THE PROTECTION OF PLANT VARIETIES AND FARMERS’ RIGHTS ACT, 2001

1. Background

The Protection of Plant Varieties and Farmers’ Rights Act, 2001 (the “Act”) has been passed by both Houses of the Parliament, after a drafting process that lasted eight long years. Although discussions on the Plant Breeders’ Rights (“PBR”) were initiated by the seed industry as early as in 1989, the decisive impetus came from Article 27(3)(b) of the Agreement on Trade-Related Aspects of Intellectual Property Rights (the “TRIPS Agreement”), which is an integral part of the agreement entered into by the World Trade Organization. Article 27(3)(b) of the TRIPS Agreement obliges member States to protect plant varieties “either by patents or by an effective *sui generis* system or by any combination thereof.”

In contrast to all other types of Intellectual Property Rights (“IPR”) regarding an effective *sui generis* system, the TRIPS Agreement neither specifies a minimum standard of substantive or procedural law, nor contains an explicit reference to an existing international agreement that sets such standards. The only existing *sui generis* system, thus far, is the PBR system that has been developed in industrialized countries in accordance with the Union International pour la Protection des Obtention Vegetables entered into at Paris in 1961 (the “UPOV Convention”). The UPOV Convention has, therefore, always served as a point of reference for the assessment of the effectiveness of the *sui generis* system. The UPOV Convention has been revised three times in 1972, 1978 and 1991 (“UPOV 72”, “UPOV 78” and “UPOV 91” respectively), successively moving towards a stronger protection of PBR. As compared to UPOV 78, UPOV 91 extends the scope of PBR and limits the exemptions provided to farmers. UPOV 78 was in operation at the time of the negotiations and entry into force of the TRIPS Agreement. Therefore, it is generally agreed that legislation in line with UPOV 78 also fulfills the international obligations under Article 27(3)(b) TRIPS-Agreement. Beyond this, there is considerable uncertainty as to when a *sui generis* system complies with the TRIPS-Agreement. The term “effective” allows a vast scope for interpretation, and governments deviating from the standards of the UPOV Convention may face international pressure. In spite of this, India has chosen to develop its own system that differs from the regime of the UPOV Convention in several points, and in particular, gives the breeders less extensive rights than those provided under UPOV 78.

2. Objectives of the Act

The aim of the Act is threefold:
2.1. Protection of PBR

The first aim of the Act is to protect the rights of plant breeders in order to “stimulate investment for research and development, both in the public and in the private sector, for the development of new plant varieties.” (Recital 2 to the Act) Under Section 2(c), a breeder means a person or group of persons or a farmer or group of farmers or any institution, which has bred, evolved or developed any variety.

So far, the private sector seed industry mainly confines its Research and Development (“R&D”) activities to hybrids that provide an inbuilt protection against reuse of the harvest as seed, ensuring that farmers purchase new seed each year. Moreover, without IPR protection, foreign seed companies are reluctant to bring in their best breeding material for fear of piracy by competitors. The funds available in the public sector are limited. It is, therefore, felt that private investment for R&D in plant variety is necessary to meet the challenge of keeping pace with the increasing food demand in the future. The protection of PBR prevents competitors from appropriating the benefits of foreign R&D activities and provides an incentive for such investments. “Such protection [is expected to] facilitate the growth of the seed industry in the country which will ensure availability of high quality seeds and planting material to the farmers.” (Recital 3 to the Act)

2.2. Benefit Sharing

The second aim of the Act is to implement procedures for recognizing and rewarding the contribution of farmers “made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties.” (Recital 1 to the Act) Two mechanisms have been suggested to implement this object. Firstly, under Section 39(1)(ii) of the Act, farmers’ varieties are also eligible for registration, along with new varieties that are the outcome of highly technical and industrialized processes.

Under Section 2(l) of the Act, a farmers’ variety is defined as a variety which:

1. has been traditionally cultivated and evolved by the farmers in their fields; or
2. is a wild relative or land race of a variety about which the farmers possess common knowledge.

Thus, a farmer who has bred a farmers’ variety will now be granted the same exclusive rights as those of a commercial breeder.
Secondly, individual farmers, or groups of farmers, villages or communities, will be able to claim before the Protection of Plant Varieties and Farmers’ Rights Authority (the “Authority”), that their variety has contributed to the development of a new plant variety registered under the Act. If the Authority is satisfied that there has been a contribution, it will result in some form of benefit sharing between the commercial breeder of the new variety and the claimant.

2.3. Appropriation of Varieties in the Public Domain

The third aim of the Act, which is implied from the provisions referring to extant varieties, is the removal of seed-related plant genetic resources from the public domain and their ownership by the Central Government or State Governments. Under Section 2(j) of the Act, extant varieties is defined as a variety available in India which is:

1. notified under Section 5 of the Seeds Act, 1966;
2. farmers’ varieties;
3. a variety about which there is common knowledge; or
4. any other variety that is in the public domain’.

The varieties notified under Section 5 of the Seeds Act, 1966, are largely those that are bred in the public sector, since private seed companies are reluctant to opt for notification, which is a time-consuming process and involves parting with a quantity of seeds for testing. Public sector varieties notified in the past will now qualify for PBR protection, thus ending the current policy of free supply of public varieties to the private sector for multiplication and further development.

The proviso to Section 28(1) of the Act, relating to extant varieties, states that unless the breeder or his successor establishes his right, the Central Government or the State Governments will be deemed to be the owner of the PBRs.

It is not clear from the Act whether the Government can initiate the registration of extant varieties that cannot be traced back to a particular breeder. This provision may prove to be contrary to the rights of the farmer since the Government can claim as its property, an extant variety that a farmer fails to register due to lack of knowledge or information.

3. Overview of the Important Provisions of the Act

3.1. Authorities Administering the Act
This Act provides for the formation of three new bodies, i.e., the Authority, the Plant Varieties Registry (the “Registry”) and the Plant Varieties Protection Appellate Tribunal (the “Appellate Tribunal”).

The duty of the Authority is “to promote, by such measures as it thinks fit, the encouragement for the development of new varieties of plants and to protect the rights of the farmers and breeders.” (Section 8(1) of the Act) Its tasks relate to the registration of essentially derived varieties and the determination of benefit sharing. In particular, the Authority may provide for documentation and cataloguing of registered varieties, farmers’ varieties or even the compulsory documentation of all varieties of plants. (Section 8(2)(b)-(d) of the Act) Under Section 8(2)(e) of the Act, the Authority may take measures to ensure that seeds of varieties registered under the Act are made available to farmers and may provide for compulsory licensing. The National Register of Plant Varieties is kept under the control and management of the Authority. (Section 13(2)) Under Section 23 of the Act, the Authority has the power to decide whether or not the Registrar should register a particular “essentially derived variety”. Sections 24(2) and 41 of the Act, lay down one of the most important responsibilities of the Authority, i.e., the determination of benefit sharing. Furthermore, under Section 28(4), the Authority also has the power to determine the title of a licensee or agent of a breeder in the event of a dispute.

Most of the members of the Authority, as stated in Section 3(5)(b) of the Act, will be ex-officio members belonging to government departments. Although the dominance of government members may be helpful with respect to functions involving policy decisions, the composition of the Authority raises some concern. For example, the question of whether a variety is essentially derived from another is a highly technical question, requiring knowledge of microbiology and plant breeding. This task would necessitate the presence of full-time members who are expert in these fields. Likewise, the presence of expert members would be helpful in determining the technical question of the contribution of a farmers’ variety to the development of a new variety.

The Registry will be entrusted with most of the responsibilities in the registration proceedings. The Appellate Tribunal will hear appeals against orders or decisions of the Authority or the Registrar. Since the Appellate Tribunal will consist of judicial and technical members, it may be able to correct the decisions or orders of the Authority that may be politically influenced.

3.2. Registration of Plant Varieties

3.2.1. Varieties Eligible for Protection
Section 14 of the Act provides for the registration of the following three types of varieties:

1. those of the genera and species that are notified by the Central Government in the Official Gazette by virtue of Section 29(2) of the Act;
2. extant varieties; or
3. farmers’ varieties.

It has been expressly stated that farmers’ varieties are eligible for registration even though the definition of extant varieties includes farmers’ varieties. This is to reiterate that the rights of farmers are equal to those of formal plant breeders.

The genera and species notified by the Central Government will be new varieties that are developed by the private sector seed industry, as opposed to extant varieties. In order to protect their technology, seed firms avoid their varieties becoming “varieties about which there is common knowledge” prior to PBR registration. The availability of protection to limited genera and species notified by the Central Government is in line with UPOV 78 and UPOV 91 and India will fulfill its obligations under TRIPS when the minimum number of genera and species are notified. (Article 4 UPOV 78)

Under Section 15(1), new varieties are eligible for protection, when they conform to the “classical” PBR criteria of novelty, distinctiveness, uniformity and stability. The definitions for these requirements for protection are worded along the lines of the UPOV Conventions. (Article 6 UPOV 78, Articles 6 to 9 UPOV 91)

Under Section 15(3)(a), novelty requires that the material of the variety has not been sold or otherwise disposed of in India with the consent of its breeder for the purpose of exploitation of this variety prior to one year before the date of filing of the application for registration. If the variety has been sold outside India, the maximum period is six years before the date of filing in the case of trees and four years in all other cases. The timeframes of Section 15(3) of the Act are in line with UPOV 78 and UPOV 91. However, the provisos to Section 15(3) of the Act clarify that a trial of a new variety, which has not been sold or otherwise disposed off, shall not affect the right to protection. Likewise, in contrast to law relating to patents, the fact that at the date of filing, the variety is already a matter of common knowledge, does not exclude novelty.

Distinctiveness has been defined in Section 15(3)(b) as when the variety is “clearly distinguishable by at least one essential characteristic from any other variety whose existence is a matter of common knowledge in any country at the time of filing of the application.” This provision is a mix of the wordings of Art 6(1)(a) UPOV 78 and Article 7 UPOV 91. “Essential characteristics” means such
heritable traits of a plant variety, which are determined by the expression of one or more genes or other heritable determinants that contribute to the principle feature, performance or value of the plant. (Section 2 (h)) According to the definition of “essential characteristics” a minor trait of a variety is not sufficient to make it a distinct variety. The difference has to relate to the principle feature, or performance or value of the plant. A variety eligible for protection under the Act further has to be “sufficiently uniform in its essential characteristics”, however “subject to the variation that may be expected from the particular features of its propagation.” (Article 8 UPOV 91)

Finally, under Section 15(3)(d), the new variety has to be stable, which is the case if “its essential characteristics remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle.” (Art 9 UPOV 91 refers to “relevant characteristics”)

Extant varieties have to conform to the criteria of distinctiveness, uniformity and stability. As the very idea of extant varieties is to provide protection to existing varieties, novelty is not required. Furthermore, under Section 15(2) of the Act, the Government may frame regulations and lay down the criteria of distinctiveness, uniformity and stability. The background of this provision is that farmers’ varieties, which include land races and wild varieties, are often not as uniform and stable as new varieties. They are genetically less pure and therefore subject to more variations. In order to accommodate their registration, the terms uniformity and stability have to be redefined. The first half-sentence of Section 15 (3) which implies that new extant varieties have to conform to the “classical” criteria should be deleted, because all farmers’ varieties may have difficulties to conform to these standards, irrespective of whether they are newly developed or traditional ones. The concept of extant varieties should be split into farmers’ varieties and varieties that are currently in the public domain and separate regimes should apply to the two categories.

The Act contains a contradiction with respect to the registration of farmers’ varieties. Section 16 states that an application for registration can be made by any farmer, group of farmers or community of farmers claiming to be the breeder of the variety, i.e., claims to have bred, evolved or developed the variety. Whereas, Section 2(l) states that a farmers’ variety is that which

1. has been traditionally cultivated and evolved by farmers in their fields”; or
2. is a wild relative or land race of a variety about which the farmers possess common knowledge.

The Act seems to reward not only the development of a variety but also the conservation of traditional varieties by farmers. Not every farmer who conserves a
traditional variety, land race or wild relative will conform to the definition of a breeder and he may not be able to register the variety.

3.2.2. Registration Procedure

The registration procedure contains the usual elements of PBR legislations, including application for registration by a person claiming to be the breeder or his successor/assignee under Section 16; deposit of seeds for the purpose of conducting tests under Section 19(1); acceptance of application under Section 20(1); advertisement of application under Section 21(1); opposition to the registration by third parties under Section 21(2); and upholding or rejection of opposition leading to registration under Section 22. However, the provision on the “form of application” contains a uniqueness relating to the benefit sharing procedure. Section 18(1)(e) provides that every application must contain a complete passport data of the parental lines from which the variety has been derived, the geographical location in India from where the genetic material has been taken and information relating to the contributions of any farmer, village community, institution or organization in developing the variety. Furthermore, Section 19 requires breeders to submit seeds of the varieties and parental material for the purpose of testing. Both provisions raise concerns among plant breeders, since disclosing the pedigree of a variety facilitates reverse engineering by competitors. The Secretary General of the Seed Association of India predicts that under these conditions only few private breeders will come forward for registration. (PVP Act: Perception of Private Seed Companies, R.S. Arora, Seed Association of India, New Delhi, on file with the authors) It is interesting to note that the “form of application” requirements under Section 18 of the Act, do not apply to registration of a farmers’ variety, which will be subject to a special regime to be determined by rules. (Proviso to section 18(1), Section 96(2)(xiv))

Another provision referring to the registration procedure that is unsatisfactory from a breeder’s point of view is Section 20(1), which states that the Registrar may accept the application absolutely or subject it to such conditions or limitations as he deems fit. Read together with the objectives of the law to implement a TRIPS-conform sui generis system, this provision can only refer to the procedural requirements, such as payment of fees, etc., and not to substantial requirements that go beyond novelty, distinctiveness, uniformity and stability. However, it inevitably creates insecurity and could be misunderstood as giving discretionary power to the Registry.

3.2.3. Registration of essentially derived varieties

The concept of “essentially derived varieties” is a concept introduced by UPOV 91 in order to give stronger protection to plant breeders.
Section 2(i) of the Act states that a variety is essentially derived from an initial variety when it:

1. is predominantly derived from such initial variety, or from a variety that itself is predominantly derived from such initial variety, while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of such initial variety;
2. is clearly distinguishable from such initial variety; and
3. conforms (except for the differences which result from the act of derivation) to such initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of such variety.

Section 14 of the Act extends the exclusive rights of the breeder to essentially derived varieties. Likewise, under the Proviso to Section 23(6) of the Act, the registration of an essentially derived variety requires the authorization of the breeder of the initial variety. Whereas under the UPOV Convention, essentially derived varieties are merely an issue of the scope of protection, the Act provides for a separate procedure for the registration of essentially derived varieties. In contrast to the normal procedure under Sections 14 et seq., the Authority plays an important role in the registration of essentially derived varieties, and takes the final decision on its registration. There is no evident reason why the Registry cannot take this technical decision. Furthermore, the procedure to be followed for registration is not clearly stated. Section 23, which contains the special provisions for registration of essentially derived varieties, expressly refers to Section 18, but not to the subsequent sections 19, 20, 21, and 22 relating, inter alia, to opposition by third parties. Therefore, it may be presumed that opposition by third parties is not applicable in essentially derived varieties.

3.3. Scope of Plant Breeders Rights Protection

3.3.1. Exclusive Rights

By virtue of Section 28(1) of the Act, registration of a variety will confer an exclusive right on the breeder to produce, sell, market, distribute, import or export the variety. The scope of this section is larger than UPOV 78, which only refers to “the production for purposes of commercial marketing, the offering for sale and the marketing.” Art 14 UPOV 91 is, however, more comprehensive than Section 28 (1) of the Act and includes conditioning for the purpose of propagation and stocking for the purpose of any of the acts reserved to the breeder.
In the case of an extant variety, as mentioned earlier, the Central Government or a State Government, as the case may be, will be the owner of this exclusive right, if the applicant does not succeed in establishing his position as a breeder. Consequently it will be removed from the public domain and put under the ownership of the Government. The term farmers’ variety is therefore misleading because it implies that the farmers conserving or enhancing varieties, land races and wild relatives qualify for registration and ownership of these varieties. However, a detailed analysis of the different provisions referring to the registration of farmers’ varieties shows that the benefit of registration in these cases will accrue to the Central or State Government. In practice, however, a farmer’s claim as the breeder of a variety will generally not be challenged. Under Section 16 of the Act, it is sufficient that a person who claims to be the breeder of the variety makes the application for registration. It is improbable that the Registry will make further inquiries unless a third person challenges the claim in the opposition procedures.

3.3.2. Exemptions

The exclusive rights enumerated above are subject to three important exemptions.

The first exemption is laid down in Section 30(a) of the Act, granting researchers and plant breeders the right to use any variety registered under this Act for conducting experiments or research. Section 30(b) also permits any person to use the registered variety as an initial source of variety for the purpose of creating other varieties. The Proviso to Section 30, however, stresses the need for authorization of the breeder where repeated use of such variety as a parental line is necessary for commercial production of the other newly developed variety. This provision is modeled after Article 5(3) UPOV 78. The term repeated use has, however, not been defined and is vague. It is imperative that the term be defined so as to avoid the misuse of the registered varieties.

The second exemption is known under the UPOV Convention as farmers’ privilege. Under UPOV 78, the exclusive right of the breeder only applies to production for the purpose of commercial marketing, offering for sale and marketing of propagation material. (Article 5(1) UPOV 78) Therefore, a farmer may produce and save seeds of a protected variety for subsequent sowing in his own farm or for farmer-to-farmer exchange, provided that he does not supply the seed on a commercial basis. (Article 15(2) UPOV 91 restricts this privilege to the use of harvested material obtained from their own holdings for propagation purposes on their own holdings) The Indian draft goes a step further. Under Section 39(1)(iv) of the Act, a farmer is not only entitled to “save, sow, resow, exchange and share” his farm produce including seed of a protected variety, but also to “sell” it, “in the same manner as he was entitled before the coming into
force of this Act. However, this exemption does not extend to branded seed of a variety protected under the Act. (Proviso to Section 39(1)(iv) Explanation to Section 39(1)(iv) of the Act states that branded seed means "any seed put in a package or any other container and labeled in a manner indicating that such seed is of a variety protected under the Act. The background of this provision is the fear that extensive PBR may have tremendous implications for the existing system of seed supply. Currently, the overwhelming majority of seed in circulation in India arises from informal sources, including on-farm seed saving and off-farm sources, such as other farmers, organizations or non-registered traders in local markets. Depending on the crop, up to ninety (90) percent of the seed requirements are met by the informal seed market. The current system guarantees a lot of flexibility to farmers. Wherever they see a well performing variety in his neighborhood, they can ask for seed without having to worry about the initial source of this variety. In the past, informal sources of seed supply have also played a key role in rapid diffusion of new technologies. In order to conserve the inter-farmer network of seed supply, the Act does not follow the provision of UPOV 78, but retains a status quo in relation to the relationship between seed companies and farmers.

Finally, Section 47 of the Act contains a provision on compulsory license of registered varieties, if the reasonable requirements of the public for the variety have not been satisfied, or the variety is not available to the public at a reasonable price. As Section 51(1)(i) of the Act provides for the obligation of the Authority to endeavor to secure reasonable compensation to the breeder of the variety, the compulsory licensing regime is in line with the UPOV Convention. (Article 9 UPOV 78)

3.4. Farmers’ Rights

Chapter VI gives a range of rights to farmers, in order to accommodate some form of benefit sharing between the plant breeding industry and the farmers conserving and enhancing plant genetic resources and also to strengthen their legal position vis-à-vis breeders as compared to “classical” PBR. (Sections 39, 41 and 42)

Section 39(1)(i) of the Act extends the same rights to farmers, who have bred or developed a new variety, as any other breeder under the Act. A farmers’ variety will also be entitled for registration if the application of a breeder contains a statement that the farmers’ variety was used as material for breeding the new variety. (Section 39(1)(ii) read together with Section 18(1)(h) of the Act) Section 39(1)(iii) of the Act provides recognition and reward from the Gene Fund to a farmer who is engaged in the conservation of genetic resources of land races and wild relatives of economic plants and their improvement through selection and preservation, provided that these wild species and land races have been used as donors of genes in varieties that can be registered under this Act. There are two
ways in which the Authority will learn about the contribution of a farmers’ variety to a registered variety, even if the application of the breeder excludes such information. Firstly, under Section 24(2) of the Act, the Registry will send a copy of a registered variety to the Authority, which will publish the contents of the certificate of registration and invite claims of benefit sharing. After submission of the claims and opposition by the breeder, if any, the Authority can dispose of the claims, taking into consideration the extent and nature of the use of genetic material of the claimant in the development of the variety and the commercial utility and demand in the market for the new variety. (Section 26(5) of the Act)

Secondly, under Section 41(1) of the Act, any person, group of persons, or any governmental or non-governmental organization, may on behalf of any village or local community in India, file in notified centers any claim attributable to the contribution of the people of that village or local community in the evolution of a variety. Under Section 41(2)-(3) of the Act, the Authority has the power to determine benefit sharing. Unless a seed company takes a license from a farmer for marketing his registered variety, compensation to the farmer will only be from the National Gene Fund, established by the Central Government. There are several lacunae in the Act with reference to benefit sharing, such as the ratio of the amount that will be granted to the actual breeders and conservers.

In addition to the right of the farmer to save, sow, resow, exchange, share or sell his farm produce, other than branded seed of a protected variety, farmers are protected against infringement proceedings. Under Section 42(i) of the Act, a right granted under the Act will not be deemed to be infringed by a farmer, if he was not aware of the existence of such right at the time of infringement. Consequently, under Section 42(ii), a court may not grant relief in any suit for such infringement by the farmer. If one takes into account that the only conceivable infringement by a farmer is the selling of labeled seed of a variety, this protection granted to them in infringement proceedings seems excessive.

4. Conclusions

It may be worthwhile to recall that the different aims of the Act exclude each other in part and an optimal solution for all stakeholders is, therefore, impossible. From a breeder’s perspective, the legislation is a step forward, since it increases protection against competitor seed firms. However, in order to protect the traditional practices of seed supply by farmers, the law provides for a weaker protection to breeders than those provided under UPOV 78. This may lead to seed firms hesitating to invest in R&D of new varieties in the area of self-pollinated crops, where farmers can produce seed without considerable loss of quality.

Moreover, the enforcement of the provision prohibiting farmers to sell unlabeled seed of protected varieties is improbable. The disclosure of the pedigree of a
variety may be a disincentive for breeders to register their varieties. On the other hand, there is a large consensus that farmers must be given an incentive for *in situ* conservation of plant genetic resources, in order to preserve the genetic variety for future plant breeding. This idea has gained impetus at the national level very recently, and the Indian legislators have to endeavor to reach this aim by implementing the benefit sharing procedure. All stakeholders should observe carefully in the following years, whether this additional financial and administrative burden on seed firms results in satisfactory compensation to farmers.

Furthermore, the concept of extant varieties needs some clarification. This is mainly due to the fact that the same provisions address several different issues. Laying of separate provisions for the following categories might have better served the objects of the Act.

1. varieties and land races bred by a particular farmer or community of farmers;
2. varieties and land races conserved and enhanced over generations of farmers, which can be traced back to a particular farmer, community or area;
3. widely spread traditional varieties and land races conserved by farmers; and
4. public sector varieties released in the last years.

To grant exclusive rights to the Government with respect to the second and the third category is unnecessary from a benefit sharing point of view and in most cases does not even prepare commercial marketing of the farmers’ variety, which is more likely to serve as a source for further breeding.