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### REVIEW ARTICLE

## SIGNIFICANCE OF THE PPV & FR ACT IN INDIAN AGRICULTURE: STATUS QUO AND FUTURE OUTLOOK

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### Abstract

The acknowledgment of agriculture as a structured venture focused on investment and profit generation became evident with its incorporation into the intergovernmental discussions for the General Agreement on Tariffs and Trade (GATT) during the Uruguay Round (1986-1994). This round culminated in the formation of the World Trade Organization (WTO) in January 1995. The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001, serves a vital function in Indian agriculture by ensuring a balance between the rights of plant breeders and those of farmers. It fosters the creation of novel plant varieties while also affirming and protecting the traditional rights of farmers to save, use, exchange, and sell seeds that they have harvested. Additionally, the Act establishes the PPV&FR Authority, which is charged with the registration of new plant varieties, the recognition of farmers' contributions, and the promotion of equitable benefit-sharing. Such safeguarding is anticipated to enhance the growth of the seed industry, ensuring that farmers receive high-quality seeds and planting materials. As India has ratified the Agreement on Trade-Related Aspects of Intellectual Property Rights, it must create provisions to enforce the Agreement. To fulfill these objectives, the Protection of this Act has been enacted in India. In India, up-to June 2025, the 9210 certificates for registration have been issued for different crop groups in respect of total 19888 application, Farmer's variety is lead component of registration (4845 varieties) followed by extant varieties (1788 varieties). The registration has got boost in last two years i.e. 2023-25 contributing about half of total registrations. The Indian PPV&FR Act can be highlighted by establishing the unique system which effectively balances the rights of plant breeders with those of farmers and researchers. Its enactment is expected to facilitate the accessibility of high-quality seeds from registered varieties, thereby contributing to increased agricultural output and fostering national food and nutritional security. Concurrently, the Act's provisions for social acknowledgment and economic incentives will encourage and assist farming families in their efforts to conserve, nurture, and enhance the country's agro-biodiversity.

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**Introduction:-**

Human history tells the story of people leveraging their imagination, innovation, and creativity to tackle problems or articulate ideas grounded in existing knowledge. Reflect on the numerous inventions that have shaped history, including the Mesopotamian writing system, the ancient Indian observatory, Chinese abacus, the Syrian astrolabe, the Gutenberg press and the internal combustion engine, along with penicillin and the herbal remedies used in southern Africa. When we add the breakthroughs of the last century viz., transistors, semiconductors, nanotechnology, and recombinant DNA drugs etc., it becomes clear that the imaginative efforts of creative individuals across the globe have propelled us to our current state of technological advancement. The intellectual property (IP) system is designed to protect these mentioned humankind's intellectual achievements, not only at the national level, but also across the territorial boundaries. Intellectual property provides a set of exclusive rights related to the particular way in which ideas or information are conveyed or manifested, rather than the ideas or concepts themselves. The term "intellectual property" signifies the specific legal rights that authors, inventors, and other IP holders may possess and exercise, rather than the intellectual work itself. The UPOV refers to the Union pour la Protection des Obtentions Végétales i.e. Union for the Protection of New Plant Varieties. This international convention offers a unified foundation for assessing plant varieties in different UPOV member countries to determine if a plant variety is eligible for protection under UPOV.

The PPV & FR Act represents a significant piece of Indian intellectual property rights legislation that has a profound effect on agriculture. In India, plant varieties and microorganisms are the two life forms eligible for intellectual property protection, although the extent of protection afforded to these two categories differs considerably. Regarding plant varieties, the TRIPS agreement offers member countries the choice to protect them through patents, an effective sui generis system, or a combination of both patent and sui generis systems. India opted not to grant patents for plants, instead choosing to safeguard plant varieties through the sui generis system, which is derived from Latin, meaning "self-generated." This sui generis system provides a form of intellectual property protection that differs from patents in terms of its restrictive framework, allowing for greater flexibility in protection that aligns with the socio-economic realities of individual countries. Moreover, it can encompass a broader range of aspects within the intellectual property system that reflect the rights of communities, farmers, and indigenous peoples, which are not covered by the patent system.

With an aim to create a robust system for the protection of plant varieties, it is crucial to uphold the rights of farmers and plant breeders while fostering the development of new plant varieties. Consequently, recognizing and safeguarding the rights of farmers for their contributions to the conservation, improvement, and accessibility of plant genetic resources for the advancement of new plant varieties has been considered necessary. The Government of India has enacted "The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001," which adopts a sui generis framework. This legislation is not only consistent with the International Union for the Protection of New Varieties of Plants (UPOV) from 1978 but also contains sufficient provisions to protect the interests of public sector breeding institutions and farmers. The law acknowledges the contributions of both commercial plant breeders and farmers in the plant breeding process and also aims to implement TRIPs in a way that supports the specific socio-economic interests of all stakeholders, including those in the private and public sectors, research institutions, and resource-constrained farmers.

**PPV & FR Authority:**

In order to implement the provisions of the Act, the Department of Agriculture and Cooperation, under the Ministry of Agriculture, formed the Protection of Plant Varieties and Farmers' Rights Authority on November 11, 2005. The Chairperson, who is the Chief Executive of the Authority, leads the organization. The Authority includes fifteen members, as appointed by the Government of India (GOI). Of these, eight are ex-officio members from various Departments and Ministries, three are from State Agricultural Universities (SAUs) and State Governments, and one representative each for farmers, tribal organizations, the seed industry, and women's organizations involved in agricultural activities, all nominated by the Central Government. The Registrar General serves as the ex-officio Member Secretary of the Authority.

**General functions of Authority:**

1. Registration of new plant varieties, essentially derived varieties (EDV), extant varieties;
2. Developing DUS (Distinctiveness, Uniformity and Stability) test guidelines for new plant species;
3. Developing characterization and documentation of varieties registered
4. Compulsory cataloging facilities for all variety of plants

5. Documentation, indexing and cataloguing of farmers' varieties;
6. Recognizing and rewarding farmers, community of farmers, particularly tribal and rural community engaged in conservation, improvement, preservation of plant genetic resources of economic plants and their wild relatives
7. Maintenance of the National Register of plant Varieties and
8. Maintenance of National Gene Bank

**Objectives of Act:**

PPV & FRA stands for the Protection of Plant Varieties and Farmers' Rights Act in India. This Act, which was enacted in 2001, aims to create a system for the protection of plant varieties and the rights of both plant breeders and farmers. It acknowledges the contributions of farmers in the conservation and development of plant genetic resources, granting them specific rights such as the ability to save, use, exchange, and share seeds from varieties that are protected. The Protection of Plant Variety & Farmer's Right (PPV & FR) Act, 2001 has been implemented from November, 2005 with following broad objectives:

- a) To establish an effective system for the protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants.
- b) To recognize and protect the rights of farmers in respect of their contributions made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties.
- c) To accelerate agricultural development in the country, protect plant breeders' rights; stimulate investment for research and development both in public & private sector for the development new of plant varieties.
- d) Facilitate the growth of seed industry in the country which will ensure the availability of high quality seeds and planting material to the farmers.

**Legal Definition of Variety:**

According to the PPV & FR Act, the term 'variety' means "a plant grouping except micro organism within a single botanical taxon of the lowest known rank, which can be:-

- (i) defined by the expression of the characteristics resulting from a given genotype of that plant grouping;
- (ii) distinguished from any other plant grouping by expression of at least one of the said characteristics; and
- (iii) considered as a unit with regard to its suitability for being propagated, which remains unchanged after such propagation; and includes propagating material of such variety, extant variety, transgenic variety, farmers' variety and essentially derived variety".

**Duration of Protection Under Act:**

The duration of protection of registered varieties is different for different crops which are as below:

1. For trees and vines - 18 years.
2. For other crops - 15 years.
3. For extant varieties - 15 years from the date of notification of that variety by the Central Government under section 5 of the Seeds Act, 1966.

**Categories of Varieties under Act:**

Under PPV & FR Act the registration of plant varieties is categorized into following three major groups

- A. **Extant Varieties:** Varieties notified under section 5 of the seed Act 1966 and also the varieties in public domain are called extant varieties.
- B. **Farmers' Varieties/ Community Varieties:** These varieties are traditionally cultivated and evolved by the farmers in their fields. The wild relatives, land races which the farmer posses also fall in this category.
- C. **Essentially Derived Varieties:** These varieties are predominantly derived from initial variety that retains the characters of initial variety and clearly distinguishable from such initial variety at least for one trait.

**Procedure for Registration:**

Registration of a plant variety gives protection only in India and confers upon the rights holder, its successor, agent, or licensee the exclusive right to produce, sell, market, distribute, import, or export the variety.

The application for protection under the Act can be made by any of the following persons:

- (i) Any person claiming to be the breeder of the variety;
- (ii) Any successor of the breeder of the variety;
- (iii) Any person being the assignee or the breeder of the variety in respect of the right to make such application;
- (iv) Any farmer or group of farmers or community of farmers claiming to be breeder of the variety;

- (v) Any person authorized to apply on behalf of farmers; or
- (vi) Any university or publicly funded agricultural institution claiming to be breeder of the variety.

**Essential Criteria for Registration:**

The variety to be register under this Act is termed as a candidate variety which must fulfill the essential criteria viz., novelty, distinctiveness, uniformity and stability. The details are as follows:

- a) **Novelty** - A new variety is deemed to be novel if, at the date of filing of the application for registration for protection, the propagating and 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 for a certain period of time before the date of filing of the application. For sale or disposal of a new variety in India, this time period is earlier than one year. Outside of India, in the case of trees and vines, the time period is earlier than six years. In any other case in India, it is earlier than four years.
- b) **Distinctiveness** - A new variety is deemed 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.
- c) **Uniformity** - A new variety is deemed uniform if subject to the variation that may be expected from the particular features of its propagation it is sufficiently uniform in its essential characteristics.
- d) **Stability** - A new variety is deemed stable if it's essential characteristics remain unchanged after repeated propagation or, in case of a particular cycle of propagation, at the end of each such cycle.

Beside these above four essential criteria every applicant shall assign a single and distinct denomination to a variety with respect to which he is seeking registration. The process for registering a plant variety under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act involves several key steps, culminating in the issuance of a registration certificate. The stepwise breakdown below outlines the general procedure for registration of new variety under this Act:

**1. Application Submission**

- a) The process begins with the submission of an application to the Registrar of the PPV&FR Authority in the prescribed format (Form I).
- b) The application should include detailed information about the variety, including its denomination, passport data of parental lines, and details of contributors to its development.
- c) For Convention Country applicants, additional information about variations in traits and commercialization details are required.

**2. Initial Screening and Acceptance/Rejection**

- a) The Registrar reviews the application for completeness and compliance with the Act's requirements.
- b) The application may be accepted, rejected, or sent back for amendments.
- c) If accepted, the applicant is informed of the Registration (REG) number and it is published in the Plant Variety Journal (PVJ).

**3. DUS Testing**

- a) Accepted applications are forwarded for DUS (Distinctness, Uniformity, and Stability) testing.
- b) DUS testing is conducted at designated testing centers to evaluate the variety against established guidelines.
- c) In case of significant variations between testing locations, a joint site visit by the Registrar, applicant, and a representative may be required in the second season.

**4. Publication and Objection**

- a) After successful DUS testing, the variety details are published for public review and potential objections.
- b) Any objections received are addressed according to the established procedures.

**5. Registration and Certificate Issuance**

- a) If no valid objections are raised, the Registrar issues a certificate of registration for the variety.
- b) The certificate is issued in Form O-2 within three years of the application date, provided all requirements are met.
- c) A copy of the certificate is sent to the Authority and other relevant bodies.

**6. Duration of Registration**

- a) The registration period varies based on the type of variety, typically 15 years for most crops and 18 years for trees and vines.
- b) For extant varieties, the registration period is 15 years from the date of notification.

**7. Other Important Considerations**

- a) The Act also provides for farmers' rights, including benefit sharing from the commercialization of

- registered varieties.
- b) A National Gene Fund has been established to manage contributions from breeders, farmers, and other sources.
  - c) Appeals against the Registrar's decisions can be made to the Plant Varieties Protection Appellate Tribunal (PVPAT), and further appeals can be made to the High Court.

#### **Non - Registrable Variety:**

In India, under this Act, A new variety shall not be registered if the denomination given to such variety, which

- (i) is not capable of identifying such variety; or
- (ii) consists solely of figures; or
- (iii) is liable to mislead or to cause confusion concerning the characteristics, value, identity of such variety, or the identity of breeder of such variety; or
- (iv) is not different from every denomination which designates a variety of the same botanical species or of a closely related species registered under this Act; or
- (v) if it is likely to hurt the religious sentiments of any section of the citizens of India; or
- (vi) is prohibited for use as a name or emblem for any of the purposes mentioned in the Emblems and Names (Protection of Improper Use) Act, 1950; or is comprised solely or partly of geographical name.

However, in the case of a geographical name the Registrar may register a variety, if satisfied that such denomination is an honest use under the circumstances of the case. Beside these certain plant varieties has been excluded from registration in India. These cases relate to the necessity of preventing the commercial exploitation of a variety in order to safeguard public order, public morality, and the health of human beings, animals, and plants, as well as to prevent significant harm to the environment. Furthermore, any variety from any genera or species that employs technology detrimental to the health or life of humans, animals, or plants, including genetic use restriction technology (GURT) and terminator technology, is excluded from registration under this Act. In instances where a citizen of India is not granted equivalent rights regarding the registration and protection of a variety by any country listed in the official Gazette by the Central Government, as those rights are afforded to its own nationals, a national from that country will not be eligible to apply for variety registration in India.

#### **Provision for Different Rights Under the Act:**

Under PPV & FR Act, the three prime rights are granted as follows to the persons involved in Research, Development, and Conservation activities at different levels in field of agriculture

##### **1] Breeders' Rights:**

The certificate of registration issued by the Registrar in respect of a variety confers on the breeder or his successor, agent or licensee, an exclusive right to sell, market, distribute, import or export the variety subject to the provisions of the Act. However, in case of an extant variety, unless a breeder or his successor establishes his right, the Central Government, or the State Government shall be the owner of such right. A breeder of a registered variety can authorize any person to produce, sell, market or otherwise deal with the variety registered under this Act. The person so authorized will apply to the Registrar, for registering his title and the Registrar on proof of the title to his satisfaction, register him as an agent or a licensee in the register and issue a certificate of registration to the applicant. The registered agent or registered licensee shall not have a right to transfer such right further.

##### **2] Researchers' Rights:**

The Act permits the use of any registered variety for purpose of conducting experiment or research and for using the said variety as an initial source of variety for creating other variety. But where the repeated use of such variety as a parental line is necessary for commercial production of such other newly developed variety, the authorization of the breeder of the registered variety is required.

##### **3] Farmers' Rights:**

Interests of farmers are always the central point for our policy makers; the sui-generis system has provided the tool to safeguard the benefits of farmers under the regime of TRIPs through following ways:

- ❖ A Farmer who has evolved or developed a new variety is entitled for registration and protection in like manner as a breeder of a variety;
- ❖ Farmers variety can also be registered as an extant variety;

- ❖ A farmer can save, use, sow, re-sow, exchange, share or sell his farm produce including seed of a variety protected under the PPV & FR Act, 2001 in the same manner as he was entitled before the coming into force of this Act provided farmer shall not be entitled to sell branded seed of a variety protected under the PPV&FR Act, 2001;
- ❖ Farmers are eligible for recognition and rewards for the conservation of Plant Genetic Resources of land races and wild relatives of economic plants;
- ❖ There is also a provision for compensation to the farmers for non-performance of variety under Section 39 (2) of the Act, 2001 and
- ❖ Farmer shall not be liable to pay any fee in any proceeding before the Authority or Registrar or the Tribunal or the High Court under the Act.

#### **4] Communities Rights :**

If the people of any village or local community have contributed in the evolution of any variety then any person, group of persons or any governmental or nongovernmental organization may on behalf of that village or local community file any claim attributable to the contribution of the people of that village or local community. The Authority, after making necessary enquiry, if satisfied, will grant compensation to the applicant, which shall be deposited by the breeder of the variety in the National Gene Fund, which is constituted under this Act.

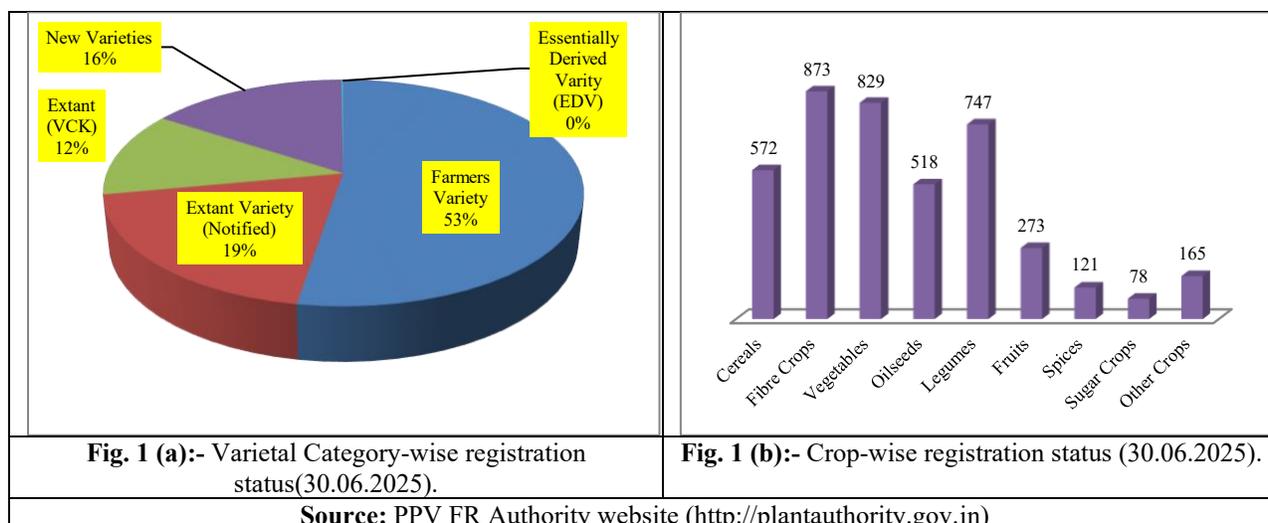
#### **5] Benefit sharing:**

Benefit sharing, in the context of registered variety, means the proportion of the benefit accruing to the breeder of such variety for which a claimant shall be entitled. The Authority will determine it. Where the breeder makes use of the genetic material registered in the name of various persons in the development or creation of a new variety, such persons can claim a share in the benefits accruing to the breeder as a result of commercial exploitation of the new variety. In determining the benefit sharing of the claimant, the Authority will take into consideration the extent and nature of the use of genetic material of the claimant in the development of the new variety and the commercial utility and demand in the market of the variety in respect of which benefit sharing has been claimed. The breeder of such variety shall deposit the amount of benefit sharing so determined by the Authority in the prescribed manner in the National Gene Fund.

#### **Current Status of Registration under PPV&FR Act in India:**

In Indian context, under Section 29 (2) of the Act, the Central Government by notification in official Gazettes specifies the genera and species eligible for the purpose of registration of varieties the PPV & FR Authority has worked remarkable for registration of plant varieties since 2005, when the actual Act got implemented. As per the database of authority displayed on its official website, up-till 30<sup>th</sup> June 2025, the PPV FR Authority has received 19888 applications under different categories for registration of varieties, out of which 7515 applications are either withdrawn or closed. Total of 9210 certificates has been issued whereas, 2482 applications are under process. It is revealed from database of authority, since initiation of registration, the highest number of certificates has been issued in year 2024 (2017), followed by 2023 (1259) which can be termed as peak period of registration. Although, the registration process in India progressed as the time to time notification of species/crops opened for registration. Among these 9210 certificates, majority of share was registered by farmers (4847 varieties, 52.6%) followed by private sector (2410 varieties, 26.2%) and public sector (1953 varieties, 21.2%).

As on 30<sup>th</sup> June 2025, the categories of varieties registered are lead by farmer's varieties (4845), Extant notified varieties (1788), new varieties (1440), Extant VCK Varieties (1123) and EDV (14) [Fig1(a)]. On the basis of crop category level, cereals are leaders in which 5727 certificates issues under different categories of varieties till date, followed by fiber crops (873), vegetables (829), legumes (747), oilseeds (518), fruit crops (273), sugar crops (78) and other uncategorized crops (165) [Fig1(b)]



### Scope OF PPV& FR Act in India:

The future scope for the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act in India is promising, with potential for increased investment in plant breeding, improved seed quality, and enhanced agricultural development. The act aims to balance the rights of plant breeders with the rights of farmers, encouraging innovation while safeguarding traditional farming practices. The component-wise scope may be as below

1. **Farmer's perspectives:** Farmer being at our center focus in sui-generis system, there is great scope in farmers perspectives viz.,-
  - a) The act ensures that farmers have access to a wider range of high-quality seeds, potentially leading to increased yields and income through access to improved varieties/hybrids
  - b) The act recognizes and protects farmers' rights to save, use, exchange, and sell seeds of protected varieties, ensuring traditional farming practices are not undermined through various privileges of Farmer's Rights
  - c) PPV&FR Act provides for benefit-sharing mechanisms, ensuring that farmers and local communities are rewarded for their contributions to crop diversity.
  - d) This Act can contribute to strengthening both public and private sector seed systems, ensuring a reliable supply of quality seeds
  
2. **Breeder/Researcher perspectives:** The research and development of seed industry through public and private sector along with PPP model, is an important economic tool for up-lift of agriculture sector and to increase the income of farming community in positive manner. Plant breeder/researcher has lots of scope in PPV & FR Act regime viz., -
  - a) The PPV&FR Act provides breeders with exclusive rights over their varieties, incentivizing them to invest in research and development of new and improved varieties
  - b) Protection under the act allows breeders to commercialize their varieties, potentially leading to wider availability of high-quality seeds and planting materials.
  - c) The act fosters a competitive environment, encouraging breeders to develop varieties that meet specific needs and improve crop productivity through innovative techniques and subsequent competitions.
  - d) Protection under the act can also facilitate the export of Indian plant varieties, boosting the country's agricultural trade to speed up global view for development
  
3. **Agricultural Sector:** The agricultural sector holds immense importance for the Indian economy, significantly contributing to food security, job creation, and rural development. It plays a key role in India's GDP, supports the livelihoods of a substantial segment of the population, and acts as an essential supplier of raw materials for numerous industries. The PPV & FR Act has scope in this aspect viz.,
  - a) The act promotes sustainable agricultural development by balancing the needs of breeders, farmers, and the environment
  - b) Encouraging innovation and improved crop varieties through various conventional and modern technologies, the act can contribute to enhanced food security in India.

- c) The act can drive economic growth in the agricultural sector by promoting innovation, trade, and improved productivity

### **Infringement, Offences and Penalties:**

In the event that an individual, who is not the breeder of a registered variety or the registered agent or licensee of the breeder, engages in the sale, export, import, or production of such a variety without the explicit permission of the breeder or the licensee/agent, this action constitutes an infringement of the rights conferred by the Act. Moreover, the right is also infringed if an unauthorized person employs, sells, exports, imports, or produces any other variety that carries a denomination that is either identical to or deceptively similar to the denomination of a variety registered under the Act, which may lead to confusion among the general public regarding the identification of the variety. A legal action for infringement will be initiated in a District Court that possesses the jurisdiction to adjudicate the matter. The court has the authority to grant relief in cases of infringement, which may include an injunction and either damages or a share of the profits, at the plaintiff's discretion.

Infringer i.e. a person other than the breeder shall be held liable for prosecution if he applies the denomination of a registered variety or applies false denomination to a variety. The penalties imposed under following heads/categories under the Act are as follows:

- (i) **Penalty for applying false denomination:** A person shall be punishable with imprisonment for a term of minimum three months and a maximum of two years, or with a fine of minimum Rs.50,000/- and a maximum of Rs.5 lakhs, or with both if he applies any false denomination to a variety or indicates the false name of a country or place or false name and address of the breeder of the variety registered.
- (ii) **Penalty for selling varieties to which false denomination is applied:** The punishment is a term of imprisonment from six months to two years or a fine of rupees fifty thousand to rupees five lakh, or both. Penalty for falsely representing a variety as registered It is imprisonment for six months to three years, or fine of rupees one lakh to five lakh, or both a prison term and a fine.
- (iii) **Penalty for subsequent offence:** A person who has been convicted once for an offence under the Act faces heavy punishment for a second and every subsequent such offence: imprisonment for one to three years or a fine of two to twenty lakh rupees or both.

The provisions of the Act have the overriding effect. If there is anything in any other law in force, which may not be consistent with the provisions of this Act, the Act will prevail

### **Challenges and Opportunities:**

India's endorsement of the TRIPs Agreement mandated the creation of an effective sui generis system for the protection of plant varieties. The design of this sui generis system by India took into account the various challenges and constraints inherent in the Indian agricultural system. The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act in India has been subject to criticism regarding its ability to effectively protect farmers' rights and encourage sustainable development. Some of the issues identified include obstacles in the registration process for farmers, potential disputes in benefit-sharing, and a lack of sufficient incentives for traditional breeding practices. Moreover, questions have been raised about the Act's implementation, particularly concerning the powers assigned to authorities and the vagueness of certain provisions. The PPV&FR Act in India provides several mechanisms that can facilitate the development of new plant varieties and contribute to the safeguarding of crop diversity. The challenges and opportunities under the regime of Act can be summarized as

- a. Unbiased implementation of Act by ensuring a balance between breeders' rights and farmers' rights remains a key challenge, requiring ongoing dialogue and collaboration among stakeholders
- b. Although the act is established, there are still challenges in its effective execution, such as raising awareness among farmers, enhancing capacity, and ensuring enforcement.
- c. Strengthening global cooperation on plant variety protection can enhance the act's benefits, facilitating access to new varieties and promoting food security on a global scale. While the objective of the Act is to strike a balance between the rights of breeders and farmers, concerns have been raised that it could facilitate the monopolization of particular varieties by large firms, which may disadvantage small-scale farmers.
- d. The PPV & FR Act creates a one-of-a-kind (sui generis) system, yet there are ongoing conversations about how closely it adheres to international norms and best practices
- e. The legislation must evolve in response to new technologies, including genetic engineering and biotechnology, to foster innovation while safeguarding biodiversity.

**Conclusion:-**

The contemporary economic system, characterized by its capitalistic orientation, has the ability to turn nearly anything into a commodity. The Kyoto Protocol has led to the commodification of clean air. Water is often subject to fees in various locations. Furthermore, Himalayan glacial water can be obtained at a considerably higher cost. The government conducts auctions for electromagnetic waves. Similarly, the trading of intellectual property is made possible by the intellectual property rights (IPR) framework. While it is indeed true that knowledge tends to thrive when shared, there are circumstances in which such generous sharing may not be beneficial. When an individual invests considerable time, effort, financial resources, and other inputs into the cultivation of knowledge for a specific purpose, they have a legitimate claim to the rewards of their labor. Any creation that emerges from an individual's mind should be utilized only with their permission. This approach not only has moral implications but also makes socio-economic sense.

**Important Websites related to IPR matters in India**

Office	Website
1. Intellectual Property Office, India	<a href="http://www.ipindia.nic.in">www.ipindia.nic.in</a>
2. Patent office, India	<a href="http://www.patentoffice.nic.in">www.patentoffice.nic.in</a>
3. Intellectual Property Appellate Board, India	<a href="http://www.ipab.tn.nic.in">www.ipab.tn.nic.in</a>
4. Plant Varieties and Farmers' Rights Authority, India	<a href="http://www.plantauthority.gov.in">www.plantauthority.gov.in</a>
5. National Biodiversity Authority	<a href="http://nbaindia.org/">http://nbaindia.org/</a>
6. The Indian IPR Foundation	<a href="http://www.nipo.in">www.nipo.in</a>

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