

Protection of Plant Varieties and Farmer's Rights (PPVFR): A Comprehensive Review

Bhargav Vadar¹, Surpalsinh Sisodiya¹, Rahul Kapadiya¹, *Meet Boghani², Dharmesh Gojiya², Chamanbhai Dharajiya² and Dr. H. B. Limbani³

¹PG Scholar, Department of Plant Pathology, College of Agriculture, JAU, Junagadh

²PG Scholar, Department of Entomology, College of Agriculture, JAU, Junagadh

³Assistant Professor, Department of Genetics and Plant Breeding, College of Agriculture, JAU, Junagadh, Gujarat, India

*Corresponding Author's email: meetboghani152004@gmail.com

The Protection of Plant Varieties and Farmer's Rights (PPVFR) Act, 2001 is India's unique sui generis legislation for plant variety protection. It was enacted to comply with TRIPS obligations while safeguarding the interests of farmers, breeders and researchers. The Act provides legal protection to new, extant and farmer's varieties and promotes innovation in plant breeding. This review discusses the historical development, objectives, provisions, registration procedures, DUS testing, breeder's and farmer's rights, benefit sharing, the role of the PPV&FR Authority, major case studies, implementation challenges and future prospects.

Introduction

Agriculture is the backbone of the Indian economy and plant breeding plays a central role in enhancing crop productivity, quality and resilience. Development of improved varieties requires substantial investment, time and scientific effort. Therefore, legal mechanisms are necessary to protect breeders while ensuring farmers retain access to seeds. India adopted the PPVFR Act in 2001 as a balanced framework that protects both innovation and traditional farming practices.

Historical Background and Need

India became a member of the WTO and accepted TRIPS obligations in 1994. Article 27.3(b) required member countries to protect plant varieties through patents or a sui generis system. Instead of adopting the UPOV model directly, India developed a farmer-centric legislation. The Act was also influenced by the Convention on Biological Diversity (CBD) and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

Objectives of the Act

1. Protect plant breeder's intellectual property rights.
2. Recognize and reward farmers for conserving genetic resources.
3. Encourage public and private investment in plant breeding.
4. Promote development of superior varieties.
5. Ensure availability of quality seed to farmers.
6. Facilitate benefit sharing and sustainable agriculture.

Structure of the Act

The PPVFR Act consists of 11 chapters and 97 sections. It establishes a legal framework for registration, protection and enforcement of rights over plant varieties. It also provides mechanisms for benefit sharing, compensation and conservation of genetic resources.

Types of Varieties

New Varieties: Newly developed varieties satisfying novelty and DUS requirements.

Extant Varieties: Varieties already notified or in public domain.

Farmer's Varieties: Traditional varieties developed or conserved by farmers.

Essentially Derived Varieties (EDVs): Varieties predominantly derived from an initial protected variety.

Registration and NDUS Requirements

Registration requires proof of Novelty, Distinctiveness, Uniformity and Stability (NDUS). Novelty ensures the variety has not been commercially exploited beyond prescribed limits. Distinctiveness requires clear differentiation from existing varieties. Uniformity ensures consistency among plants. Stability ensures traits remain unchanged after repeated propagation.

DUS Testing

DUS testing is conducted at designated testing centres under the PPV&FR Authority. Observations are recorded for morphological, physiological and agronomic characteristics. Testing may require two to three crop seasons for annual crops and longer for perennial species. DUS testing is the scientific basis for granting protection.

Breeder's Rights

Breeders receive exclusive rights to produce, market, distribute, import and export protected varieties. They can license varieties and seek legal remedies against infringement. These rights create incentives for innovation and investment in crop improvement.

Farmer's Rights

India is the first country to explicitly recognize farmers as cultivators, breeders and conservers. Farmers may save, use, sow, resow, exchange and share seed of protected varieties, provided they do not sell branded seed. Farmers can also register their own varieties and seek compensation for non-performance.

Researcher's Rights

Researchers may use protected varieties for conducting experiments and breeding programs. However, repeated use of a protected variety as a parental line for commercial production may require authorization from the breeder.

Benefit Sharing and National Gene Fund

The Act provides for equitable benefit sharing when genetic resources conserved by communities contribute to development of protected varieties. Contributions are deposited into the National Gene Fund. The fund supports conservation and rewards farming communities.

Essentially Derived Varieties (EDVS)

An EDV is predominantly derived from an initial variety while retaining most of its essential characteristics. Identification of EDVs is one of the most complex areas of plant variety protection because of difficulties in determining the extent of derivation.

PPV&FR Authority

Established in 2005 under the Ministry of Agriculture and Farmer's Welfare, the Authority is headquartered in New Delhi. Its functions include registration of varieties, DUS testing, maintenance of the National Register, management of the Gene Fund and awareness generation.

Comparison with UPOV

Unlike UPOV 1991, the Indian system grants extensive farmer's rights. Farmers can save and exchange seed, register varieties and receive benefit sharing. This makes the Indian model unique among plant variety protection systems worldwide.

Landmark Cases

PepsiCo vs Gujarat Farmers (2019) highlighted the balance between breeder's rights and farmer's privileges. Monsanto vs Nuziveedu Seeds emphasized the interaction between patent law and plant variety protection law in India.

Challenges

Major challenges include low awareness among farmers, lengthy DUS testing procedures, limited benefit-sharing claims, EDV disputes, seed piracy and insufficient infrastructure. Harmonization with international standards also remains challenging.

Future Prospects

Digital registration systems, genomic tools for DUS testing, stronger implementation of benefit sharing, climate-resilient breeding programs and enhanced farmer awareness are expected to strengthen the PPVFR framework in future.

Conclusion

The PPVFR Act represents a landmark achievement in balancing innovation, food security and farmer's rights. It has emerged as a model for developing countries seeking equitable plant variety protection. Strengthening implementation and awareness will further enhance its effectiveness.

References

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