



## Indian Initiatives on Farmers' Rights

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Plant Genetic Resources (PGR) are the heritage of humankind and the foundation for attaining food, nutritional and health security. Before 1993, the PGR were shared freely among countries for the betterment of human beings, till concerns of conservation of biological diversity were raised by the Convention on Biological Diversity (CBD). Consequently, many issues regarding the rights of the farmers as conservers, protectors and developers of PGR in the biodiversity hot-spots, the researchers and breeders who invest on development of improved varieties with superior traits, the users of PGR and intellectual property rights related matters emerged.

India is a signatory to both CBD and World Trade Organization (WTO) conventions. The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) is an International Agreement administered by the WTO that sets down minimum standards and regulations for many forms of intellectual property (IP) as applicable to WTO Member Nations. Nations seeking to obtain easy access to the numerous international markets opened by the WTO must enact the strict intellectual property laws mandated by TRIPS. The WTO under the Article 27.3 (b) of the TRIPS, for the protection of plant varieties provided different options namely by patents, by an effective *sui-generis* system or a combination of both. As a corollary to this, India opted for the *sui-generis* system for the plant varieties giving importance to farmers' rights compared to the provision of the International Union for the Protection of New Varieties of Plants (UPOV). With intensive and extensive national level consultations and dialogues, the Government of India enacted the "Protection of Plant Varieties and Farmers' Rights Act (PPV&FR Act)" in 2001. The PPV&FR Act recognises the multiple roles of farmers with respect to their contributions made in conserving, improving and making available PGR for the development of new plant varieties and also evolvers of farmers' varieties.

India is the first country to provide substantial rights to farmers and registration of their varieties is one of them. The PPV&FR Act seeks to address the rights of plant breeders and farmers on equal footing. The other provisions related to farmers' rights are presented in Fig. 1 and the Indian PPV&FR Act is a model in protecting the interest of the farmers of the agrobiodiversity rich countries.

### Why to Protect Farmers' Varieties?

Farmers' varieties are outcome of centuries efforts by the farmers/tribal communities, who selected the plants of economic importance from the wild species/relatives and landraces. Through continuous efforts, from the PGR available in particular agrobiodiversity hot spot regions, these varieties were selected and conserved dynamically and possess climate resilience traits which is the need of the hour. Some varieties in different crop species are tolerant to biotic and abiotic stresses besides their suitability to contingency planning in case of weather aberrations. Some of the varieties possess medicinal, nutraceutical, therapeutic and pesticidal values. Varieties such as "*Kasala*" in rice possess a gene "*Pstoll*" which fixes the phosphorus from phosphorous poor soils. Some important farmers' varieties with their unique traits are presented in Table 1. These varieties are unique genetic stocks in developing improved varieties/germplasm. Under post WTO era, where restrictions on free exchange of PGR is imposed worldwide, the dynamic conservation, promotion and protection of PGR in the form of local/farmers' varieties achieves greater importance.

### National Gene Fund for Promoting PGR Activities

On the basis of richness of agrobiodiversity i.e. number of crop species, crop varieties, wild relatives of various crop species cultivated, social relevance and ancientness of the agriculture, wild relatives of crop species occurring in the region, number of species domesticated and the uniqueness of the agro-ecosystems, the PPV&FR

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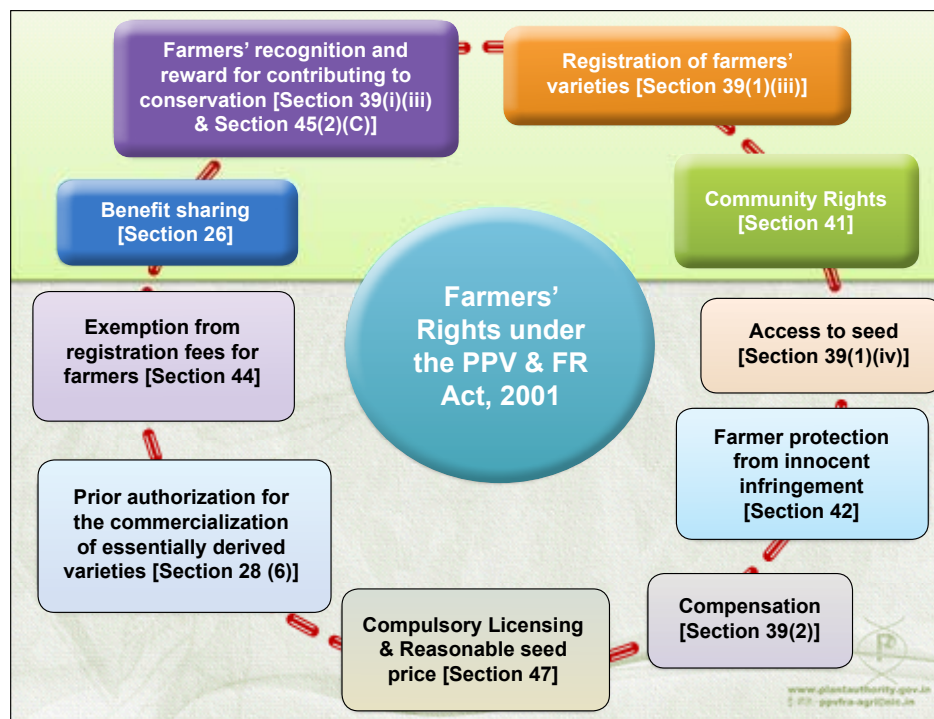


Fig. 1. Provisions related to Farmers' Rights

Table 1. Farmers' varieties with their unique traits

Farmers' Variety (crop)	Unique Traits
Navara-Rice	Medicinal: curing circulatory, respiratory digestive, nervous system ailments and pest resistance
Borah Rice	Absence of the need for cooking, instant cooking
Pokkali Rice	Salt resistance
Kasalath Rice	Pstol1 gene
Chennellu Rice	Curing stomach ulcer
Thondi Rice	Drought tolerant
Pokkali Rice	Salt resistance
Jugal, Sateen-Rice	Resistance to BLB & BPH, multiple grains
Rajmudi Rice	Quality rice
Sarvat Rice	Antidote to Poisonous snake bite
Bunny grass	Resistant to salinity (Rann of Kutch)
Karchia Local Wheat	Salt tolerance
Naga Chilli (Bhut jholakia)	Pesticidal value
Dagadi-Sorghum	Best quality Roti
Pundya-Sugarcane	Table purpose
Kali tur-Pigeon pea	Resistant to drought, SMV, Good quality
Jhakrana Bajra	Drought tolerant

Authority has identified 22 agrobiodiversity hot-spot regions in India viz., 1. Cold Desert Region, 2. Western Himalayan Region, 3. Eastern Himalayan Region, 4. Brahmaputra Valley Region, 5. Khasia-Jaintia-Garo Hills Region, 6. North-eastern Hill Region, 7. Arid Western Region, 8. Malwa Plateau and Central Highlands Region, 9. Kathiawar Region, 10. Bundelkhand Region, 11. Upper Gangetic Plains Region, 12. Lower Gangetic Plains Region, 13. Gangetic Delta Region, 14. Chotanagpur Region, 15. Bastar Region, 16. Koraput Region, 17. Southern Eastern Ghats Region, 18. Kaveri Region, 19. Deccan Region, 20. Konkan Region, 21. Malabar Region and 22. Islands Region (Andaman & Nicobar Islands, Lakshadweep) (Fig. 2).

Farmers who have been engaged in conservation and preservation of plant genetic resources (PGR) of landraces and wild relatives of economic Plants and their improvement through selection and preservation in these identified 22 agrobiodiversity hotspots, receive recognition and rewards from the National Gene Fund. This provision, when taken in conjunction with the provisions relating to the farmers' privilege, is similar to the concept of Farmers' Rights contained in the International Treaty on Plant Genetic Resource for Food and Agriculture (ITPGRFA) (Article 9.1).

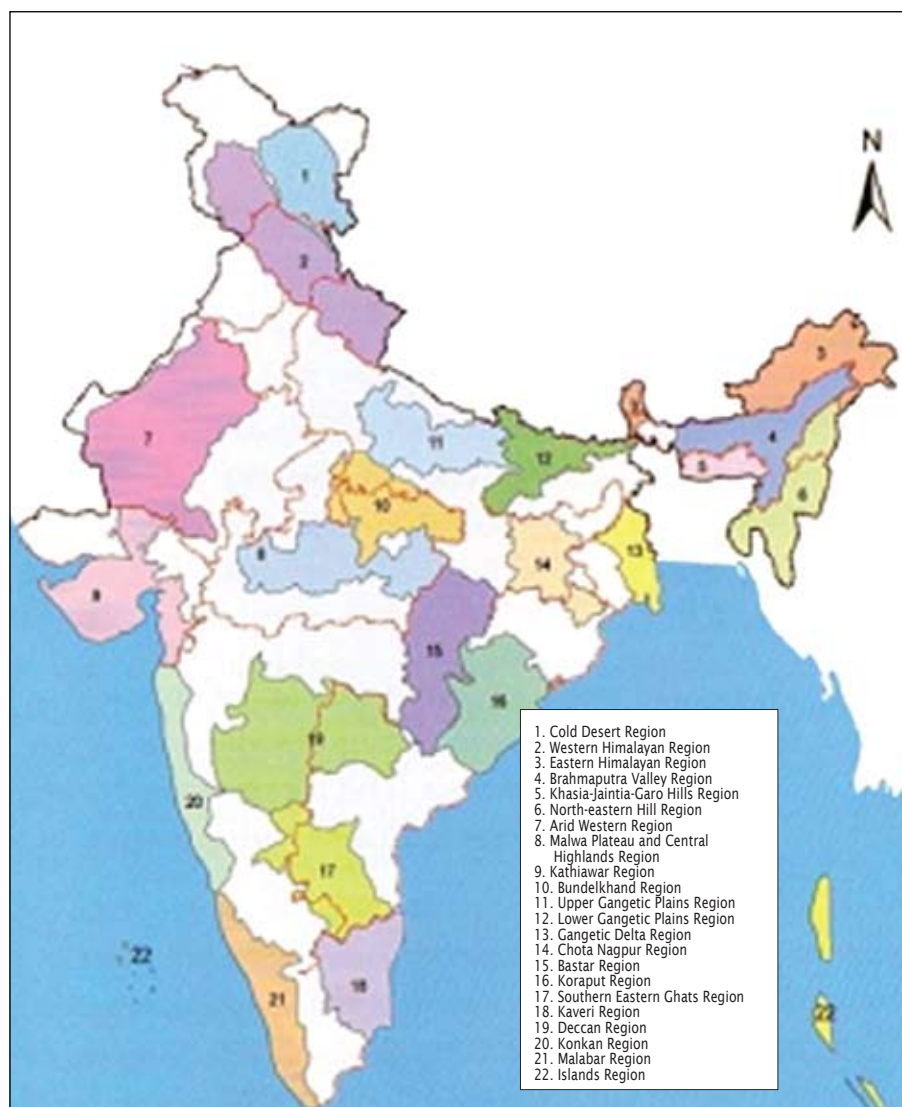


Fig. 2. Agro biodiversity hot spot regions of India

The National Gene Fund receives contributions from central government, national and international organizations and other sources [section-45 (1-d)]. The gene fund also receives funds from benefit sharing [section-45 (a)] from the breeder of the variety or an essentially derived variety registered under the Act or propagating material, of such variety or essentially derived variety as the case may be the compensations deposited [section-41 (4)] and the annual fee payable to the Authority by way of royalty [sub-section (1) of section-35 (d)]. The expenditure of the fund are earmarked for the payment of benefit sharing, compensation required for use of genetic material towards evolution of new and essentially derived variety, to meet expenditure incurred

for conservation and sustainable use of genetic resources and for framing of schemes related to benefit sharing. The gene fund is also used for capacity building on *ex situ* conservation at the level of local body, particularly in regions identified as agrobiodiversity hot-spots and for supporting *in situ* conservation. Thus, in this way it can be considered to be a national equivalent to the global benefit sharing fund operating within the ITPGRFA.

### Plant Genome Saviour Awards, Rewards and Recognition

The gene fund is also utilised to support and reward farmers, particularly the tribal and rural communities engaged in conservation, improvement and preservation

of genetic resources of economic plants and their wild relatives, particularly in areas identified as agrobiodiversity hot-spots (22 Agrobiodiversity hot-spots distributed over 7 agro-geographical zones (Fig. 2). Recognising the important contribution of farmers and farming communities and their role in enhancement of quality in research and development in agriculture and to energise and implement Rule 70(2) (a) of PPV&FR Rules, 2003 and the provision of section 45 of PPV&FR Act, 2001, the PPV&FR Authority in consultation with the Government of India instituted the Plant Genome Saviour Community Awards (maximum of five awards per year consisting of a citation, a memento and cash of One million rupees each). Since 2009-10 this award has been granted to 15 communities from different agrobiodiversity hot-spot regions. Government of India has notified the Protection of Plant Varieties and Farmers' Rights (Recognition and Reward from the Gene Fund) Rules, 2012, whereby a farmer who is engaged in the conservation of genetic resources of landraces and wild relatives of economic plants and their improvement through selection and preservation and the material so selected and preserved has been used as donors of gene in varieties registerable under the PPV&FR Act, 2001 shall be entitled to Plant Genome Saviour Farmer Reward (maximum of 10 rewards per year comprising of a citation, memento and cash of Rupees 0.15 million each). Already twenty farmers have been awarded with Plant Genome Saviour Farmer Reward. Another award namely Plant Genome Saviour Farmer Recognition (maximum 20 recognitions per year) consists of a citation and memento and a cash of Rupees 0.10 million each. Nineteen eligible farmers have been recognised with this award for their PGR conservation efforts.

### **Supporting Plant Genome Saviour Awardee Communities**

PGR conservation, protection and promotion for sustainable use are being practiced by farmers and their families since ancient time. This has allowed them to cultivate a large number of local varieties in different crop species of economic importance. This is how India has been regarded as one of the mega bio-diversity centres in the world. To support the activities of PGR, the PPV&FR Authority has selected the Genome Saviour Awardee Communities to support their efforts of saving local varieties and landraces. As climate change has a

significant impact on agricultural production, growing local varieties which have a high degree of genetic diversity is highly important because these varieties have the ability to better withstand and adapt to environmental stresses and change. Setting up community seedbanks may help farmers to acquire varieties that are adapted to local conditions; these varieties may not be accessible through formal seed systems, may be costly or may suffer from erratic supplies. To make available the quality seeds of popular local varieties/planting material through informal seed chain, the PPV&FR Authority is promoting "Community Seed Bank Concept" for field crops and "Community Nursery Bank/Community Clonal Gene Bank" for vegetables, fruits and trees, medicinal and aromatic plants and fodder grasses at different Agro-climatic bio-diversity hot-spots where improved varieties have not made impact on production and productivity. PPV&FR Authority has identified regions in agrobiodiversity hot-spots and mainstreaming of farmers' varieties is being taken up by following unique maintenance breeding programme for the supply of seed/planting material.

### **Training and Awareness Programmes**

The Authority, since inception, took initiatives to popularise provisions of the Farmers' Rights provided in the PPV&FR Act to the civil societies and grass-root workers. There exists a close linkage with the farmers, researchers, plant breeders, intellectuals, scientists, students, NGOs, and public and private organizations active in this area. The PPV&FR Authority has been releasing funds for training, awareness and capacity building on the provisions of the PPV&FR Act, 2001 including Farmers' Rights, Breeders' Rights, and Researchers' Rights involving different stakeholders viz. ICAR Institutes, State Agricultural Universities (SAUs), Krishi Vigyan Kendras (KVKs), NGOs and other Government Departments for the farmers, researchers, plant breeders, intellectuals, scientists and students etc., and also for creating awareness through participation in agricultural fairs, kisan melas, kisan utsav, farmers' forum etc. In different regional languages bulletins have been prepared and distributed. Frequently asked questions have been prepared with answers and distributed to clear the doubts. Street Drama CDs have also been prepared and distributed. The details of training programmes organized by the PPV&FR Authority are presented in Fig. 3.

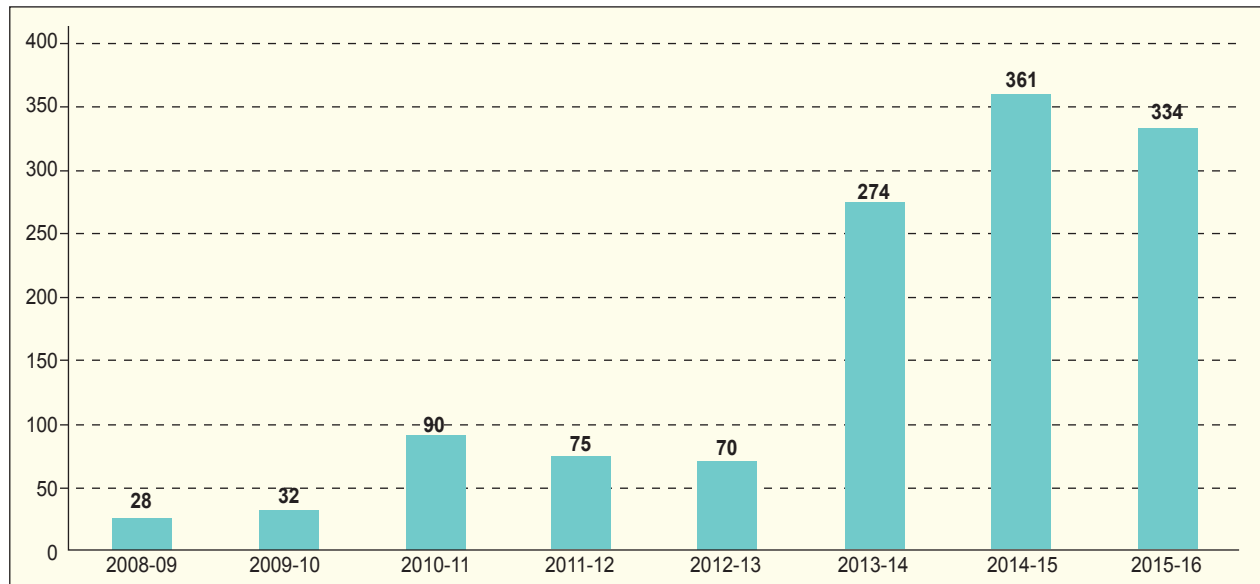


Fig. 3. Details of training programmes organized by the Authority

### Impact of Training and Awareness Programmes in Registration of Varieties and Response from Plant Genome Saviour Awards

The filing of applications for registration of farmers' varieties (Fig. 4) which commenced from 2007 indicated inconsistent trend. For the first three years it was in ascending trend with sudden increase in filing 127 applications during 2009. However, the trend in 2010 was

far from optimal with only four applications being filed. On the contrary, during 2011, there was a sudden rise in the filing of applications by 939 while in 2012, there was a sudden drop by filing only 302 applications. Further during 2013-14 the Authority launched a programme "Take it to the Farmer, The Farmers' Rights through awareness" involving National Agricultural Research System (NARS). As a result during 2013, there was a

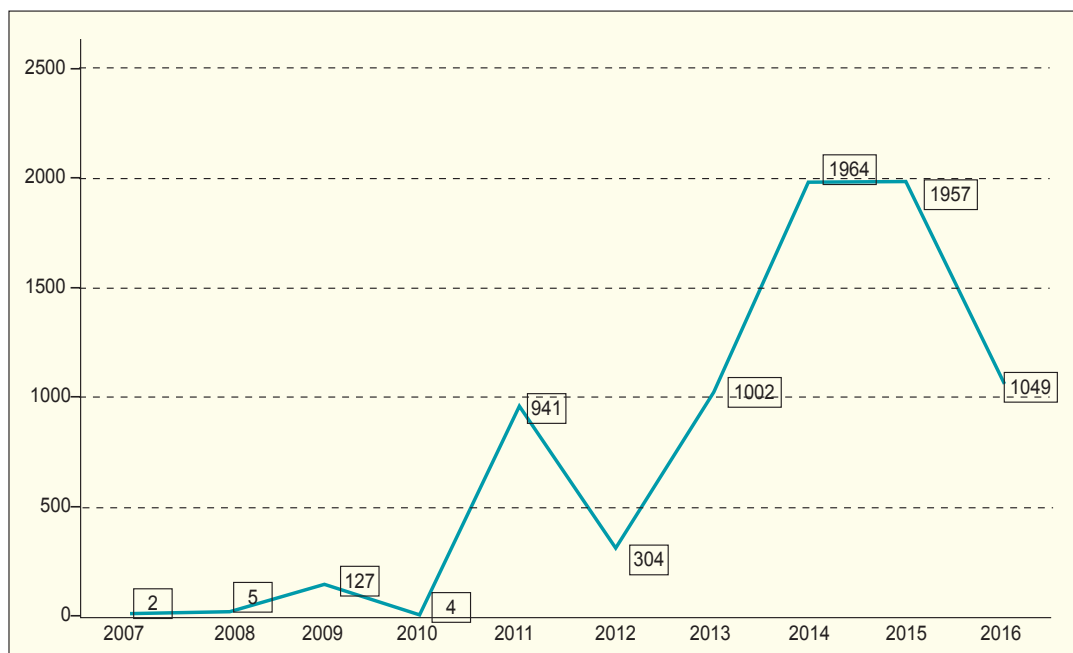


Fig. 4. Yearwise trend of filing application of farmers' varieties for IPR



**Table 2. Details of applications received for the “Plant Genome Saviour Awards”**

S. No.	Name of the Award	2007-08			2008-09			2009-10			2010-11			2011-12			2012-13			2013-14			2014-15		
		Total Application Received	State Participated	Total Award Given	Total Application Received	State Participated	Total Award Given	Total Application Received	State Participated	Total Award Given	Total Application Received	State Participated	Total Award Given	Total Application Received	State Participated	Total Award Given	Total Application Received	State Participated	Total Award Given	Total Application Received	State Participated	Total Award Given	Total Application Received	State Participated	Total Award Given
1.	Plant Genome Saviour Community Recognition Certificate	-	5	5	15	-	4				19	11	7												
2.	Plant Genome Saviour Community Award							20	11	2	19	11	4	27	11	4	28	15	5	26	14	5 for Community Award Approved by the Selection committee	14	10	
3.	Plant Genome Saviour Farmers' Reward													30	13	10	80	20	10	78	16	3 Applications for Reward approved by the Selection Committee	46	10	Under process
4.	Plant Genome Saviour Farmers' Recognition													30	13	15			4			11 Application for Recognition approved by the Selection Committee	46	10	

record number of 1001 applications received and the same trend is being continued in 2014, 2015 and till October, 2016 with receipt of record number of applications of 1964, 1957, and 1221 respectively. The Authority has also taken initiative in documentation, indexing and cataloging of Farmers' varieties. The compendiums of registered farmers' varieties have been published.

The awareness programmes also made good impact on the receipt of applications for genome saviour awards also. The details of the applications received and states participated is presented in Table 2. In the beginning the response from the farmers was very poor. But as a result of awareness programmes as many as 108 farmers from 21 biodiversity rich states participated and filed applications for awards.

### **Notification of NARS as Centres for Compensation under Section-41 of the PPV&FR Act**

With the support from NARS, arrangements are being made to notify the centres under section-41 of the PPV&FR Act, so that any village or local community in India can file in any centre notified in the Gazette of India, the claim for compensation against registered breeder if the contribution of the community is significant in the evolution of such registered variety.

Thus India has taken many unique initiatives to implement the provisions provided as Farmers' Rights in the Act and to conserve the PGR for sustainable use in the days to come.