections and rights are effectively implemented, in the form of PPV&FRA Rules. However, the commendable legal framework's potential efficacy encounters challenges in its translation due to significant oversights within the Rules notified under the Act. Specifically, the absence of comprehensive jurisprudential groundwork within these Rules marks a critical area of concern. These gaps in the Rules, which fail to address essential jurisprudential aspects, are recognized as areas requiring urgent attention and reform. It is anticipated that future amendments will address and rectify these shortcomings, ensuring that the Act's theoretical strengths are fully realized in practice.

Moreover, it is crucial to recognize that the mere existence of a robust legal framework does not automatically guarantee the successful operation of a sui generis system as envisaged by the PPVFR Act. The effectiveness of this system is equally dependent on the administrative mechanisms and judicial processes

that are tasked with enforcing the provisions of the Act. The operational efficacy of the Act is, therefore, contingent upon the efficiency and responsiveness of the administrative structures and judicial bodies responsible for its implementation. These entities must not only be well-equipped to interpret and apply the law in a manner that aligns with its objectives but also be proactive in addressing challenges and obstacles that may arise in the Act's enforcement.

In essence, for the PPVFR Act to fully achieve its goals and function as an effective *sui generis* system within the Indian context, comprehensive efforts are needed. This includes refining the Act's notified Rules to close existing jurisprudential gaps and ensuring that the administrative and judicial frameworks tasked with the Act's enforcement are both effective and aligned with the Act's innovative spirit. Only through a combination of legal robustness, administrative efficiency, and judicial efficacy can the PPVFR Act truly serve its purpose and contribute significantly to the protection of plant varieties and the rights of farmers in India.

The PPV&FR amendment bill has been introduced in the Parliament in 2021, now includes a new section, 39A, requiring breeders to provide farmers with a crop card upon selling propagating material of a registered variety. This card serves as a guarantee, detailing the expected performance of the variety under specific conditions and offering the right to compensation if the variety underperforms. It must include the breeder's signature, relevant details for reaching district authorities for compensation claims, and the creation of a district authority by the Authority to manage and resolve such claims efficiently. The authority is also tasked with setting guidelines for compensation amounts, with the district authority adjudicating claims and aiming to settle them within three months. But this bill is waiting to be approved. Its approval and proper implementation will help in removing most of the gaps and ambiguities in the current legislation.

While looking into the areas which requires improvement in the present act, the gaps and ambiguities in the legislation were analysed. The interesting fact is that still these confusing and inconsistent provisions are within the ambit of the Act and not struck down or amended. Addressing the gaps and ambiguities in the

Act requires a multi-faceted approach involving legal, administrative, and operational reforms

In the case⁹⁵ where the ambiguity of section 15(3) came before the court, In this instance, the High Court resorted to using the mischief rule because of the vague phrasing found in Section 15(3). This method was employed based on the established principle that, when faced with uncertainties in statutory language, the judiciary is to choose a reading that is in harmony with the intent of the legislature. Ensuring the protection of farmers and plant breeders' rights stands as the core goal of the PPVFRA. The problem is that, still that ambiguity exists and another High court may interpret it differently and there can be chances of non-uniform decisions. The particular section has to be amended in such a way that it removes all kinds of ambiguity.

Similarly, in another case⁹⁶, where there arose ambiguity in section 24(5), The Delhi High Court's decision to invalidate Section 24(5) of the PPVFRA, labelling it inconsistent with essential tenets of legal and constitutional norms, has sparked a dialogue. Despite the Division Bench of the Delhi High Court deeming Section 24(5) of the PV Act unconstitutional, the Supreme Court's subsequent suspension of this judgment raises questions about its impact on the High Court's decision. The Supreme Court's stay means that the Division Bench's ruling does not currently apply, allowing Section 24(5) to remain active until the Supreme Court delivers a final verdict. Consequently, the belief that Section 24(5) has been removed from the legislation has been dismissed. However, this uncertainty still exists, granting potentially exploitative powers to applicants, notably breeders, and adversely affecting third-party challengers, especially farmers.

There is a necessity to make sure to clearly define any unclear terms and sections in the Act to guarantee uniform understanding and enforcement. This could require modifying and refreshing the Act's wording. Also, periodical examination of the Act and how it's put into practice to discover and resolve any

⁹⁵ Maharashtra Hybrid Seed Co and Anr v. Union of India and Anr, supra note 50.

⁹⁶ Mahyco Monsanto Biotech Ltd & Nuziveedu Seeds Ltd BT Cotton Seed, supra note 55.

new uncertainties or omissions are required and the Involvement of legal specialists and relevant parties are needed in this effort.

The PepsiCo case⁹⁷ served as a pivotal moment in the ongoing discourse on farmers' rights in India. It highlighted the tensions between corporate intellectual property claims and traditional farming practices. The farmers argued that PepsiCo's demands could negatively affect their financial stability and societal status. Growing these particular types of potatoes was their main way of earning a living. The farmers claimed that their farming techniques came from age-old wisdom and accepted farming methods. They contended that this kind of knowledge and practice should not fall under the control of companies claiming intellectual property rights. While the withdrawal of the lawsuits was a victory for the farmers, it also exposed the need for greater legal clarity and stronger protections to prevent similar conflicts in the future. The case has had a lasting impact by increasing awareness and advocacy for farmers' rights under the PPVFRA, contributing to a more informed and empowered farming community.

Another problem lies with the wide ambit of definition of farmers under the act, A farmer, individual or collective, actively engages in agriculture, often possessing and applying traditional knowledge and plant genetic resources (PGR) for preservation, usage, and sharing. Rights are associated with holding Traditional Knowledge (TK) and PGR, allowing for the use, exchange, and sale of these resources by those who contribute to their conservation and development. Corporate farmers, focusing purely on commercial aspects without contributing to PGR or TK conservation, may raise questions regarding their entitlement to these rights. The state's role is crucial in assigning rights and protection to those genuinely involved in the preservation and development of PGR or TK. It falls within the paramount responsibilities of the government to actively identify individuals or groups who have played a significant role in conserving, preserving, or advancing Plant Genetic Resources (PGR) or Traditional Knowledge (TK). Recognizing these contributions is vital, and it requires the implementation of a system that not only acknowledges their efforts but also awards them with suitable rights. These might include intellectual

⁹⁷ PepsiCo India holdings pvt.ltd v/s State of Gujarat, supra note 60

property rights, financial incentives, or other forms of recognition that not only honour their work but also encourage further innovation and preservation. Additionally, it is crucial for the state to establish and enforce protective measures that safeguard these contributors from exploitation and ensure that their knowledge and resources are not misappropriated.

The registration process also faces some challenges, even though there are applications for registration as per my study results, still the more applications are from the breeders' part and not from the farmer's side. The process of registering often appears complex and bureaucratically dense, filled with extensive paperwork and numerous steps that might intimidate small and marginalized farmers. A significant amount of technical documentation is necessary for the registration of plant varieties, which can be difficult for farmers to comprehend and fulfil without guidance. The lack of access to legal and technical support may hinder farmers' abilities to efficiently go through the registration process, including the preparation of necessary documents and understanding of specific requirements. A general lack of knowledge about the benefits and procedures of registering plant varieties contributes to fewer applications being submitted by farmers. Additionally, farmers in isolated regions might struggle to reach the required facilities and infrastructure, such as labs for testing and certification, essential for completing the registration process. A limited grasp on intellectual property rights and how registering plant varieties under the PPVFRA could be advantageous also diminishes their incentive to register.

Simplifying procedures to make the application procedure more user-friendly and quicker will help. Launching comprehensive outreach efforts to inform farmers about the advantages of becoming registered and the necessary steps, providing legal and technical support services to aid farmers in the registration process, including assistance with paperwork and meeting technical standards, offering educational initiatives to enhance farmers' knowledge of intellectual property rights and the advantages of registering their crop varieties in the long run etc can be done. By tackling these challenges, the PPVFRA can enhance its accessibility and usefulness to farmers, promoting broader registration of plant varieties and safeguarding farmers' rights.

In my study, another challenging aspect found was the inconsistency of PPV&FR Act with that of GI's. Both Acts have distinct enforcement mechanisms that can sometimes overlap or create conflicts. Confusion often arises when attempting to adapt these laws to the context of farmers' varieties, emphasizing the importance of recognizing and comprehending the distinct aims and objectives of each legislation, which significantly differ from one another. There is frequently uncertainty regarding which legislation is appropriate for safeguarding products or the varieties developed by farmers. For example, if a plant variety is protected under the PPVFRA, but the product made from it also qualifies for GI protection, enforcing rights under both Acts simultaneously can be challenging. There can be instances where a product might qualify for protection under both Acts. For example, as I have discussed in Navar Rice Controversy, where there occurred a misuse of the right granted under the PPV&FR Act.

This inconsistencies can be removed by enhancing collaboration among regulatory bodies managing the PPVFRA and the GI Act by creating synergies, possibly through the establishment of combined committees or task forces focused on reconciling common concerns, by formulating consolidated strategies that align the safeguarding features of the two statutes, guaranteeing efficiency by eliminating redundant activities and ensuring that protective measures complement each other, by establishing explicit and organized frameworks for sharing benefits under both statutes to guarantee that holders of traditional knowledge and indigenous communities receive equitable compensation.

The Protection of Plant Varieties and Farmers' Rights Act (PPVFRA) serves a critical role in safeguarding the interests and rights of plant breeders, alongside those of farmers, fostering an environment that is conducive to the development and innovation of new plant varieties. This Act is instrumental in recognizing and rewarding the efforts of breeders who contribute to the agricultural sector through their innovative breeding practices and varieties. Equally important are the rights of farmers, who are acknowledged not just as cultivators but also as contributors to the preservation and augmentation of plant genetic resources. Their knowledge and traditional practices are recognized under this framework,

balancing innovative breeding and traditional farming practices. On the other side, seed policies are crafted with the objective of ensuring the seamless availability, top-grade quality, and comprehensive regulation of seeds within the market. These policies lay down standards for seed certification, quality control measures, and marketing strategies to ensure that farmers have access to high-quality seeds, which is fundamental for achieving optimal crop yields and agricultural productivity. The role of seed policies is paramount in building a robust foundation for agricultural growth by ensuring the integrity and reliability of seed supplies. However, the intersection of the PPVFRA and seed policies reveals a complex set of regulatory frameworks that, while individually significant, present several inconsistencies and challenges when it comes to their alignment and implementation. While the PPVFRA focuses on rights and innovations at the genetic and variety levels, seed policies concentrate on the quality and availability of these innovations in tangible form. Bridging the gap between protecting plant varieties and ensuring the quality and distribution of seeds is a challenge that requires careful navigation. Issues arise in the areas of intellectual property rights, benefit-sharing mechanisms, and the regulatory overlap that can hinder the seamless operation of these frameworks. Moreover, these inconsistencies can create barriers for smallholder farmers accessing new, high-quality seeds, thereby potentially limiting agricultural productivity and innovation. There is also the challenge of ensuring that legislative frameworks keep pace with the rapidly evolving technologies in agriculture, such as genetic modification and bioengineering, which can blur the lines between traditional breeding and modern biotechnology.

To overcome these obstacles, a cohesive approach that seeks to harmonize these frameworks is essential. This involves fostering dialogue among stakeholders, including farmers, breeders, scientists, policymakers, and civil society organizations, to ensure that policies are inclusive and reflect the diverse interests within the agricultural sector. Enhancing coordination between the governing bodies responsible for the PPVFRA and seed policies, and possibly integrating guidelines and standards, could ensure a more cohesive regulatory environment. Addressing these challenges head-on is critical for fostering a

sustainable agricultural future that balances innovation with the rights and needs of all stakeholders in the agricultural value chain.

To correlate my doctrinal analysis, I have done empirical analysis also and the results were in correlation with my doctrinal research. To correlate my doctrinal analysis, I have done empirical analysis also and the results were in correlation with my doctrinal research. The examination of the gathered data reveals a significant issue concerning the awareness of the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA) among the farming community and personnel within agricultural organizations. This issue extends to both the basic understanding of PPVFRA and the specific rights it entails, such as the ability for individuals to register the new plant varieties they have developed. Beyond this, there exists a notable gap in knowledge regarding Geographical Indications (GI) tags and the unique protections they offer to certain agricultural products based on their geographic origin. Many farmers remain unaware that the particular rice variety they cultivate holds a GI tag, signifying its unique quality and origin. This lack of awareness can be largely attributed to insufficient education and training programs designed to inform and empower the agricultural community about these critical aspects of agricultural law and intellectual property rights. The scenario is further compounded by the fact that the officer stationed at the Krishi Bhavan, a governmental facility intended to support agricultural development, is relatively new to this area of work. Consequently, the officer finds it challenging to provide the necessary information or guidance on these matters.

The absence of comprehensive awareness and educational initiatives not only hinders the protection and equitable recognition of farmers' contributions to agriculture but also prevents them from fully benefiting from the legal tools available to safeguard their interests and the unique agricultural products they produce. There is a pressing need for targeted training and educational programs that can effectively bridge these knowledge gaps. Such initiatives should aim to equip both farmers and agricultural officials with the understanding and resources needed to navigate the complexities of PPVFR Act and GI registrations. Moreover, enhancing the institutional support system within

agriculture-focused organizations could play a vital role in fostering a more informed and resilient agricultural community.

During my study, I had discussions with experts in Intellectual Property Rights and an extensive review of academic writings, articles, and reports from various sources including ICAR events. The findings highlighted the PPVFRA's positive impact in acknowledging farmers' crucial role in conserving plant genetic resources, empowering them with rights over their produce, and introducing compensation and benefit-sharing mechanisms for risks and commercial uses of plant genetic resources. Key aspects also include the establishment of the National Gene Fund to support biodiversity conservation. However, discussions also revealed significant challenges such as a lack of awareness among farmers about their rights under the act, bureaucratic hurdles in registering plant varieties, and issues with enforcement, suggesting a need for enhanced education and a simplified, more accessible registration process to ensure the act's benefits reach all farmers.

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**APPENDIX 1: SURVEY QUESTIONNAIRE FOR THE
FARMERS.**

Name	
M/F	
Age	
Family size	
Farm size	
Years of farming experience	
Education	
Annual income from farming	
Role in farmers organization/ Panchayat	
Questions	
1	Have you heard about the law on Farmers' Rights in India, the PPVFRA?
2	Do you have any idea about the concept of Farmers' Rights? Are you aware of the benefits conferred to Farmers under PPVFRA?
3	Whether the Farmers have received any training programs or awareness programs related to their rights conferred?
4	Is pokkali rice a registered variety?
5	Have you heard of the GI tag?

6	Do you know that the Pokkali rice cultivated by you is having a GI tag?
7	If any farmer is able to create a new variety, do you think he/she should be able to have some type of ownership right on that variety? Have you ever developed any new varieties of Pokkali rice?
8	Are you developing the seeds by your own? Do you share/exchange seed with other farmers? Do you have difficulty in accessing materials (such as seeds/new varieties) required for farming?
9	In what ways is the government helping you with regards to actual funds, subsidies? And how much beneficial has it proved to you?

APPENDIX 2: SURVEY ANALYSIS RESULTS

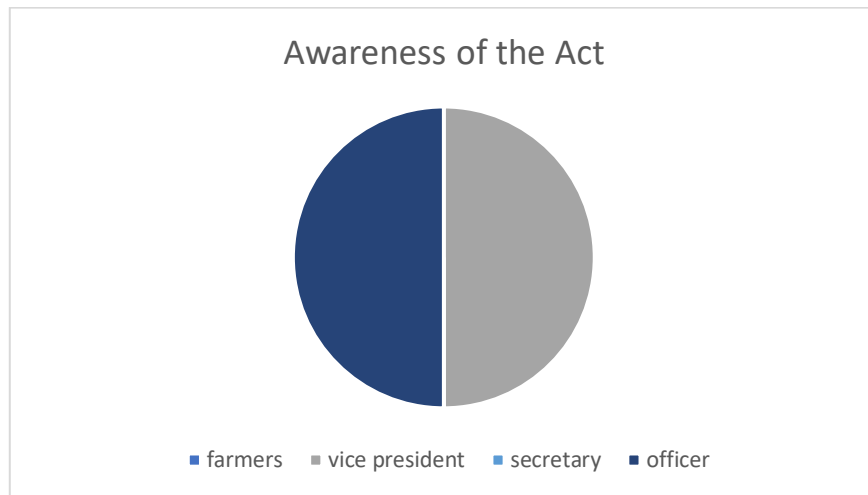


fig 3.1: Awareness of the farmers about PPV&FRA.



fig 3.2: Awareness of GI tag among the farmers.

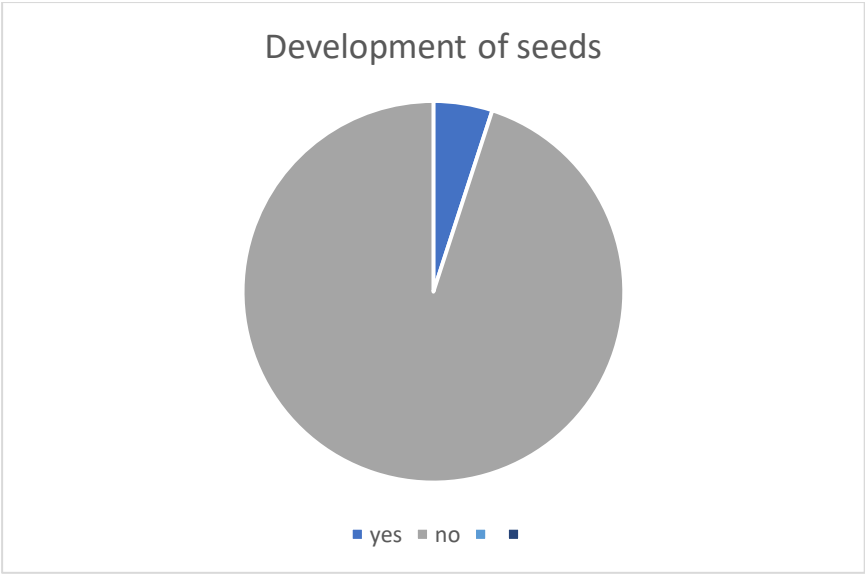


Fig 3.3: Development of seeds by farmers

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CHAPTER 1

1.1 INTRODUCTION

Farmers' rights have consistently been at the forefront of global discussions due to their critical role in the social and political landscape of societies worldwide. As primary stewards of agricultural biodiversity, farmers are indispensable in the conservation and sustainable use of plant genetic resources, which are the backbone of global food systems. Recognizing and protecting farmers' rights is not just about acknowledging their contribution to food security but also about ensuring their ability to continue playing this vital role[1].

The protection of farmers' rights encompasses several key aspects. Firstly, it involves recognizing their invaluable knowledge and traditional practices in agriculture, which have been passed down through generations and are essential for the development of sustainable farming

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CHAPTER 2

OVERVIEW OF THE PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS ACT, 2001

2.1 HISTORICAL PERSPECTIVE ON FARMERS' RIGHTS AND EVOLUTION OF PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS ACT, 2001

India's agricultural sector forms the backbone of its economy, supporting the livelihood of a significant portion of its population. Recognizing the pivotal role played by farmers in nurturing and preserving the country's rich genetic diversity through their meticulous observation and expertise, the Indian government took a landmark step by enacting the Protection of Plant Varieties and Farmers' Rights Act of 2001 (PPV&FRA). This legislation was introduced to align India's policies with the requirements of the Trade-Related Aspects of Intellectual Property Rights (TRIPS)

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CHAPTER 3

BALANCING INTELLECTUAL PROPERTY RIGHTS AND FARMERS'

RIGHTS

3.1 INTRODUCTION

The necessity for intellectual property rights for farmers arises because while Plant Breeders are granted Plant Breeders' Rights (PBR) for creating a new, distinct, uniform, and stable plant variety under the intellectual property system, the farmers who have developed and preserved biological resources and their related knowledge do not receive similar rights. The varieties developed by farmers are utilized not only by the global community for consumption but also by plant breeders in the creation of new plant varieties[1]. This highlights the dual contribution of farmers to both food security and agrobiodiversity. Additionally, farmers play a crucial role in ensuring food safety as the varieties they maintain

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CHAPTER 4

CONCLUSIONS AND SUGGESTIONS

4.1 CONCLUSION

The Indian government's focus on food security, agricultural research, and the development of new plant varieties is a testament to its long-standing commitment to ensuring the well-being of its population and the sustainability of its agricultural sector. This dedication stems from an understanding of the critical importance of agriculture not just as an economic activity, but as a lifeline for a significant portion of the population. Recognizing the need to balance innovation in agriculture with the protection of plant varieties, India, along with other members of the World Trade Organization, is subject to the provisions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.

Article 27(4) of the TRIPS Agreement provides a framework through

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