

TRIPS AND THE IMPACT ON PLANT VARIETY PROTECTION IN INDIA

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Abstract: Plant variety protection relates to intellectual property rights over plant varieties which guarantee rights-holders exclusive commercial rights for a specific period of time. Article 27 (3)(b) of the TRIPS Agreement, compulsorily mandates that every member-state of the WTO must introduce such protection through domestic legislation by certain set time frames. These rights are one form of IPR being aggressively imposed on developing countries and laws relating to plant variety protection are threatening as industrial patents on biodiversity. From a legal perspective, the protection of plant varieties in India remains an issue which is far from settled even though the Protection of Plant Varieties and Farmers' Rights Act was adopted in 2001 in compliance with the TRIPS Agreement.

Key words: Plant variety protection, developing nations, sui generis, farmer's rights

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INTRODUCTION

Plants are the product of nature and the traditional techniques to generate new plant varieties have been used for hundreds of years. It was only recently that newer ways of inducing desirable features of plants have been rewarded through intellectual property rights. The usual rationale for introducing exclusive intellectual property rights in specific fields of technology is that an individual or legal entity that devotes significant resources to the development of new technologies should be rewarded with a temporary exclusivity. This is linked to the idea that certain forms of knowledge can easily be copied. In such cases, individuals who have not contributed to the development of an invention would be in a position to benefit from the fruits of the invention if no exclusive right was offered to the inventor.

In the agricultural field, inventiveness was traditionally based on the sharing of biological resources and related knowledge among farmers in most parts of the world. In the early part of the twentieth century, in the United States and European countries, agriculture became less important economically and governments started to progressively reduce their involvement in

activities related to the development and supply of seeds to farmers. This led to the development of more significant private sector seed industries. There were several obstacles to the introduction of patents for plant varieties, firstly, from actors opposed in principle to the introduction of patents on life forms. Secondly, there was opposition to what was perceived as the progressive privatization of seeds which had been traditionally exchanged by farmers.¹ Thirdly, there was significant opposition from advocates of the patent system who saw a new 'plant variety' as more like an improvement of an existing product of nature than as a scientific invention².

The combination of the push led to the development of a hybrid form of intellectual property rights known as 'plant breeder's rights' (PBRs) which received recognition in 1961 in the UPOV convention, revised first in 1978 and strengthened later in 1991. In the TRIPS era,

¹ Kameri-Mbote, P., 1994. Agreement on Trade Related Aspects of Intellectual Property Rights, Marrakech. Intl. Leg. Mat., 33: 1125.

² Shiva, V., 1994. Farmers Rights and the Convention of Biological Diversity. In: Biodiplomacy-Genetic Resources and International Relations. Sanchez, V. and C. Juma (Eds.). African Centre for Technology Studies, Nairobi, Kenya, pp: 107.

3. Rangnekar, D., 2000. Intellectual Property Rights and Agriculture: An Analysis of the Economic Impact of Plant Breeder's Rights. London, Action aid UK., pp: 58.

the situation has significantly changed since introducing plant breeders rights is recognized as 'one' of the ways to satisfy the TRIPS agreement³ concerning 'plant variety protection' (PVPs). While commercial plant breeding was increasingly benefiting from protection offered by PBRs or patents, there was no system of compensation or incentives for farming communities who had a fundamental role in maintaining sustainable agricultural practices, conserving plant genetic resources and enhancing agro-biodiversity through their innovations.

At present, all over the world, plant varieties are protected by different countries by giving protection in three ways: i) by granting patents or; ii) by providing effective *sui generis* system or; iii) by any combination of patents and *sui generis* system.⁴ The Indian Parliament has passed the Plant Variety Protection and Farmers' Rights Act in 2001 to give protection to newly bred plant varieties. India has now put in place a law to grant Plant Breeders' Rights on new varieties of seeds. The law also grants some rights to the farmers.

⁴ Dr. Chidananda Reddy S. Patil, (2005), "Plant Breeders Rights" in Kare Law Journal, November.p.53

Origin and Development of PBRs in India:

India and so many other developing countries do not protect plants by strict patenting system. But there is a mandate in the TRIPs Agreement that plant varieties must be protected by the member states. In pursuance to the TRIPs Agreement India has enacted 'Protection of Plant Varieties and Farmers' Rights Act, 2001, a *sui generis* system of plant variety protection. The model for this Act was the UPOV Convention through which India decided to implement plant variety protection regimes which seek to provide protection to commercial plant breeders and to farmers. Thus, the Indian plant variety protection regime introduces unique kind of protection to both PBRs and farmers⁵.

Objectives of the Protection of Plant Varieties and Farmers' Rights Act 2001, are threefold: stimulation of investment for research and development in public and private sectors for the development of new plant varieties by ensuring returns on such investment; promotion and growth of the seed industry through domestic and foreign

⁵ N. S. Gopalakrishnan (2001) Protection of Farmers Rights in India: Need for Legislative Changes" in CULR Vol. 25, P.107

investment; and recognition of the role of farmers as cultivators and conservers and the contribution of the traditional rural and tribal communities to the country's agrobiodiversity by rewarding them for their contribution through benefit sharing and protecting the transitional rights of the farmer.⁶

Under the Act, plants are divided into four main classes: new varieties, extant varieties, essentially derived varieties and farmers' varieties. Plant varieties can only be protected by PBRs, if they fulfill the four basic criteria of novelty, distinctness, stability and uniformity or homogeneity. Each of these characteristics is given further content by UPOV itself. The concept of novelty requires further elaboration because it differs from its acceptance under patent law. Under UPOV, a variety is novel if it has not been sold or otherwise disposed of to others, by or with the consent of the breeder, for purposes of exploitation of the variety. Novelty is thus defined entirely by commercialisation and not by the fact that the variety did not previously exist. UPOV gives a specific time frame for the

application of novelty. To be novel, a variety must not have been commercialised in the country where the application is filed more than a year before the application and in other member countries more than four years (six years in the case of trees and vines). The criterion of distinctness requires that the protected variety should be clearly distinguishable from any other variety whose existence is a matter of common knowledge at the time of the filing of the application. Stability is obtained if the variety remains true to its description after repeated reproduction or propagation. Finally, uniformity implies that the variety remains true to the original in its relevant characteristics when propagated.

Impact of protection on Indian Agricultural sector

TRIPS is a legally binding international instrument enforceable in the WTO, across all 140 members. TRIPS has effectively globalized a 'one-size fits-all' system of IPRs where the same standards are set for countries of differing levels of development. In areas that are comparatively of more importance to the developing countries, such as farmer's rights and the protection of traditional knowledge,

⁶ Gopalakrishna Gandhi, "IPR and India- A View Point", Vol.10, Journal of Intellectual Property Rights, September 2005.p.360

the international legal framework remains dramatically underdeveloped. As a result, developing countries have the twin burden of adapting themselves to their existing international obligations and to adopt legal frameworks in areas that matter to them even if international law is not developed concerning these issues.

India had to consider several factors necessitating a national regime for plant variety protection rather than adopting a system similar to the protection prevalent in developed nations. First, in developing nations agriculture has a close nexus to the national economy. The agricultural population is higher in India i.e., nearly 70% of the total population. The differences between the developed countries and India includes smaller land holdings and labour intensive agricultural practices, subsistence land farming and lower participation in international trade. These distinguishing features of agriculture and its impact on the economy, necessitates prioritization of national goals when introducing PBRs. In furtherance to this, the main concern of most developing nations is the scepticism attached to the process of privatization, which suo moto brings with itself multifarious socio-economic and

environmental concerns. Some of the particular concerns are:

- **Restriction on traditional practices and harmful effects of terminator technology:**

Most PVP practices restrict the farmer's traditional practice of saving harvested crop for subsequent sowing. Technologies such as Genetic Use Restriction Technology (GURT) render the harvested crop sterile for further cultivation. In the context of developing countries, this is disastrous as this practice of saving the harvested crop is essential towards the survival of the farmer and towards the alleviation of poverty. The cost of cultivation due to high input cost contains the potential to be devastating, if PVP were to be used and the harvest was to fail

- **PVPs themselves have not necessarily fostered food security:** Although the trade liberalization concerning agriculture envisages alleviating the economic situation of the farms and patterns of food consumption, but in reality the situation shows a declining pattern. The process of globalization of agriculture has undermined the food security goals that the states aim to attain⁷ and there is no clear indication that with the introduction of PVP that food

⁷ Verkey, E., 2007. Law of Plant Varieties Protection. Allahabad, Eastern Book Company, 13.

security has increased. Further, having to pay substantial royalties to industrial countries and corporations could greatly increase the debt burdens of many countries. This could further intensify the environmental and social disruption that is caused when debt repayment measures are taken up, such as the export of natural products

- **Effects on biodiversity:** Agriculture and biodiversity management are inextricably inter-twined because biological resources constitute a primary input to agricultural production systems and the majority of existing agricultural products have evolved through selection and collection of plant and animal. Intellectual property rights in agriculture have an inherent tendency to displace landraces because protected varieties generally offer higher yields than the local counterparts. This tends to promote homogenization which leads to a loss in diversity and generally reduces crop's resilience to pests and diseases.⁸ Thus in terms of the environment, the breeding uniformity results in monocultures after a stage, which are ecologically unstable.

⁸ Chaturvedi, S., 2002. Agricultural genetic engineering and new trends in intellectual property rights regime-challenges before developing countries. *Econ. Political Weekly*, 37: 1212.

- **Over patentability:** The genetic engineering industry may have the potential to stifle innovation in the private and public sector rather than promote it⁹ The perception is often that broad claims are necessary to provide the industry with sufficient incentives to innovate but that intellectual property rights claims should not extend to the primary material for research because this tends to stifle scientific and technological innovation.

It has also been claimed that new plant varieties have the tendency to raise potential epidemic zones as they are prone to diseases. This is because they are vulnerable to the externalities, having been developed in ideal lab conditions. Further, wild strains or weeds are not preserved in the alternative of new plant varieties, which themselves form essential raw materials for new technologies like genetic engineering research.

Before TRIPS, many developing countries did not permit the patenting or intellectual protection of life forms, biological resources and traditional knowledge. This changed completely with

⁹ Cullet, P., I2005. *Intellectual Property Protection and Sustainable Development*. LexisNexis Butterworths, Delhi, pp: 202-203.

Article 27(3) (b) which specifically mentions the protection of plant varieties through either a patent regime or a sui generis system, or a combination of the two, within a time barred frame till 1st January, 2000. The plant breeder's rights regime introduced by the UPOV Conventions (discussed at length later) served as the only fall back option for many developing countries that did not have the time or resources to develop their own locally relevant sui generis systems.

Sui generis protection and Indian Legislation

India plays a very critical role in the plant variety protection debate, representative of the vulnerabilities and ambitions of the developing nations. This owes itself to the following reasons:

- i. India is a germplasm-owning country and it has access to a large range of genetic resources
- ii. It has a high technology stand available within the country. This is due to the enormous investments made in agricultural research, especially during the days of the Green Revolution, which created a strong scientific cadre, from scientist to technical assistants

- iii. It has a large repertoire of skilled manpower which makes available comparative skills at half the cost
- iv. Another advantage from the point of view of India is the cost of the technology itself. Biotechnology, unlike every other major technology to have developed in recent times, is not capital but labor intensive. This is a tailor made situation for a country strapped for cash but rich in manpower

Being an agricultural country, India adopted sui generis system of protection of plant varieties. At the time of framing the policies of protection it has given equal importance to the rights of the farmers. The aims of the act are much broader in scope than those of the UPOV Convention. Mainly, the following features protect Indian farmers from the clutches of seed industries.

1. Exemption from fees:

Further protecting farmers from the new set of provisions being put in place, the new Act stipulates that farmers wishing to examine documents and papers or receive copies of rules and decisions made by the various authorities will be exempt from paying any fees.

2. Disclosure:

Explicit and detailed disclosure in the passport data about the parentage of the new variety is required. If concealment is detected in the passport data, the Breeders certificate stands to be cancelled.

3. No terminator technology:

Breeders must to submit an affidavit that their variety does not contain a Gene Use Restricting Technology (GURT) or terminator technology. There are two main types of GURTs: variety-level GURT (v-GURT) and trait- level GURT (t-GURT). V-GURT causes the seeds of the affected plant variety to be sterile in contrast to t-GURT which results in the expression of a selected trait. T-GURT introduces a mechanism for trait expression into the variety which can only be turned on, or off, by treatment with specific chemical inducers. The gene of interest can thus be expressed at particular stages or generations of the crop.

4. Protection against innocent infringement:

Rightly assuming that farmers may unknowingly infringe Breeders' Rights since they will not be used to the new situation, the law provides for protection from prosecution for innocent infringement.¹⁰

5. Benefit-sharing:

'Benefit sharing' is a new concept not available in any other law, gives protection under the Act. This concept is introduced in the protection of rights given to the Breeder of new plant variety. It is an obligation cast on the registered Breeder to pay the conserver of plant variety, the genetic material of which is used by the breeder in evolving his new plant variety. Here the beneficiary is the person or persons who conserve the plant varieties. Benefit sharing means such proportion out of the benefit accruing to the breeder by virtue of monopoly granted to, as may be determined by the Authority in favor of and for payment to the beneficiary.¹¹

6. Protection against bad seed:

The clause protecting the farmer from spurious seed leaves too much to the discretion of the Authority. There should be specific guidelines, such as that compensation should amount to at least twice the projected harvest value of the crop. In addition, a jail term should be provided for repeated offence.¹²

¹⁰ Dr.Suman Sahai, "India's Plant Variety Protection And Farmers, Rights Act" Journal of Intellectual Property Rights, 2002 p. 306

¹¹ N. K. Acharya, "Text Book on Intellectual Property Rights", 2nd Ed., Hyderabad: Asia Law House, 2004. p.178

¹² Shanthy Chandrashekharan And Sujata Vasudev, "The Indian Plant Variety Act Beneficiaries: The Indian Farmer or the Corporate Seed Company?", Vol. 7, Journal of Intellectual Property Rights, 2002. p., 507

The Act acknowledges the role of rural communities as contributors of land races and farmer varieties in the breeding of new plant varieties. Breeders wanting to use farmers' varieties for creating Essentially Derived Varieties (EDVs) cannot do so without the express permission of the farmers. Anyone can register a community's claim and have it duly recorded at a notified center. If the claim is found to be genuine, a share of profits made from the new variety has to go into a National Gene Fund.

Rights of Breeders and Researchers

The legislation protects the Breeders' Rights also. The Act defines the term Breeder under section 2(c) as- 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. Further farmer under this Act means any person who- (i) cultivates crops by cultivating land himself; or (ii) cultivates crops directly supervising the cultivation of the land through any other person; or (iii) conserves, preserves, severally or jointly with any other person any wild species or traditional varieties through selection and identification of their useful properties.

On registration, the breeder has complete rights of commercialisation for the

registered variety. These include the right to produce, sell, market, distribute, import or export the registered variety.¹³ Tany breeder can apply for violation of a Breeders' Right on the variety itself, as well as to its packaging. Penalties can range from Rs. 50,000/- to ten million rupees as well as a jail term ranging from three months to two years, depending on the severity of the damage caused. For repeated offence, fines can go up to Rs. 20 lac and the jail term to three years. The new law has provisions for Researchers' Rights which allow scientists and breeders free access to registered varieties for research. The registered variety can also be used for the purpose of creating new varieties. This flexibility is curtailed only when the registered variety needs to be used repeatedly as a parental line for commercial production of another variety.

Protection of Public Interest:

The legislation includes public interest clauses, like exclusion of certain varieties from protection and the grant of compulsory licensing. To safeguard public interest, certain varieties may not be registered if it is felt that prevention of commercial exploitation.

¹³ R. K.Raina, "Commercial Transfer Agreements of New Plant Varieties and Materials Thereof", Vol. 8, Journal of Intellectual Property Rights, 2003. p., 124

In order to see that the certificate holders can not hold the interest of the society to ransom, the Act provides for the grant of compulsory licenses to interested persons to use the protected variety in case of failure of the breeder to satisfy the reasonable requirements of the public by providing seeds at reasonable price or seeds becoming non available. The compulsory license is available for production, sale and distribution of the seed or other propagating material of the variety after the expiry of three years from the date of issue of certificate of registration. The terms and conditions of these compulsory licenses include reasonable compensation to the breeder and providing to the farmers, seeds in a timely manner at a reasonable price.

CONCLUSION:

From the above discussions it can be concluded that, many developing countries like India have an agricultural economy that is geared towards the domestic market. Such an economy is dependent upon farmer-produced seed of varieties that are both maintained and further adapted to their local growing conditions by small-scale farmers. They also want to encourage farmer-to-farmer exchange of new crop/plant varieties that are adapted to the local growing

conditions. Striking a balance between economic use and conservation will be difficult to achieve without specific coordination between these Acts at the implementation level.

In India, the Plant Variety Act is not the only legislative instrument of relevance in India in the field of plant variety protection. There are at least two other Acts which are related. The first is the Patents Act 1970. There is in principle a clear distinction between the two since the Patents Act specifically prohibits the patentability of plant varieties. Given that patents will in the future be sought on biological material used for inventions in the field of agricultural genetic engineering, there is a direct link with agriculture. There is also a direct link with farmer's varieties and extant varieties. The second related Act is the Biodiversity Act 2002 which in practice focuses mainly on access to biological resources, control over these resources and related knowledge and benefit sharing. Further, the Biodiversity Act specifically delves into IPR related issues; therefore the potential for confrontation in practice is significant. Thus there exist substantive overlaps between the mandates of the three Acts which require specific provisions for their coordination.

Also, the question of benefit sharing is likely to cause significant problems once the three Acts are implemented. Towards this end, the study seeks to analyze the issues related to the protection of plant varieties with reference to the TRIPS agreement

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