

Impact of Awareness Programmes and Capacity Building in Farmers' Plant Variety Registration under the PPV&FR Act

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Indian plant variety protection law is unique as it simultaneously aims to protect plant breeders as well as farmers. In the initial years of law implementation, the progress with respect to registration of farmers' varieties was not only slow but also inconsistent, and the trend was erratic. The receipt of applications for Plant Genome Saviour Awards was also meagre due to non-awareness among the farming community in the agro-biodiversity rich regions. Planned awareness programmes in collaboration with National Agricultural Research System (NARS), non-government organizations (NGOs) and Krishi Vigyan Kendras (KVKs, Farm Science Centres) throughout the country resulted in the receipt of more number of applications for farmers' varieties registration and also for awards indicating that the training programmes, national dialogues on farmers rights, exhibitions and publications in local newspapers play an important role in confidence building and clearing misconceptions about filing for intellectual property rights. Organization of a large number of capacity building programmes to both trainers and farmers in the agro-biodiversity rich regions is a very good strategy to attract more farmers/farming communities to file applications both for registration of farmers' varieties and the Genome Saviour Awards.

Keywords: Plant variety registration, farmers' varieties, PVP, PPV&FR, Plant Genome Saviour Awards

India is one of the seventeen mega diversity countries of the world and is considered a major centre of domestication of crop plants. The ancient farming communities from time immemorial have grown and developed rich cornucopia of crop plants through selection and adaptation. It is reported that approximately 20,000 species of higher plants alone occur in India and 160 species of cultivated plants are distributed in eight diverse agro-ecological regions of India. The Indian gene centre is also recognized for its native wealth of plant genetic resources with over 800 species of ethno-botanical importance and 1200 species well known for their medicinal and aromatic value.¹ When the first hunter and gathered societies became farmers about 10,000 years ago, they started out with only few crops. Through careful selection of the best seeds and propagating material and exchange with farmers, it became possible for these societies to develop and diversify crops. This was a very slow process and many a times the selection by farmers gelled nicely with the forces of natural selection, recombination, mutation and somoclonal variations.

Thus, these precious plant genetic resources (PGRs) became the foundation for attaining food, nutrition and health security.

In 1989, the Food and Agriculture Organization (FAO) Conference declared that farmers' rights are the rights arising from the past, present and future contributions of farmers in conserving, improving and making available PGRs, particularly those in the centres of origin/ diversity.² The International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA) in 2009 also recognized the enormous contribution of local and indigenous communities and farmers for their efforts in conservation and development of plant genetic resources.³

India is among the first few countries in the world to have passed a legislation granting farmers' rights in the form of the Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPV&FR Act).⁴ India's law is unique in that it simultaneously aims to protect both plant breeders and farmers. It attempts to establish rights for farmers to register their innovations and protect extant (existing) varieties and is also negotiating internationally to ensure protection of farmers' right. These dimensions must be viewed alongside realities on the ground.⁵ The Indian case

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holds important lessons for the realization of farmers' rights. It assumes immense importance for several reasons including: India's lead in establishing a legal framework on farmers' rights, India's international contribution to negotiations on farmers' rights and the complexities of agriculture in India within which the country is attempting to implement farmers' rights.⁵ Dhar B⁶ opined that the challenge for the PPV&FR Act will be when it is implemented. Effective implementation will require the establishment of well co-ordinated network of institutions. The degree of success that India is able to demonstrate in its implementation should provide the basis for adoption of similar legislation in other countries.

The PPV&FR Authority (henceforth 'Authority'), a statutory and regulatory body, was established in November 2005, by the Government of India to implement the Act effectively. Eight years after the establishment of the institution, it is time to review the progress achieved and difficulties faced. Brahma *et al.*,⁷ felt that there was a need to create awareness among the scientists, policy makers and breeders as well as farmers, village communities and private sector. The present paper attempts to analyse the impact of awareness programmes and capacity building in the registration of farmers' varieties for IPR and the response of farmers/ farming communities from agro-biodiversity hotspots in applying for Plant Genome Saviour Awards and suggestions for the way forward.

Plant Genome Saviour Awards

Recognizing the important contribution of farmers and farming communities engaged in agriculture for generations in conserving the valuable plant genetic resources which in turn has helped significantly in the conservation and development of improved varieties, the PPV&FR Authority in consultation with the Government of India instituted the Plant Genome Saviour Community Awards, reward and recognition. Accordingly, a community of farmers (particularly tribal and rural) engaged in conservation, improvement and preservation of genetic resources of economic plants and their wild relatives, particularly in areas identified as agro-bio-diversity hot spots would be eligible for Plant Genome Saviour Community Award (maximum of five awards/year, consisting of cash award, citation and memento). Individual farmers are entitled to reward (maximum of ten rewards/year, consisting of citation, memento and cash award) and recognition (maximum of twenty

recognitions/year, consisting of a citation and memento) if they have conserved genetic resources of land races and wild relatives of economic plants by improvement through selection and preservation and that such material has been used as donor of genes in varieties registerable under the Act.

In the initial period of plant variety protection law implementation, the filing of applications was slow and inconsistent. This was mainly due to the lack of knowledge and understanding among the developmental departments, National Agricultural Research System (NARS), non-government organizations (NGOs) and Krishi Vigyan Kendras (KVKs, Farm Science Centres). The few awareness programmes conducted in the initial years, were not very effective as was reflected in the slow process of registration and receipt of applications for Genome Saviour Awards. The Authority during 2013-14 planned detailed awareness and capacity building programmes, involving all stakeholders who in turn trained the farmers. This resulted in the receipt of maximum number of farmers' variety applications being filed in a record number of notified crop species along with maximum number of applications being received from 20 States for the plant genome saviour awards, reward and recognition.

Registration of Farmers' Varieties

The Indian PPV&FR Act is a unique *sui generis* system providing a balance between plant breeders' rights along with farmers' rights and researchers' rights. It recognizes the contributions of both commercial plant breeders and farmers in plant breeding activity. Farmers like commercial breeders can apply for IPR over their varieties. The criteria for registration of varieties are also similar to breeders (distinctiveness, uniformity and stability – DUS) but novelty is not a requirement. In addition, uniformity standards are relaxed and double the off-types/mixtures in the farmers' varieties over that of plant breeder's varieties is acceptable. Also the DUS test is addressed as "grow out test" (GOT) and conducted for one growing season with two locations. The ability to get a right similar to IPR over farmers' varieties is a unique aspect of Indian law. The plant breeders' right granted on farmers' varieties provides the exclusive right to produce and market the seeds of registered varieties.⁸ Further, farmers are exempted from paying fees to register their varieties.

The registration process in different crop varieties commenced from 21 May 2007 and with 12 crop

species. As on 31 March 2014, the Government of India has notified 57 crop species for registration. The filing of applications for registration of farmers' varieties (Fig.1) which commenced from 2007 indicates an inconsistent trend. For the first three years it was in ascending with sudden spurt in 2009 with the filing of 127 applications. However, the trend reversed in 2010 with only four applications being filed. Again during 2011, there was an enormous increase in the filing of applications while in 2012, there was a sudden drop. Further during 2013, there was a record number of 1001 applications received and the same trend continued until 31 March 2014 by which date 701 applications had already been filed. Kochupillai⁹, looking to the erratic trend, suggested that an in-depth study on the trend of filing applications was in order.

As suggested by Brahma *et al.*,⁷ there is a need to create awareness among scientist, policy makers and breeders as well as farmers and village communities as the PVP law in India is relatively new. The Authority has the jurisdiction of entire India and has facilitated several awareness programmes. As can be seen from Fig. 2, the programmes facilitated by the Authority have had an impact on both filing of the applications for farmers' varieties (Fig. 1) and receipt of applications for Plant Genome Saviour Awards (Table 1).

In the first year, namely, 2007, the Authority identified the communities from agro-biodiversity hotspots and conferred five Plant Genome Saviour Community recognition certificates, while there were only two applications for farmers' varieties. This could be because the Act came into force in the same year and some time was lost in establishing the office of the Authority. No awareness programmes on

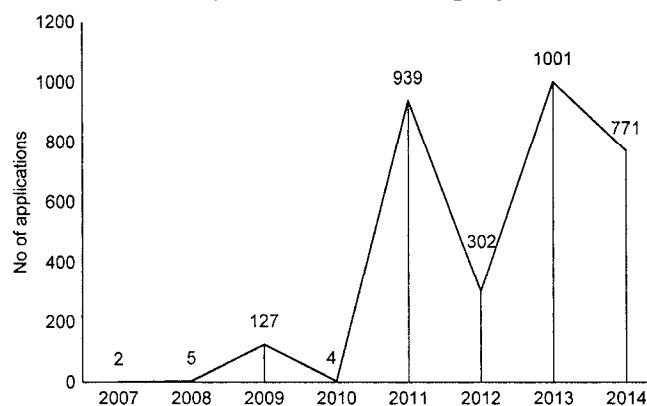


Fig. 1—Yearwise trend of filing application of farmers' varieties for IPR

PPV&FR Act were organized during that year. In the second year (2008-09), in eight states 28 awareness programmes were conducted which was reflected in the receipt of increased number (15) of applications from three states for the Community Awards (four received the recognition) (see Table 1), while five applications were filed. In 2009-10, there was sudden increase in the applications filed for IPR and so for Plant Genome Saviour Awards. Twenty applications were received from 11 states and two communities were conferred with Genome Saviour Community Awards. The increasing trend in the receipt of applications for IPR and awards may be attributed to the wide publicity through awareness programmes (32) in agro-biodiversity rich States (13). Though in eight states, 90 awareness programmes were conducted in the fourth year (2010-11), the trend for receipt of applications for farmers' varieties (four) and awards (19 applications from 11 states) was not encouraging suggesting that rather than more number of awareness programmes, it is the effective these training programmes reaching the target community which is important. In 2011-12, the trend was very promising. While 75 awareness programmes were organized in 14 States in India, 27 applications for Community Awards and 30 applications for farmers' reward and recognition were received. During the same year, as many as 939 applications for farmer's varieties were received, the reason being the interest shown by the Commissionerate of Agriculture from Odisha State. As a result, 939 applications of farmers' varieties were filed by the single state indicating that the proactive interest of the government machinery is a very important determining factor in implementation of such programmes in the biodiversity rich regions like Koraput in Odisha. However since this was a one-off attempt by the Government itself, it was not likely to continue in the next and as expected during the year 2012, the Authority received 302 applications, even as 70 awareness programmes were organized in 16

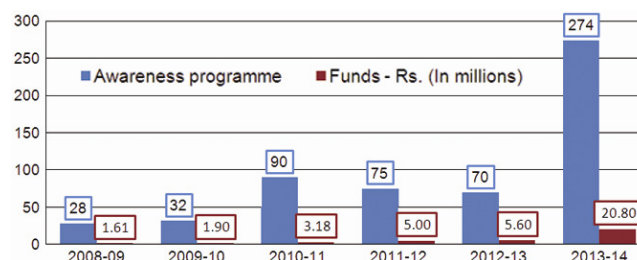


Fig. 2—Awareness programmes organized by the Authority

Table 1—Applications received for the Plant Genome Saviour Awards

Name of the Award	2007-08			2008-09			2009-10			2010-11			2011-12			2012-13		
	Applications received	State participation	Awards given	Applications received	State participation	Awards given	Applications received	State participation	Awards given	Applications received	State participation	Awards given	Applications received	State participation	Awards given	Applications received	State participation	Awards given
Plant Genome Saviour Community Recognition Certificate	-	5	5	15	3	4												
Plant Genome Saviour Community Award				20	11	2	19	11	4	27	11	4	28	15				In process
Plant Genome Saviour Farmers' Reward												10						In process
Plant Genome Saviour Farmers' Recognition												15						In process

States. But there was an increase in the receipt of applications (57) for Genome Saviour Awards. However, the inconsistent trend was again on the upswing during 2013 in which a record number of farmers' applications (1001) for IPR protection were filed for varieties in 35 crops, which never happened during the previous years. All the applications filed for IPR protection in the previous years belonged to only few crops (eleven) and maximum applications filed were in rice. The trend continued in 2014 and until 31 March, 701 applications covering 31 crops were already filed. Applications for Genome Saviour Awards also drastically increased to 108 covering 21 states. Success behind the receipt of more number of applications was the result of reaching unaccessed regions of the agro-biodiversity hot-spots through awareness programmes, print and electronic media, involving all the stakeholders. Farm Science Centres (Krishi Vigyan Kendras) known as KVKs, 637 in number covering eight agro-climatic zones are located in all the districts of the country having grass root level co-ordination with the farmers in frontline technology transfer. Awareness programmes covering 161 districts in all the eight agro-climatic zones, particularly agro-biodiversity hot-spots were conducted. Zonal level capacity building programmes covering information about the PPV&FR Act in general and farmers' rights in particular, were organized by the Authority for the benefit of KVK scientists who were the trainers at grass root level. Besides, capacity building activities for administrators, scientists and students at 27 State Agricultural Universities (SAUs) and 38 ICAR Research Institutes (NARS) covering important biodiversity regions were organized by the Authority. Many non-governmental organizations (NGOs) working in different biodiversity regions play a key role in information dissemination. Such reputed NGOs were identified and seven programmes were conducted through these NGOs. The Authority also facilitated in organizing seminars/conferences on PVP laws. Exhibitions about PPV&FR were arranged in agricultural fairs, etc. During such exhibitions, video clippings, street plays (nukkad natak), posters and unique material of farmers' varieties were displayed. Articles about PPV&FR Act were published in magazines and daily newspapers in many vernacular languages. Bulletins were distributed and radio talks and TV programmes, National Dialogue on Farmers' Rights were organized (Table 2).

Table 2—Awareness programmes, workshops/seminars and other activities conducted by the Authority during 2013-14

Programmes funded by the Authority			Non funded programmes where the Authority participated		
Organization	Conducted	States involved	Organization	Conducted	States Involved
KVK ZONE-1	10	Himachal Pradesh and Jammu & Kashmir	Training - 3	3	Kerala, Chennai, New Delhi
KVK ZONE-2	32	West Bengal, Bihar, Jharkhand and Andaman & Nicobar	State level - 1	1	Rajasthan
KVK ZONE-3	24	Arunachal Pradesh, Assam, Nagaland, Meghalaya, Sikkim, Tripura, Mizoram and Manipur	National symposium - 1	1	Karnataka
KVK ZONE-4	15	Uttar Pradesh and Uttrakhand	Workshop - 3	3	Kerala, Uttrakhand, Punjab
KVK ZONE-5	11	Andhra Pradesh, and Maharashtra	TV programme - 5	5	3 Delhi, 1 Karnataka and 1 Haryana
KVK ZONE-6	12	Rajasthan and Gujarat	Intl. congress cum workshop - 1	1	Delhi
KVK ZONE-7	21	Madhya Pradesh, Chattisgarh and Odisha			
KVK ZONE-8	36	Karnataka, Tamil Nadu, Goa and Kerala			
SAU	27	Gujarat, Maharashtra, Manipur, Himachal Pradesh, Madhya Pradesh, Karnataka, West Bengal, Uttrakhand, Uttar Pradesh, Andhra Pradesh, Bihar, Chattisgarh, Haryana, Rajasthan, Assam and Jammu & Kashmir			
ICAR	42	Gujarat, Maharashtra, Manipur, Himachal Pradesh, Madhya Pradesh, Karnataka, West Bengal, Uttrakhand, Uttar Pradesh, Andhra Pradesh, Bihar, Chattisgarh, Haryana, Rajasthan, Assam, Jammu & Kashmir, Andaman & Nicobar, Kerala, Tamilnadu, Sikkim, Jharkhand, New Delhi, Manipur, Tripura, Meghalaya and Mizoram			
NGO	7	Tamil Nadu, Kerala, M.P., U.P.			
Zonal programmes	6	Karnataka, M.P, U.P, West Bengal, Rajasthan And Meghalaya			
Others	5	West Bengal, Rajasthan & Karnataka			
Exhibition	4	2-Delhi, 1 - Meerut, 1 - Gujarat			
Workshop	1	Delhi			
International Conference	1	U.P.			
International agri fairs	2	Maharashtra & Karnataka			
Advertisement in fairs	2	West Bengal			
National seminar	1	U.P.			
National dialogue	1				
Total	260			14	

All these programmes helped in reaching the farmers/ farming communities particularly the tribal communities who still believe in cultivation of traditional varieties. Further the resource centres on farmers' rights and entitlements were established both at the Authority head office and regional centres. The innovative idea of supporting the SAUs/scientists of

the biodiversity rich regions by way of projects and providing financial support for facilitating collection of farmers' varieties was a great boost to filing applications for IPR. Confidence building with farmers/ farmer communities by bringing into the mainstream their traditional varieties and establishing community seed banks and market linkage involving

NGOs, SAUs, KVKs, National State Seed Corporations and all other stakeholders, are expected to further boost the morale of the farmers in filing IPR applications for their varieties. There are several misconceptions among farmers/ groups, for instance, that they lose the ownership of the seeds of traditional varieties that are deposited with the Authority. Such misconceptions can only be done away with through proper education and capacity building. The Indian Government has notified 57 crop species for plant variety protection up to 31 March 2014, however, not a single application has been filed in 19 of those crop species. Hence, sincere efforts are needed to facilitate and motivate farmers to obtain IP protection for their farm innovations.

Conclusion

The Indian PPV&FR Act is a unique *sui-generis* system which recognizes the contributions of both commercial plant breeders and farmers in plant breeding activity. According to Section 2(g) of PPV&FR Act, although farmers' variety is included in the extant variety category, the uniformity criteria in case of registration of these varieties is difficult to ascertain. Since these varieties are conserved dynamically, their uniformity criteria have to be relaxed in comparison to other categories of varieties for DUS testing. To accommodate the dynamicity, the relaxation of one growing season with two locations and permitting double the off-types in comparison to other categories of varieties in DUS testing has been provided by the Authority.

In the initial period of plant variety protection law implementation, the filing of applications by the farmers was slow and there was inconsistency in receipt of applications from year to year. Also the applications were restricted to rice and few other crops. This is mainly because, the developmental departments, NARS, NGOs and KVKs were not conversant with the PPV&FR Act. In spite of the few awareness programmes were conducted in the initial years, they were not effective as was reflected in the slow process of registration and receipt of applications for Genome Saviour Awards.

Realizing the need for creating awareness about PVP law among the scientists, policy makers, breeders, farmers, village communities and civil societies, the Authority during 2013-14 planned detailed programmes, involving all stakeholders namely ICAR research institutes, SAUs, KVKs, NGOs and other organizations. The Authority

facilitated organization of capacity building programmes among the scientists of NARS, KVKs and NGOs, who in turn trained the farmers. The PPV&FR Authority participated/ facilitated exhibitions, agriculture fairs, workshops, seminars, farmer dialogues and awareness programmes. The Authority took a lead in publication of bulletins, articles in magazines, daily newspapers, delivered radio talks and participated in TV programmes. These concentrated on the agro-biodiversity rich regions in India. Further, the resource centres on farmers' rights and entitlements were established both at Authority head office and regional centres.

As a result of capacity building/ awareness programmes during 2013-14, the maximum number (1001) of farmers' variety applications were filed in a record number of 35 notified crop species. The same trend was observed up to 31 March 2014. With regard to receipt of applications for Genome Saviour Awards, maximum number of applications (108) was received from 20 States.

It is suggested that to make the Indian PVP law more effective, continued efforts should be made on periodic training to trainers from ICAR/SAU/NGO/KVKs and other stakeholders. Further, there is a need to continue the awareness programmes among scientists, policy makers, farmers and village communities in the agro-biodiversity regions of India.

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