



Creating harmony and balance among diverse regulatory bodies for efficient use and management of genetic resources in India

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Abstract

Keeping in view the rich biodiversity and importance of agriculture in India, a *sui generis* system for plant variety protection was adopted and the Protection of Plant Varieties and Farmers' Rights Act, 2001 was enacted. Further to provide for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge, India also enacted The Biological Diversity Act, 2002. The Patents Act, 1970 under section 3(j) excludes from patentability "plants and animals in whole or any part thereof other than micro-organisms but including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals". The Geographical Indications of Goods (Registration and Protection), Act, 1999 is an indirect way to extend protection to farmers varieties and traditional knowledge. Some of the issues like the rights under one act does not gets impeded by another act, the overlapping of clearances between various regulatory bodies so as to make the genetic resources more accessible for research, synergies between regulatory bodies and related public/private sectors for achieving various provisions of the PPV&FR Act, 2001 have been discussed in this article.

Key words: Plant variety protection, geographical Indications, patents, bio-diversity, plant genetic resources

Introduction

The Plant Genetic Resources (PGR) were treated as the 'heritage of mankind' and were shared freely *prior* to the establishment of the Convention on Biological Diversity (CBD) in 1993. The diversity in the PGR provides valuable traits needed for meeting challenges of the future, such as adapting our crops to changing climatic conditions or outbreaks of disease.

International efforts are continuing with vigour on protection of PGR, including farmers' varieties, and traditional knowledge associated with them. Many Conventions/Treaties like the Convention on Biological Diversity (CBD), International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGFRA), International Union for the Protection of New Varieties of Plants (UPOV Convention), and Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs) of the World Trade Organisation (WTO) also put emphasis on PGR. The TRIPs Agreement which came into effect on 1 January 1995, is to date the most comprehensive multilateral agreement on intellectual property. The areas of intellectual property that it covers are: copyright and related rights (i.e., the rights of performers, producers of sound recordings and broadcasting organizations); trademarks; geographical indications; industrial designs; patents, including the protection of new varieties of plants; and undisclosed information including trade secrets (Planning Commission, 2007).

The CBD consolidates the role of government in protecting and maintaining resources and reaffirms that states have sovereign rights over their own (Raustiala and Victor, 1996). As a result of it, many issues regarding the rights of the conservers, users, breeders, farmers and intellectual property have emerged in India. To meet the national requirement and international obligation under Article 27(3) (b) of TRIPs Agreement, India adopted a *sui generis* system for plant variety protection system and Government of India enacted the "Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001".

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The Act is the first of its kind in granting intellectual property rights not only to plant breeders but also to the farmers by protecting new, extant and farmers' varieties. It emphasizes farmers' rights as positive rights capturing the spirit of FAO International Treaty on Plant Genetic Resources for Food and Agriculture and UN Convention on Biological Diversity. The expression farmers' rights was coined in the 1980s in the context of the emerging debate over the contribution of farmers to the maintenance of plant genetic resources for agriculture, and was subsequently developed within the ambit of the FAO (Peschard, 2014). The major objectives of the Act include providing an effective system for protection of plant varieties and rights of farmers and plant breeders, recognizing and protecting the rights of farmers in respect of their contribution made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties, contributing to accelerate the agricultural development in the country, stimulate investment for research and development in public/private sector for development of plant variety; and facilitating the growth of seed industry (<http://www.plantauthority.gov.in/pdf/PPV&FRAAct2001.pdf>).

The Biological Diversity Act (BDA), 2002 of India aims at conservation of biological resources and associated knowledge as well as facilitating access to them in a sustainable manner (<http://nbaindia.org>). The Act regulates access to biological resources of India and also provides for benefit sharing in case of access to such resources. The objective of this Act is "to provide for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto." [Preamble to the Act.] (<http://nbaindia.org>). Prior Informed Consent (PIC) is a principle incorporated in the Act.

The TRIPs Agreement requires its member countries to make patenting systems available for any inventions, whether products or processes, in all fields of technology without discrimination, subject to the normal tests of novelty, invention and industrial applicability. The Patent Act may include a part of the microbiological processes. Biological Diversity Act, 2002 regarding use of biological resources under section 6(1) states "no person shall apply for any intellectual property right, by whatever name called, in or outside India for any invention based on any

research or information on a biological resource obtained from India without obtaining the previous approval of National Biodiversity Authority before making such application; provided that, if a person applies for a patent, permission of the National Biodiversity Authority (NBA) may be obtained after the acceptance of the patent but before the sealing of the patent by the patent authority concerned; provided further that the National Biodiversity Authority shall dispose of the application for permission made to it within a period of ninety days from the date of receipt thereof" (<http://nbaindia.org>).

A new product or process involving an inventive step and capable of industrial application is an invention under section 2(j) of The Patents Act, 1970 as amended in 2005 but it has certain limitations imposed by Section 3 of the Indian Patents Act under 15 clauses that define what are not inventions. Section 3(j) of The Patents Act, 1970 as based on Article 27.3(b) of the TRIPS agreement is one such limiting provision that states as follows: "Plants and animals in whole or any parts thereof other than micro-organisms but including seeds, varieties and species and essentially biological processes for production and propagation of plants and animals." The section excludes as invention plants and animals in whole or parts thereof, including seeds, varieties and species, as well as essential biological processes for their production or propagation. Plant varieties are provided protection under the provisions of the Protection of Plants Varieties and Farmers' Right Act, 2001. The Genetic Engineering Appraisal Committee (GEAC) regulates the Genetically Engineered Organisms or Cells under the Environment Protection Act, 1986 and deals with the part of the germplasm.

The Geographical Indications of Goods (Registration and Protection) Act, 1999 (GI Act), came into force in India on 15 September 2003. The government has established the Geographical Indications Registry with all-India jurisdiction at Chennai, where the right holders can register their GIs. GI products expressing the peculiarities of rural areas are regarded as one of the most evident manifestations of locality and often play a central role in the rural development strategies carried out by local actors in rural areas (Jena et al. 2015).

Policies and legislations designed and implemented at the national level for other purposes can directly affect the sustainable use of agricultural biodiversity. The most obvious example is the

incentive to convert to industrial-type agricultural systems and reduce the use of agricultural biodiversity by subsidy schemes for purchased agricultural inputs, but others, including ensuring agricultural marketing, policy support, agricultural biodiversity are also important (http://www.ukabc.org/odi_agbiiod.pdf). Ensuring the availability of agricultural biodiversity to both farmers and breeders is important. This requires policies that achieve a complementary mix of *in-situ* and *ex-situ* conservation. Some of the issues for making the genetic resources more accessible for research through better synergy between various regulatory bodies and related public/private sector are presented below.

Co-ordination for Implementation of the Farmers' Rights

The National Policy for Farmers, 2007 defines farmer as "a person actively engaged in the economic and/or livelihood activity of growing crops and producing other primary agricultural commodities and will include all agricultural operational holders, cultivators, agricultural labourers, sharecroppers, tenants, poultry and livestock rearers, fishers, beekeepers, gardeners, pastoralists, non-corporate planters and planting labourers, as well as persons engaged in various farming related occupations such as sericulture, vermiculture, and agro-forestry. The term will also include tribal families/persons engaged in shifting cultivation and in the collection, use and sale of minor and non-timber forest produce (DAC&FW, 2007). Rights of farmers have been given recognition in various international treaties like ITPGTFA, but the term 'farmer' has been left undefined in these treaties, possibly because it is a well-recognised term for a person who is engaged in farming or agriculture such as cultivating plants and trees and related trades.

The definition of farmers and farmers' variety in the PPV&FR Act, 2001 has a wide scope. Section 2(k) in PPV&FR Act, 2001 defines a farmer as a person who:

- (i) Cultivates crops by cultivating the land himself; or
Cultivates crops by directly supervising the cultivation of land through any other person; or
- (ii) Conserves and preserves, severally or jointly, with any person any wild species or traditional varieties through selection and identification of their useful properties.

Section 2(l) of the PPV&FR Act defines farmers' variety to mean a variety which has been traditionally cultivated and evolved by the farmers in their fields; or is a wild relative or land race of a variety about which the farmers possess the common knowledge. Farmers' variety is included under the extant varieties available in India. Such varieties have been cultivated and developed over a long period in a traditional way. They got adapted to the nature and soil conditions with certain inputs from farmers and not with any laboratory manipulation and proved their efficiency and uniqueness over time. As observed by Nagarajan et al (2013), farmers' varieties are "those plant varieties that are homogenous, traditionally cultivated by farmers, selected by farmers in their own field and is an improvement over the wild relatives and/or land races." They are generally uniform, homogenous, and distinct.

Under the provisions of PPV&FR Act, 2001 farmers' rights are covered under section 39 and gene fund under section 45. Under section 39 farmers' rights includes farmers who bred or develop a new variety. The farmers also engaged in conservation and plant genetics resources of land landraces and wild relatives of economic plants and their improvement through selection and preservation are entitled for recognition and reward from the National Gene Fund.

The Act provides for the following shelters to the Indian farmers:

1. A farmer as the provision in the Act if bred or developed a new variety shall be entitled for registration in the like manner as a plant breeder.
2. The farmer is also entitled to save, use, sow, resow, exchange, share or sell his farm produce including seed of a registered variety under the Act like wise entitled before the enforcement of the Act. Farmers are not entitled to sell branded seed of the variety registered under the Act.
3. Farmers' Variety is the variety which has been traditionally cultivated and evolved by the farmers in their fields or is a wild relative or land race of a variety about which the farmers possess the common knowledge.
4. Registration of farmers variety:- farmers are entitled for the registration of the variety which were bred are developed by them.
5. Farmers are exempted from payment of any fees

in respect any proceeding, inspection of any document or obtaining any decision/order/document under the Act before the Registrar/ Authority/tribunal/High Court.

6. Compensation to the farmers:- farmers are entitled to the compensation in case of failure of expected performance by registered varieties under the given condition.
7. Rights of communities/ compensation - any person on behalf of any village community file any claim for compensation if the village or local community has contributed significantly to the evolution of the variety which has been registered under the PPV&FR Act, 2001. The Authority upon receiving objection from the registered breeder shall give an opportunity to breeder and determine the compensation which should be deposited in the Gene Fund within a period of two months.
8. Protection of innocent infringement: - A right established under the Act shall not be deemed to be infringed by a farmer who at the time of such infringement was not aware of the existence of such right and a relief in an infringement suit shall not be granted by court against a farmer who proves at the time of infringement he was not aware of the existence of the right so infringed.
9. Compulsory licence: - The Authority can grant compulsory licence after the expiry of three years from the date of issue of a certificate of registration of a variety on the ground of inadequate supply, unreasonable price to the public with the consultation on Central Government.
10. Benefit Sharing: -The claims after due examination and receiving counter-claims will be disposed by the Authority. The benefit claim will be decided after providing proper and fair opportunity to be heard to both the claimer and Breeder.

Commensurate with the enactment of the PPV&FR Act, the Indian Council of Agricultural Research (ICAR), the apex body for agricultural research and education in the country, set the guidelines for intellectual property generation, commercialization and transfer to enhance the work environment for higher innovativeness in public sector (Venkatesh et al. 2016). These guidelines mainly focus

about the interest of the breeders belonging to National Agricultural Research System (NARS) but lack about the strategies for the identification, characterization, seeking of the PVP rights for farmers/communities of farmers on their varieties and inclusion of promising Farmers' Varieties in the breeding programs for development of new varieties.

The State Departments of Agriculture, Krishi Vigyan Kendras, State Agricultural Universities (SAUs), crop-based institutes of ICAR and other organizations dealing with agriculture can make efforts for the

- identification of the eligible farmers' varieties for their registration, assist in their characterization and seed purification and file for registration for seeking PVP rights for farmers. The deadlines for the registration of varieties under extant categories specially for farmers varieties have been extended for another 10 years for all major crops after suitable amendments (Rule 22 (2) Table 1) during 2015, which shall not be further extended beyond their extended period as notified by PPV&FRA in all leading newspapers. This requires a systematic strategy for timely registration of all the promising Farmers' Varieties.
- issue of compensation to the farmers under which farmers are entitled to the compensation in case of failure of expected performance by registered varieties under the given condition under Sec 39 (2) of the PPV&FR Act, 2001, there needs to be a mass campaign by state department.
- Can assist village communities to file any claim for compensation under Sec 41 of the PPV&FR Act, 2001 if the village or local community has contributed significantly to the evolution of the variety which has been registered under the PPV&FR Act, 2001. The Authority upon receiving objection from the registered breeder shall give an opportunity to breeder and determine the compensation which should be deposited in the Gene Fund within a period of two months.
- Make aware about the provisions of the compulsory licencing under Sec 47 of the PPV&FR Act, 2001. The Farmers needs to know the ground of compulsory licencing of registered varieties like inadequate supply of the seed and unreasonable price of the registered varieties.

Table 1. Some major amendments and notifications by Central Government on 15th June 2015

S.No.	Pre-Amendment	Post Amendment (Gazette Notification June 15, 2015)
1.	Annual Fees for farmers' variety was Rs. 2000/- plus 0.2% on sale value and 1% on royalty for new varieties and 0.1% on sale value and 0.5% on royalty for extant varieties (notification of 26.4.2009)	Annual fees for farmers' variety reduced to Rs. 10/-
2.	Rule-22 (2). The Authority shall register extant varieties under clause (a) of subsection (2) of section 8 within such period as may be determined by it with suitable test criteria to conform distinctiveness, uniformity and stability (hereinafter referred to as DUS) of such varieties.	The Authority shall register extant varieties under clause (a) of sub-section (2) of section 8 of such genera or species and within such period as may be determined by it and the suitable test criteria to conform distinctiveness, uniformity and stability (hereinafter referred to as DUS) of such genera or species shall be specified in the Plant Variety Journal of India."
3.	22 (2A). Nil	"(2A) The Authority shall register extant varieties (other than farmers variety), if at the date of filing of the application for registration, such variety has not been sold or otherwise disposed of for the purposes of exploitation of such variety for a period of eighteen years in case of trees and vines and fifteen years in other cases."
4.	Rule-24- Extant VCK must be registered within 3 years from date of notification of crop species under section 29 (2).	The time limit for registration of extant varieties will be determined by the Authority.
5.	Rule-24- Farmers Variety must be registered within 5 years from date of notification of crop species under section 29 (2).	The time limit for registration of extant (Farmers) varieties will be determined by the Authority.
6.	Rule 29 (4) DUS test shall be necessary for all new varieties except essentially derived varieties.	DUS test shall be necessary for all new varieties and extant varieties except essentially derived varieties and varieties notified under section 5 of Seeds Act, 1966
7.	Rule 30(2) Registrar must provide the place where the specimen of the variety may be inspected.	Rule 30(2) provides that before sending a variety for DUS testing the Registrar shall publish in the PVJ the name and location of DUS test centre where the variety will undergo DUS testing.
8.	Rule 32 Compliance with time schedule was strict.	Rule 32 compliance with time schedule has been relaxed.
9.	Rule 35 EDV test shall be conducted by Authority in consultation with central government.	Rule 35 provides EDV test shall be decided by Authority on case to case basis and published in the Journal.
10.	Sixth schedule of the PPV&FR Rules 2003 (20 Feb 2013). Endorsing Authorities- "[Chairperson/Secretary of the Concerned Panchayat Biodiversity Management Committee OR Concerned District Agricultural Officer OR Director of Research concerned State Agricultural Universities OR Concerned District Tribal Development Office.]"	"[(Chairperson/Secretary of the Concerned Panchayat Biodiversity Management Committee OR Concerned District Agricultural Officer OR Director of Research/ Director of Extension of concerned State Agricultural Universities OR Concerned District Tribal Development Office/Zonal Project Director (ICAR)]"
11.	Schemes for benefit sharing and claims by communities under section 46 of PPV&FR Act, 2001 was not notified	PPV&FR Scheme, 2015 notified.
12.	Sixth Schedule in principal rules	Principle place of business and domicile of applicant included in the application form.
13.	Endorsing Authority for farmers variety applications did not include Direction of Extensions, SAU and Zonal Project Director ICAR	Direction of Extensions, SAU and Zonal Project Director ICAR were included as endorsing Authorities for farmers variety applications
14.	Rule 2(3) of Recognition and Reward from the Gene Fund Rules, 2012."The reward shall comprise of a citation, memento and cash of rupees One Lakh each."	"The reward shall comprise of a citation, memento and such an amount of cash as may be decided by the Central Government"
15.	Rule 3(2) of Recognition and Reward from the Gene Fund Rules, 2012."The recognition shall consist of a citation and memento...."	"The recognition shall consist of a citation, memento and such an amount of cash as may be decided by the Central Government"

- Designate centres under section 41 of PPV&FR Act, 2001 where any village or local community in India may file any claim attributable to the contribution of the people of that village or local community as the case may be in the evaluation of any variety for the purpose of staking a claim on behalf of such varieties. The notified centre after the verification of the claim files its report with finding to the Authority and after such enquiry as the Authority deems fit the sum of compensation to be awarded to the said village and local communities is decided by the Authority.

These amendments shall further help the farmers, breeders of both private and public sector to bring more varieties under the ambit of PVP legislation and investing more funds for the research and development in the seed industry.

The farmers/breeders also needs to be explained that the objective of PPV&FR Act, 2001 is entirely different than Seeds Act, 1966, Seeds Rules 1968 with Seeds (Control Order) 1983 which are the legal instruments for regulating the production, distribution and the quality of certain seeds for sale and for matters connected therewith, whereas the PPV&FR Act, 2001 grants the proprietary ownership of the variety to the plant breeders and farmers. Intellectual Property Rights are the private rights which confer to the legitimate owners' exclusive rights to produce, sell, market, distribute, import or export the variety registered under the PPV&FR Act.

Recently, the PPV&FR Authority has also approached the Police and Administrative academies for providing a regular time slot to educate the probationers about the Farmers' Rights, the cases of the infringements of the breeders' rights as envisaged under the PPV&FR Act, 2001. .

Synergy between PPVFRA and NBA

Being signatory to the Convention on Biological Diversity (CBD), Govt. of India enacted the Biological Diversity Act (BDA), 2002 and also notified the Biological Diversity Rules (BDR) 2004 and established National Biodiversity Authority (NBA) in 2003. At national level, access to biological resources from India is regulated by BDA, 2002 and BDR, 2004. The scope and objectives of PPV&FR Act, 2001 and BDA, 2002 are different and in order to harmonise both the legislations, an exemption has been provided under Section 6(3) of the BDA for applicants seeking

protection under the PPV&FRA to ensure that before grant of IPRs, it becomes possible to realize equitable sharing of benefits arising out of the use of biological resources and knowledge. As the PPV&FRA also has a provision for benefit sharing under Section 26 and 41, an exemption has been provided in the BDA for applicants seeking protection under the PPV&FRA. The Authority under the PPV&FRA legislation would be required to endorse a copy of the rights granted under this Act to the NBA.

For better synergy and to complement the activities of each other, the two Authorities can further collaborate on the following aspects:

1. The authors in the article published in daily "Indian Express" (6 September 2018) "Intellectual Property and agriculture: The world's only IP Act that recognized rights of breeders, farmers" have cited certain examples of farmers naturally endowed with practical plant breeding instincts, which comes from knowledge of the unique traits present in the varieties being grown by them for ages and the ability to pick up "off type" plants in their ecologies. Our farmers have contributed immensely in evolving new varieties of crop plants, which have also played a huge role in searching out new genes to combat abiotic and biotic stresses as well as challenges of climate change. Their work in conserving, preserving and selecting plants that can withstand floods, drought, pest and disease is a national treasure. The gene-based crop breeding research by our agricultural scientists blends perfectly with the traditional knowledge and work done by these farmers in saving and multiplying seeds of varieties adapted best to their production systems. But, development of new plant varieties alone cannot sustain agricultural productivity improvement, unless these are protected to ensure correct usage for their best performance, even while the breeders are encouraged to improve these further.

To identify such farmers and their communities for their role in evolving new varieties and their conservation efforts, the NBA can ask its Biodiversity Management Committees (BMCs) through State Biodiversity Boards (SBBs) to submit the list to PPV&FRA for consideration to get Plant Genome Saviour (PGS) Awards and recognitions under National Gene Fund of PPV&FR Act. These communities can also be

- supported for conservation and sustainable use of genetic resources including in-situ and ex-situ collections and for strengthening the capability of the Panchayat in carrying out such conservation and sustainable use under Section 45(2)(c) of PPV&FR Act, 2001. PPV&FRA has so far awarded 124 farmers and communities but has not provided any fund to support conservation and sustainable use of genetic resources.
2. People's Biodiversity Register (PBR) is a legal document that contains details of biological resources occurring within a BMC and contains associated knowledge as well. The PBR acts as a source of inventory of biological resources and knowledge and for benefit sharing purposes under the ABS component. The NBA can issue guidelines to BMCs to enter the list of plant varieties of PGSC Awardees/Plant Genome Saviour Farmer Reward/ Plant Genome Saviour Farmer Recognition in PBRs so as to facilitate for any future benefit sharing claims and prioritising such varieties for the support in conservation activities.
 3. A National Biodiversity Action Plan (NBAP) was prepared for India in 2008, through an inter-ministerial consultative process. Five years later, it was considered necessary to align the existing NBAP in accordance with the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets (ABTs). This was achieved by formulating India's National Biodiversity Targets (NBTs) and developing a monitoring framework using indicators, and through an evaluation of funding support for biodiversity conservation in India. The National Biodiversity Strategy and Action Plan is the primary tool for implementation of the Convention on Biological Diversity (CBD) at the country level (Onial et al. 2018). Such efforts can be jointly planned by two authorities as PPV&FRA can provide strategies and targets related to agro-biodiversity with the support of ICAR-National Bureau of Plant Genetic Resources.
 4. The National IPR Policy announced by Government of India during 2016 also emphasizes to facilitate development of seeds and their commercialization by farmers. The provision of Section 3, 4 and 5 of the BDA, 2002 shall not be applicable for varieties registered under PPV &FR Act during the period of protection; since, under the PPV &FR Act 'the plant breeder has the right to import or export the variety [Section 28(1) of the PPV&FRA,2001]. The varieties developed by ICAR institutions and registered as above should, therefore, be allowed for exchange and commercialization with other countries.
 5. Pursuant to the principles enunciated in the preamble of the PPV & FR Act, 2001, and as per the Section 45(2)(c) of the above cited Act for the operation of the Gene Fund, and under Section 70(2) under PPV & FR Rules, 2003 for the manner of applying the Gene Fund for supporting and rewarding farmers, community of farmers, the tribal and rural communities engaged in conservation, improvement and preservation of genetic resources of economic plants and their wild relatives, particularly in areas of agro-biodiversity hotspots, a Task Force (6/2007) was constituted by PPV & FR Authority on 8th October, 2007.

The Report submitted by the Task Force entitled "Agrobiodiversity Hotspots in India: Conservation and Benefit Sharing" also documents the useful plant species in the hotspots. The report demarcated the 22 agro-biodiversity hotspots present in India. Apart from facilitating gene fund activities, this document prepared by the PPV&FR Authority also enabled India to put its view point effectively and convincingly in various international forums to discuss issues connected with Farmers' Rights, Plant Genetic Resources and biodiversity conservation. These 22 agro-biodiversity hotspots developed during 2008 needs revision as to include left out places. The revision can be jointly taken up by PPVFRA and NBA for developing joint strategies for prioritizing conservation and sustainable use of PGR.
 6. 'Documentation, indexing and cataloguing of farmers' varieties' is one of the mandates of the PVP & FR Act, (as per Section 8(c)). The traditional knowledge associated with plants cultivated on fields represents an invaluable and indispensable asset to agricultural science. Use of PBR for documenting, indexing and cataloguing of farmers' varieties and all plant varieties in collaboration with NBA is crucial for taking up many activities defined under various provisions of the PPV&FR Act, 2001 and NBA,

2002. Such list can help Registration for the purpose of documentation and grant of IPR; stop bio-piracy of the PGR and TK associated with them; commercialization of farmers' varieties and to make it available continuously for cultivation and commercial gains, propagate and earn profit and their promotion; and to prioritize in-situ and ex-situ conservation of plant genetic resources and landraces in certain areas in accordance with Rule 70(2) of PPV&FR Rules, 2003.

Benefit Sharing under PPV&FR Act (Sec. 26 and Sec 41) vs NBA

The PPV&FR Act integrates a provision for access and benefit-sharing along with Plant Breeders' Rights. The farmers and their communities can claim benefit sharing under section 26 and section 41. The major difference of benefit sharing between these 2 sections is given below:

- Under Sec 26 applications are to be received at PPVFRA while under Sec. 41 applications are to be received at designated Centres identified by PPVFRA. PPV&FR Authority has sent proposal to Central Government for notification of such centres.
- Farmers can file benefit sharing in both Sec 26 and Sec 41
- Sec 26 has the time limit to file claims for the benefits whereas Sec 41 has no time limit for this purpose.
- The amount of benefit sharing under Sec 26 shall be considered based on extent and nature of use of genetic material of the claimant in the development of variety relating to which benefit sharing is claimed; and commercial utility and demand in the market of the variety relating to which benefit sharing has been claimed.
- The amount of compensation under Sec 41 is subject to any limit notified by the Central Government

The BDA, 2002 and the BDR, 2004 framed under it, provide for a three-tier legal framework for regulating access to bioresources (and associated traditional knowledge) while promoting fair and equitable sharing of the resulting benefits (Rana, 2012). The Section 21(2) of the BDA, 2002 provides following provisions for equitable sharing of benefits:

- grant of joint ownership of intellectual property rights to the National Biodiversity Authority, or where benefit claimers are identified, to such benefit claimers;
- transfer of technology
- location of production, research and development units in such areas which will facilitate better living standards to the benefit claimers
- association of Indian scientists, benefit claimers and the local people with research and development in biological resources and bio survey and bio utilization;
- setting up of venture capital fund for aiding the cause of benefit claimers;
- payment of monetary compensation and non-monetary benefits to the benefit claimers; as the National Biodiversity Authority may deem fit.

Accession of the genetic resource used in breeding is permitted under the Biological Diversity Act, 2002. However, the PPV&FR Act requires a breeder to make a sworn declaration on the geographical origin of the genetic resources used in the pedigree of the new variety, and its accession.

Geographical Indications vs. Breeders' Rights

Geographical Indications (GIs) refer to any indication that identifies a goods as originating from a particular place, where a given quality, reputation or other characteristics of the goods are essentially attributable to its geographical origin. In accordance with the WTO agreement on TRIPS, India passed the Geographical Indication of Goods Act in 1999, which entered into force in 2003.

There are many items which have been protected with GI and breeders rights in India like Basmati rice, Navara rice, Kala Namak etc. Under Breeders rights, the right holder can restrain any other person from unauthorized use of his registered varieties whereas under GI, a registered GI is infringed by a person who, not being an authorised user thereof uses such GI by any means in the designations or presentation of goods that indicates or suggests that such goods originate in a geographical area other than the true place of origin of such goods in a manner goods; or which misleads the persons as to the geographical origin of such goods; or uses any geographical indication in

such manner which constitutes an act of unfair competition including passing off in respect of registered geographical indication. Farmers should get both breeders rights on their plant varieties and GI (if it qualifies for GI) on their agriculture goods to avoid any kind of misuse of their varieties and products.

The GI registry should exchange the information about the agriculture related products so that PPVFRA can identify the related varieties under the GI product for their possible registration under the PPV&FR Act, 2001.

National IPR Policy (2016)

Government of India in their National Intellectual Property Rights Policy announced during 2016 has indicated the number of filings and registrations by the Protection of Plant Varieties and Farmers' Rights Authority very encouraging and has asked to provide support to various stakeholders for increased registration of new, extant and essentially derived varieties of plants. It has further emphasised to establish links between the Authority and Agricultural Universities, Research Institutions, Technology Development & Management Centers and Krishi Vigyan Kendras and facilitate development of seeds and their commercialization by farmers. It makes the Authority more responsible to focus on strategies for mainstreaming of registered farmers' varieties and to take breeders rights as envisaged in PPV&FR Act, 2001 to every concerned stakeholder and make India as a forerunner in the implementation of not only farmers' rights but also the breeders' rights.

Way forward

The Indian PPV&FR Act is an effective *sui generis* system providing a balance between plant breeders' rights along with farmers' rights and researchers' rights. The practice of small, marginal farmers to exchange the harvested material with others are essential for their livelihood and being practices not only in India but to a large extent to most of the developing countries in Asia-Pacific. All efforts are being made by PPV&FR Authority to implement different provisions of the PPV&FR Act. There needs to be co-ordinated efforts by all concerned public and private agencies to make the availability of quality seeds of registered varieties and to support farm families for conservation and sustainable use of genetic resources including *in-situ* and *ex-situ* collections and for strengthening the capability of the stakeholders in carrying out such

conservation and sustainable use.

Declaration

The authors declare no conflict of interest.

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