



Patent Litigation 2019

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India

Law and Practice

Trends and Development

Trends and Developments

Protection of Plant Varieties – Necessity, Benefits and Challenges

Dr Kavita Arora, of K&S Partners, a Indian law firm, discusses the recent trends in the unique Plant Variety Protection Act of India vis-à-vis the current global IP scenario in this area.

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Summary

Intellectual property protection for plant varieties plays a crucial role in facilitating innovation which, in turn, is vital for sustainable agricultural growth. It also results in the protection of the vast genetic wealth including endangered or extinct species on the verge of extinction. The focus of this article is to portray the international legal framework in relation to plant varieties, with special emphasis on the unique Plant Variety Protection (PVP) Act of India. It also discusses the recent trends in plant variety application and certification in India.

Why Protect Plant Varieties?

Protecting plant varieties is imperative, especially for the countries which have their national income based on agriculture. It incentivises increased research and breeding activity and provides encouragement to private breeders, researchers and farmers to develop new and better varieties. It has a huge impact on competitiveness in foreign markets and the overall economic development of a nation.

When the concept of intellectual property protection was developed initially, plants and animals were kept out of the purview of patents. Later, it was appreciated that IP protection is crucial for a sustainable contribution of plant breeding and seed supply. So, in order to safeguard the interests of the breeders, it was understood that a system was required to protect plant varieties. A need was felt to encourage commercial plant breeders to invest labour, time and resources to improve existing plant varieties by ensuring that breeders receive adequate compensation when they market the propagating material of those improved varieties (Kannaiyan et al, 2008: Kannaiyan S, VA Parthasarathy and D Prasath (2008) Intellectual Property Rights. In: Recent Initiatives in Horticulture (Eds.) KL Chadha, AK Singh and VB Patel. The Horticultural Society of India, New Delhi, pp 123-139). In addition, it was also envisaged that the requirements of patentability may not be suitable for these plant varieties.

One of the major ramifications of the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) was globalisation in trade and commerce through the harmonisation of national laws related to intellectual property rights (IPR). TRIPS, under Article 27.3(b), allows member countries to exclude plants, animals other than micro-organisms and other biological processes from patentability. However, the provision of some form of intellectual property protection to plant varieties is also mandated. Importantly, sufficient flexibility has been accorded to respect the nation-specific laws and requirements, and members have been given significant discretion to choose the type of plant varieties' protection they wish to allow. So much so that the least

developed countries are even exempted from providing any IP protection for plant varieties. Thus, WTO Members have the following options to protect plant varieties:

- patents;
- a sui generis (literally meaning 'of its own kind or unique') protection system; and
- plant variety protection as well as patents.

Plant Variety Protection in India

India is a land of farmers and agriculture is the backbone of this country. Agriculture plays a significant role both in internal as well as external trade of this country and has a major impact on the economic development of the nation. Needless to say, development in agriculture will have a positive impact on the overall development of the nation.

The Green Revolution of 1965 had a huge impact in benefiting the Indian economy. With an increase in agricultural production and decreased dependence on imports, India was finally on its way to self-sufficiency and sustainability and was able to start exporting its agricultural produce.

Having ratified the Agreement on TRIPS in 1994, India was mandated to make provisions in accordance with TRIPS Article 27(3)(b) relating to protection of plant varieties. However, as India is an agricultural country, it was pertinent that rights to farmers were granted in such a way that their self-sustenance was not threatened.

It was also around this time that the nation was increasingly becoming aware of the vast biodiversity of India, and a need was felt to protect Indian flora and fauna. Adding fuel to the fire, the information that other nations were trying to claim the benefits of Indian traditional knowledge and the abundant biodiversity of India proved to have a positive fallout. Patents to Basmati, Neem and Haldi granted at the US Patent office outraged Indians. The Economic Times, an Indian newspaper, was quoted to have stated, "Patenting Basmati in the US is like snatching

away our history and culture." India subsequently won the revocations led by the Government of India at the US Patent office, knocking out these patents.

In 2001, the Protection of Plant Varieties and Farmers' Rights Act was enacted, with the following objectives:

- to provide for the establishment of an effective system for protection of plant varieties, the rights of farmers and plant-breeders and to encourage the development of new varieties of plants;
- to recognise and protect the rights of the 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;
- for accelerated agricultural development in the country, it is necessary to protect plant-breeders' rights to stimulate investment for research and development, both in the public and private sector, for the development of new plant varieties;
- such protection will facilitate the growth of the seed industry in the country, which will ensure the availability of high-quality seeds and planting material to the farmers;

Thus, the PVPFR Act is a unique sui generis system that strives to strike a balance between plant-breeders' rights, farmers' rights and researchers' rights, and also encourages development of new plant varieties of economic significance.

Protection Offered

Under the PPV&FR Act, a variety can be registered in India under the following categories:

New Variety

A new variety must conform to the internationally recognised criteria of novelty, distinctiveness, uniformity and stability. A new variety is deemed to be novel, if, at the date of filing of the application for registration for protection, the propagating or harvested material of that

variety has not been sold or otherwise disposed of by or with the consent of its breeder or his or her successor for the purposes of exploitation of that variety:

- in India, earlier than one year; or
- outside India, in the case of trees or vines, earlier than six years, or in any other case, earlier than four years, before the date of filing the application.

Essentially Derived Varieties (EDV)

A variety is considered to be an essentially derived variety, in respect of a variety (the initial variety), when it:

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

Extant Varieties

An extant variety must conform to the criteria of distinctiveness, uniformity and stability, and means a variety available in India which is:

- notified under section 5 of the Seeds Act, 1966 (54 of 1966); or
- a farmer's variety; or
- a variety about which there is common knowledge; or
- any other variety which is in the public domain;

Period of Protection

Registration issued under the PPV&FR Act is valid for nine years in the case of trees and vines and six years in the case of other crops. This period is extendable upon payment of, the total period of validity not exceeding:

- in the case of trees and vines, 18 years from the date of registration of the variety;
- in the case of an extant variety, 15 years from the date of the notification of that variety by the Central Government under section 5 of the Seeds Act, 1966; and
- in other cases, 15 years from the date of registration of the variety.

Breeders' Rights

Registration for a variety issued under the PPV&FR Act confers an exclusive right on the breeder or his or her successor, or his or her agent or licensee, to produce, sell, market, distribute, import or export the variety. The breeder may further authorise any person to produce, sell, market or otherwise deal with the variety registered under this Act, subject to such limitations and conditions as may be specified by regulations.

In the case of an essentially derived variety, where the EDV is derived from a protected variety, an authorisation for this is required from the breeder of the initial variety.

Farmers' Rights

The PPV&FR Act recognises farmers as cultivators, conservers and breeders, who are entitled to save, use, sow, re-sow, exchange, share and sell seed, except branded seed of a protected variety. 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 is also entitled to reward and recognition from the Gene Fund. The farmer is also entitled to quality seeds of protected varieties at a reasonable price. The PPV&FR Act also provides for benefit-sharing of using traditional varieties.

In the event that a seed/propagating material of a variety registered under this Act has been sold to a farmer, and if that propagating material fails to provide the expected performance under the given conditions, the farmer is entitled to compensation under the Act.

The PPV&FR Act provides sufficient immunity to the farmer in the case of infringement, provided the farmer can prove that he or she was not aware of the existence of the right so infringed. Further, a farmer or group of farmers or village community are exempted from payment of any fees in any proceeding before the Authority or Registrar or the Tribunal or the High Court under this Act or the rules made thereunder.

Exemptions Provided under the PPV&FR Act:

The unique PPV&FR Act provides the following exemptions:

- farmers' exemption: farmers are entitled to produce, save, use, sow, re-sow, exchange, share or sell their farm produce, including seed of a variety protected under this Act;
- protection of innocent infringement: farmers are protected against unintentional use.

Researcher's Exemption

- the use of a registered variety for conducting an experiment;
- the use of a variety as the initial source of a variety for the purpose of creating other varieties.

It is important to note that the Act prohibits the registration of a variety in cases where the prevention of commercial exploitation of that variety is necessary to protect public order or public morality or human, animal and plant life and health, or to avoid serious prejudice to the environment.

Plant Variety Protection in Different Countries

In the United States, individual plant varieties are patentable, and patent protection of all asexually reproduced plants is available, except tuber-propagated plants and plants found in an uncultivated state. Further, a utility patent and a plant patent can both be obtained to

protect the same plant. In Australia, plant varieties, including genetically modified plants, can be protected under both the Australian Plant-breeder's Rights Act and the Australian Patents Act.

In Europe, plant varieties are protected by plant-breeders' rights. Further, individual plant varieties as such are excluded from patent protection in Europe. However, the interpretation of this exclusion is not very stringent and a plant which is characterised by a particular gene is patentable. Further, transgenic plants are patentable if they are not restricted to a specific plant variety, but represent a broader plant grouping.

In Korea, plants can be protected both by patent law as well as plant variety protection law. China, however, offers no patent protection for plant varieties, but plant varieties can be protected under "The Regulations of the People's Republic of China on the Protection of New Varieties of Plants".

Plants cannot be patented in Canada either, but new plant varieties can be protected under the Plant Breeders' Rights Act, which affords protection not only for plant varieties derived from genetic engineering but also from traditional breeding techniques, where sometimes it is difficult to prove distinctiveness. In New Zealand, plant varieties can be protected under the Plant Variety Rights (PVR) scheme. Further, while "plant varieties" are excluded from patentability, there is no explicit exclusion to the patentability of plants per se, plant parts or methods of producing a plant.

Application and Certification Trends in India

Initially, when the PPV&FR authority started functioning regularly in 2006, it invited applications only for 12 genera and species of the major food crops under the Act. The first plant variety was registered in 2009. Currently, a total of 158 crop species are open for registration under the categories of New, Extant and Farmers' Variety.

An analysis of the data available on the PPV&FRA website, and the Plant Variety Journals of India depict the year-wise plant variety applications received by the PPV&FRA, as well as the total number of certificates issued since 2007.

It is evident from the data that the filings presented a consistent increase until 2014. The total number of plant variety applications received by the PPV&FRA in the year 2007 was 432. The number of filings per year increased steadily and reached a sort of plateau in the period 2014-2016, the maximum number per year being 2,520 in the year 2014. Likewise, the total number of certificates granted peaked in the year 2014 at 833. However, there was an alarmingly pronounced decline in the number of filings after 2016.

The exact reason for this appears to be somewhat obscure, given that there has been an enhancement in the awareness level among farmers about the protection of plant varieties, which should ideally have translated into increased activity in this field.

One reason could be various challenges being faced by the Indian farmers, from climate change to water shortage to alarming market trends and the indebtedness of the farmers.

Also, while groups and community of farmers are in a better position to comprehend the nuances of the Act and the forms associated with the registration of plant varieties, the ordinary isolated farmer could be bogged down by the procedural and practical essentials. The complicated nature of the forms and technical questionnaire could be an additional burden on farmers.

Recommendations

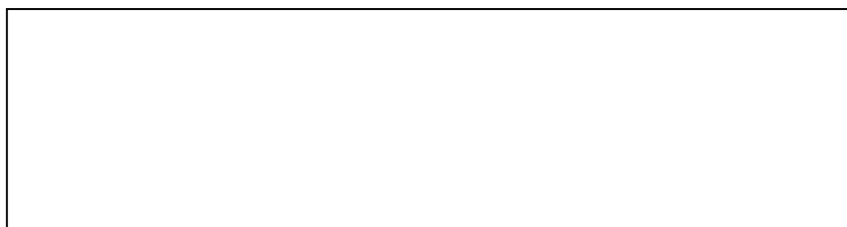
- Creating awareness at a grass-root level (literally) of the various advantages associated with PVP registration, and also helping the farmers comprehend the various nuances associated with the actual process of registration may also prove beneficial.
- Innovators should be incentivised to invest in research for the development of new varieties.

- The PVP authority is very approachable and ready to solve the queries. However, the procedures involved in the processing of PVP applications could be improved to make them simpler. Simplifying the forms and procedures could certainly help farmers.
- Farmers should be motivated in favour of traditional breeding practices, and at the same time incentivised to innovate new plant varieties. This can go a long way towards strengthening India's economic development.
- Jurisprudence in relation to the enforcement of PVP rights will be crucial in attracting plant-breeders and farmers to innovate and file PVP applications in India.

Conclusion

India is an agriculture-based nation, and the protection of its vast biodiversity is pertinent. Protection of new varieties developed as a result of the skills of the farmers may help in evolving new superior plant varieties with unique characteristics such as stress tolerance etc, which, in turn, will help combat the ever-escalating climate change.

The unique Plant Variety Protection Act of India is highly balanced and aims to protect the rights of breeders and farmers alike. However, an analysis of the recent falling trend of protection of plant variety shows a decline in the number of filings, and this needs to be investigated further. Suitable policy measures may be taken to monitor the market trend. Appropriate measures also need to be taken to raise awareness amongst farmers and breeders of the relevance of IP protection. Incentivising plant-variety development and protection may motivate innovators to invest in further research, leading to the development of new varieties, facilitate the flow of genetic material and lead to the overall development of the nation.



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