Right to Farmers' in PPV&FR Act 2001: A Way to Support Conservation of Plant Genetic Resources

Manoj Srivastava*, Arunita Rakshit, Vijaya Chaudhary, Meenakshi Bhardwaj and RC Agrawal
Protection of Plant Varieties and Farmers' Rights Authority, S-2, A Block, NASC Complex, New Delhi-110012

(Received: 14 August 2013; Revised: 15 December 2013; Accepted: 29 January 2014)

As a signatory of Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement of 1995, the Protection of Plant Variety & Farmers' Right Act, 2001 was enacted for the protection of plant varieties and rights of farmers and therefore, explicitly recognize the farmers' role as conserver. To achieve the said objectives, exclusive nine rights were granted to farmers termed as Farmers' Rights. A National Gene Fund has been constituted to fund the conservation activities through small project grants, which can be implemented by Biodiversity Management Committees, cash rewards and recognitions on annual basis. So far, 10 farming communities and 25 individual farmers have been recognized for their contribution in conservation, improvement and preservation of useful germplasm and biodiversity conservation as a whole. Further, to document the traditional varieties, registration of farmers' varieties is also being done by the PPV&FR Authority and a total of 1,460 applications have been received so far.

Key Words: Farmers' Rights, Plant genetic resources (PGR), Plant Varieties, Protection

Introduction

Agriculture, an open field for production of crops, is climate and weather dependent. To overcome the major challenge of climate change that the world is facing today, it is necessary to review our country's indigenous plant genetic resources (PGR) that constitute genetic diversity. Farmers' varieties are one of such traditional resources developed and maintained over a period of time by farmers/ farming communities possessing certain unique characteristics like tolerance to various biotic and abiotic stresses, high aromatic and medicinal value etc. Recently, it became necessary to protect these varieties under IPR regime so as to prevent its unauthorized use or to check biopiracy. At the same time, it is also necessary to reward and recognize those farmers who are engaged in conservation of such useful germplasm. This will not only generate awareness about such resources but will also give financial gains to the above said farmers. India has given due recognition to its farmers for their role in innovation and conservation of agro-biodiversity, a fact that is acknowledged worldwide (FAO 1989). In order to comply with Article 27.3 (b) of the TRIPs Agreement, 1995, India opted a *sui-generis* system and formulated the Protection of Plant Variety & Farmers' Right Act, 2001, a statute providing protection to plant varieties, the rights to farmers and plant breeders. This paper focusses on the conservation of agro-biodiversity by farmers in India, reward and recognition of farmers and other aspects of farmers' rights under PPV&FR Act, 2001.

Farmers' Rights: A Global Prospective and Indian Initiative

Farmers' rights were mentioned for the first time in the meeting of the Working Group of the FAO Commission on PGR in 1986 in the context of the International Undertaking on Plant Genetic Resources (IUPGR) (Nagarajan and Singh, 2010). The 25th session of the FAO conference of 1989 was a landmark in the history of recognition of farmers' right. In 2001 farmers' rights as a key issue for food security and sustainability was recognized by International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) popularly known as the Treaty. The Treaty recognised the right of farmers to use, exchange and sell farm-saved seeds and other propagating material (Article 9.3) and fair and equitable sharing of benefits arising from the use of PGR for food and agriculture, right to participate in national decision-making process about PGR (Article 9.2) and protection of traditional knowledge. The International Union for the protection of Plant Varieties (UPOV), which is a platform to provide protection to plant varieties in industrial countries, protects only the plant breeders and does not cover Farmers' Rights. There are other important international agreements related to farmers' rights like Convention on Biological Diversity (CBD), the Agreement on Trade

**Author for Correspondence: Email:* manojshreevastava@yahoo.co.in

Related Aspect of Intellectual Property Rights (TRIPS) of the World Trade Organization (WTO), and World Intellectual Property Organisation (WIPO) of the United Nations (UN) (Gautam, 2011).

At the national level, while formulating the PPV& FR Act, 2001, the farmers were given due attention and their role in biodiversity conservation was well recognized. Thus PPV&FR Act, 2001 provides a perfect balance between farmer's rights and protection of plant varieties developed by private/public sector. As per section 2(k) of the Act "Farmer" means any person who cultivates crops by cultivating the land himself or cultivates crops by directly supervising the cultivation of land through any other person or conserves and preserves any wild species or traditional varieties – single handed or jointly with any person, or adds value to such wild species of traditional varieties through selection and identification of their useful properties (PPV& FR Act, 2001). Farmers' variety is a variety that is traditionally cultivated and evolved by the farmers or is a wild relative or landrace or a variety about which the farmers possess the common knowledge. In other words, farmers' varieties are those varieties developed and maintained over the period of time by farmers or farming communities with distinct valuable characters (Bala, 2004; Brahmi *et al.,* 2004). Farmers' rights granted under the Act include right on farm saved seed, right to register, right to reward and recognition, right to benefit sharing, right to compensation for losses, right against undisclosed use of traditional varieties, right to access to seed, right to free services and protection in case of innocent infringement. Registered farmers variety under the act, confers right of legal ownership similar to any other property right.

Conservation of PGR by Farmers: Support under PPV&FR Act, 2001

Since ages, farmers are involved in conservation of PGR and have valuable indigenous germplasm collections, which are used to develop new varieties. In the present scenario of global warming and growing food demand due to population pressure, there is an urgent need to develop climate resilient varieties of different crops. In order to produce climate resilient varieties adapted to extreme climates, genes and alleles of indigenous varieties, landraces or wild relatives will be of primary target. In India, farmers are custodians of genetic resources and maintain valuable indigenous diversified well adapted crop varieties at their own cost. They prefer to use seeds from the previous years' crop which even in some cases reduces seed viability leading to homogeneity and less productivity. The positive aspect of this traditional method is that, it helps to increase adaptability of a crop to sustain in a changed environment (Chandrashekaran and Vasudev, 2002) and the variety may act as future gene donor. But, there exist a vast gap between the rewards given for maintaining diverse plant genetic resources (which form the basis of development on new varieties) and rewards given to new varieties that are the products of research. So to redress this gap PPV&FR authority instituted under Section 45 of the Act, a National Gene Fund which is used for payment of benefit sharing and compensation to village and local communities for supporting conservation and for recognition and award to farmers/farming communities as a support to them for conservation and sustainable use of genetic resources. The section 45.2(c) of the Act envisages the expenditure for supporting the conservation and sustainable use of PGR for *in situ* and *ex situ* conservation and for strengthening the capability of the *Panchayats* in carrying out such conservation and sustainable use. The fund ranging from ₹1–3 lakhs may be allotted by the Authority on the recommendation of the State Biodiversity Board (SBB) to the Biodiversity Management Committees (BMC) actively involved in the biodiversity conservation. Further to recognize the biodiversity heritage sites in India, the PPV&FR Authority constituted a Special Task Force which identified 22 agro-biodiversity hotspots distributed over seven agro-geographical zones and details of which were published two volume book entitled "Agro-biodiversity Hotspots in India". (for further details see http://www.plantauthority.gov.in/hotspots.htm).

The Authority has also instituted the "Plant Genome Savior Community Recognition" as a national activity to encourage and recognize the selfless services of the rural folk in ensuring the continuous availability of biodiversity for plant breeding purposes and biodiversity conservation as a whole. Details of the award and recognition made so far are given in Table 1.

Process of Farmers' Variety Registration

Farmers' variety for the purpose of registration is grouped under extant category. Under the Act, the major steps of registration of farmers' variety includes filing of application, examination of application, conducting grow out test, evaluation of grow out test results and publication of passport data in the *Plant Variety Journal*

Table 1. Details of awards and recognition received by farmers representing states

Details of awards/ recognitions	Plant genome saviour recognition certificates	Plant genome saviour community award	Plant genome saviour farmer rewards	Plant genome saviour farmer recognitions
2007-08	**5** (Uttarakhand, Kerala, Odisha, Rajasthan, and Karnataka)	–	–	–
2008-09	**4** (**2** for Kerala; **1** each for Jharkhand and WB)	–	–	–
2009-10	–	**2** (Karnataka and Odisha)	–	–
2010-11	**7**(**2** for Gujrat; **1** each for Maharashtra, UP, MP, Kerala and TN)	**4** (**2** for Kerala; **1** each for TN and WB)	–	–
2011-12	–	**4** (Maharashtra, Kerala, AP and TN)	**10** (**2** each for Kerala, UP & WB; **1** each for Manipur, Rajasthan, Karnataka and MP.	**15** (**3** for Assam; **2** for, Gujrat, Karnataka, Maharashtra, Kerala; **1** each for HP, Chattisgarh, WB and Punjab)

of India for calling objections (if any) within a specified time frame and finally issue of registration certificate to the applicant. Limited number of selection criteria is used for selection of a farmers' variety like yield stability, risk avoidance, low dependence on external inputs and attributes relate to storage, cooking, taste, etc. (Nagarajan *et al.,* 2008). So far, 105 DUS test centres have been established for conducting DUS Test as well Grow-Out test. The Grow-Out test for farmers' variety is carried by multi-location field evaluation for one year. The number of off-types in farmers' variety is permitted twice of what has been prescribed for a new variety. Farmer's variety application need not be accompanied with GURT affidavit, declaration that parental material has been acquired lawfully and passport data of parental lines. They are also exempted from all types of fee other than annual fee for maintenance of registered variety. The duration of protection of farmers' variety is same as that of other categories i.e. the certificate of registration are valid initially for nine years in the case of tree and vines and six years for other crops and may be renewed for remaining period on payment of prescribed fee. However, the total period of validity is not more than 18 years in case of trees and vines and 15 years in case of other crops from the date of registration of the variety. As per the Act, Authority needs to maintain the seed samples or propagating material for all registered varieties including farmers' varieties. For this purpose, the Authority has established the National Gene Bank at old campus of National Bureau of Plant Genetic Resources (NBPGR), New Delhi. The seed samples are kept in medium term storage at low temperature (4°C) to maintain seed viability. After the expiry of protection period, seed material is mandated to be submitted to National Gene Bank at NBPGR or any public repository (Choudhury, 2009). Till date the Authority has also established four Field Gene Banks – at Dapoli (Maharashtra) for tropical and sub-tropical crops, Ranchi (Jharkhand) for eastern ecosystem, Mashobra (Himachal Pradesh) for temperate fruit crops and Central Arid Zone Research Institute (CAZRI), Jodhpur (Rajasthan) for arid crops. These facilities are useful for capacity building, documentation and training for farmers and breeders (Singh *et al.,* 2011).

Status of Protection

The office of the registry started receiving applications for registration of varieties from 21 May 2007. A total of 4,607 applications have been received so far for 57 crop species notified in the Gazette of India. Out of 1,460 applications covering 15 different crops belong to farmers' varieties. In 2011 a sharp increase in number of applications accepted for registration of farmers' variety indicates growing trust of farmers and increase in awareness by the Authority (Fig. 1). Applications for registration received from farmers include ten drought tolerant lines of rice. Highest number of applications so far received by the Authority is in rice (1,404) followed by 13 applications in pigeon pea (Fig. 2). State wise farmers' variety applications shows that highest number of applications has been received from Odisha (969) followed by West Bengal (142). Single application was

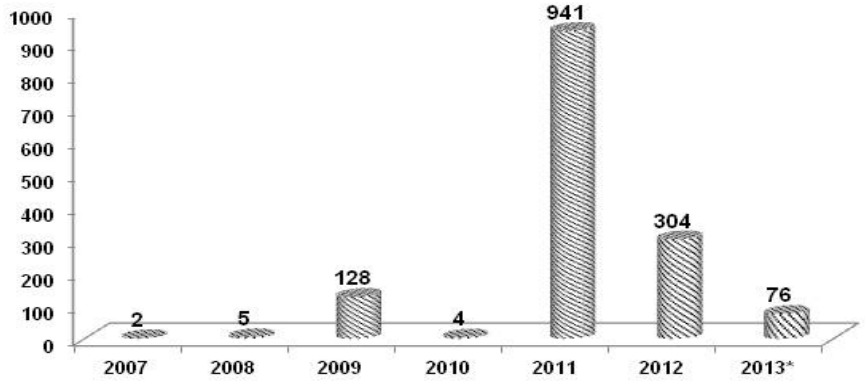

Fig. 1. Year wise application received for farmers' varieties

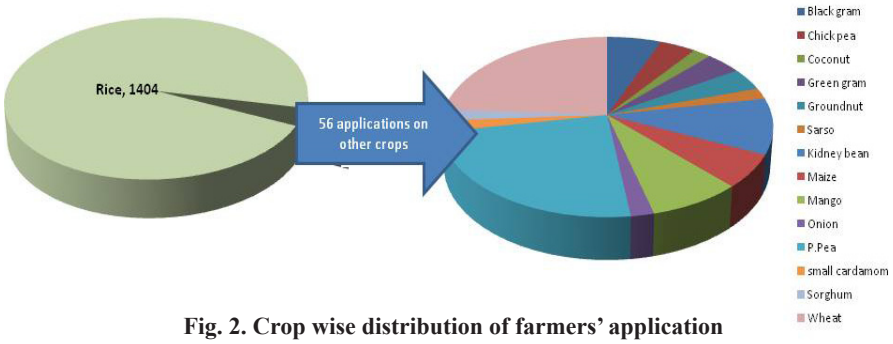

Fig. 2. Crop wise distribution of farmers' application

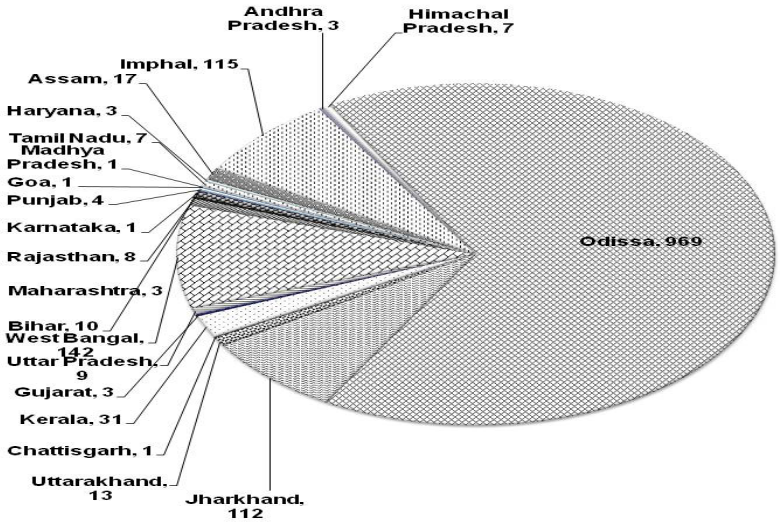

Fig. 3. State wise application received for farmers' varieties

reported from Goa, Madhya Pradesh and Karnataka which may be due to lack of awareness among farmers (Fig. 3). As of July 2013, a total of 14 farmers' varieties have been registered under the Act. It includes 12 rice and two bread wheat varieties. Interestingly two of these registered rice varieties are aromatic. Few of these varieties have red coloured decorticated grains along with other distinguishing characters. All formalities for issuance of certificates of another 23 varieties have been completed and are published in Plant Variety Journal of August, 2013 for any opposition.

Conclusion

The role played by farmer as cultivator is well understood while, farmer as conserver has not gained adequate attention. Therefore, to explicitly recognize the role of farmer in agro-biodiversity conservation, India is the first South Asian country to implement the *sui generis* protection in the form of PPV&FR Act, 2001. The Authority not only recognize and reward the farmers for their commendable efforts in conservation, improvement and preservation of useful germplasm but, is also supporting the *in situ* and *ex situ* conservation and sustainable use of PGR by funding BMCs from the National Gene Fund for biodiversity conservation. Although good number of applications has been received so far but most of the applications are from few states, which depicts a lack of awareness among the farming community. Therefore, the Authority has taken up steps to conduct more workshops with the help of Krishi Vigyan Kendras (KVKs) across the country to increase awareness among farming community, helping them to register their varieties and make the system more effective and beneficial for farmers in India.

References

Bala RS (2004) *Manual on Farmers' Rights*. MS Swaminathan Research Foundation. Chennai.

Brahmi P, S Saxena and BS Dhillon (2004) The Protection of Plant Varieties and Farmers' Rights Act of India. *Curr. Sci.* **86:** 392-398.

Chandrashekaran S and S Vasudev (2002) The Indian Plant Variety Protection Act Beneficiaries: the Indian Farmer or the Corporate Seed Company? *J. Intellectual Property Rights* **7:** 506-515.

Choudhury DR (2009) Guidelines for storage and maintenance of registered plant varieties in the National Gene Bank. Technical Bulletin No. 02, PPV & FR Authority, New Delhi, 42p.

FAO (1989) Farmers' Rights Resolution No 5/89 adopted by FAO Conference, 25th Session, Rome, 11-20 November 1989.

Gautam PL (2011) Farmers rights under the Protection of Plant Varieties and Farmers' Rights Act of India. *Think Ind. J.* **14**: 165-182.

Nagarajan S and PK Singh (2010) Agro-Biodiversity Conservation for Sustainable Agricultural Production: the PPV&FRA's Efforts. In: *Proceedings of the Special session on Biodiversity and Sustainable Development,* 97th Indian Science Congress, January 7, Thiruvananthapuram, Kerala, pp 24-32.

Nagrajan S, SP Yadav and AK Singh (2008) Farmers' variety in the context of Protection of Plant Varieties and Farmers' Rights Act, 2001. *Curr. Sci.* **94:** 709-713.

Singh AK, M Srivastava, PK Singh and PL Gautam (2011) Implementation of PPV&FR Act, 2001 and Registration of Plant Varieties. In: *National Symposium on Technological Interventions for Sustainable Agriculture,* May 3-4, GBPUAT, Hill Campus, Ranichauri (Uttarakhand), pp 119-125.