

The Intersection between Patent and Plant Varieties Protection: Special Emphasis to the Agriculture Market in India

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ABSTRACT

A productive and sustainable agriculture sector is essential for achieving economic development and poverty reduction, just as good health is. Agricultural development is essential to the competitive market for agricultural inputs as it provides the farmers with new inputs and improved technologies. In the field of agriculture, intellectual property rights (IPR) are regulated under the Patent Law, the Plant Breeder's Right Act and the Plant Cultivation System Act. The essence and fragility of these rights and their potential violations have encouraged Established and emerging countries are committed to defending their rights through international relations and constructive laws in their respective countries. The international community has acknowledged the need to protect the interests of the breeder of new plant varieties. India is among the world's first countries to pass legislation granting farmers' rights in the form of the Plant Varieties Protection and Farmer's Rights Act, 2001 (PPVFR).

Hence, in India, the PPVFR Act 2001 regulates the protection of plant varieties and farmer's rights, and not protected under the Patent Law where as in other countries it is protected under their Patent Law so, it poses a question as to what if any foreign breeder comes for trade in India and it gets deprived from getting protection under Patent law in India although it has already got registration under home country's Patent law. So, in this paper authors will be analysing the overlap situation between Sui Generis law of plant varieties and general protection under Patent regime and how it is going to impact over all Agriculture market in the country.

Key Words: :-Agricultural Market, Plant Varieties, Breeder's Protection, Patent Act, Competition Law.

1. Introduction

At the very outset, "Intellectual Property Rights (IPR)" is the rights which are guaranteed for the protection of products or works which are created with the help of the intellect of a person. It is based on the "reward theory" where a creator or the owner of such work is rewarded in terms of monetary benefits and right to exclude others. By way of IP Protection, person gets the "monopoly rights" with respect to the work which is created out of his intellectual labour.

In India, there are various laws which protect the subject matters of IPRs. Some of the subject matters of the IPRs are Copyright, Trademark, Patent, Industrial Designs and Geographical Indications. Copyright law in India regulates the Musical, literary, dramatic and Artistic Works, Trade mark gives protection over the "Marks" which can be in form of different colours, shapes, logos etc. Industrial Designs covers the designs which has industrial applications. Geographical Indication covers the product which is associated with an origin and known

by that place. Lastly, the Patent Law covers the inventions in form of Product and Process inventions which are novel and to be used in industrial application and economic growth.

In the field of agriculture, "Intellectual Property Rights(IPR)" is regulated under various sub-legislations including Patent Law which are the Plant Breeder's Right Act and the Plant Cultivation System Act, etc. Patent law primarily regulates the inventions either in the form of Product Patent or process where as the rights concerning to the plant varieties and farmers protections are covered under the Plant Varieties and Protection of Farmers Rights Act.

The essence and fragility of these rights and their potential violations have encouraged developed and developing countries to protect their rights through international collaboration and to make effective legislation in their respective countries. The world community has accepted need to protect the breeder's rights of new plant varieties,

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and hence new plant variety international conventions (UPOV convention). India is among the world's first countries to pass legislation granting farmers' rights in the form of the Plant Varieties Protection and Farmer's Rights Act, 2001 (PPVFR).

2. Agricultural Market Vis-a Vis Plant Variety Protection

Agriculture market it acts as the back bone of most of the world economies and employs more than 50% of the work force in the country have a major share in their GDP. But in most of the countries It is observed that the agricultural productivity is extremely low in most of the countries and the yield is mostly unstable year to year. Subsistence farming which produces no financial income and is, in many cases, insufficient to feed the families of farmers, is a major part of this agricultural practice. In these conditions, the agricultural sector is incapable of contributing to the overall economic growth of a nation and, evenless, of reacting to the challenges of feeding a growing population, alleviating rural poverty and mitigating climate change.

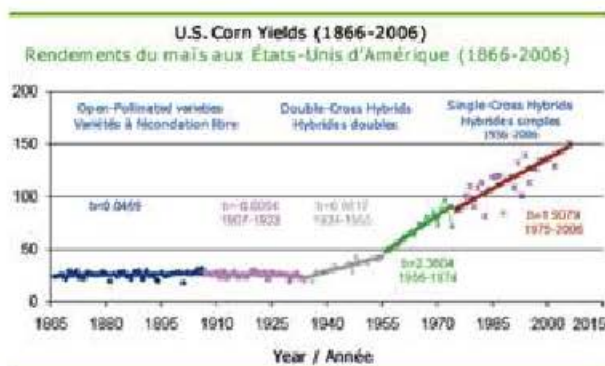


Fig1- Benefits of Plant Variety Protection

Lack of progress in improving the performance of conventional plant varieties over centuries is one of the reasons for low agricultural performance in many developing countries. In comparison, the graphs (Fig1) Display improvement made over a span of two centuries in wheat yield in France and maize yield in the U.S. Clearly, the advent of modern plant breeding has made it possible to significantly increase yields that were previously stagnating or declining. Improved varieties are expected to account for more than 50 percent of the overall increase in yields for important crops in Europe.

India, after independence in 1947, began as a country primarily based on agriculture, and even today, about 55% of its population lives on farming, either directly or indirectly. A productive and sustainable agriculture sector is essential for achieving economic development and

poverty reduction, just as good health. Agricultural development is essential to the competitive market for agricultural inputs as it provides the farmers with new inputs and improved technologies. As a consequence of scientific and technological progress, the growth of intellectual property has given rise to complicated ties between the different types of intellectual property rights.

Some also turned into protecting same or similar problems as different facets of intellectual property laws also evolved. This is the situation with both the protection of inventions and variations of plants that have since been gradually overlapped. This conflict may influence its right holders because, through gross violation of crop varieties, the effective use of the patents cannot be done and likewise. In addition, the potential overlap may adversely affect the interests of farmers as well as the agricultural market in India, since patent law does not recognize the privilege of growers to save and sell plants, which is typically provided by plant variety protection statutes. Not only this but this overlap may also affect the overall competition within the Agricultural markets.

Worldwide, TRIPS agreement, governs the rights which are derived, by way of exploiting various Intellectual Properties and since the adoption of the "TRIPS Agreement" on Intellectual Property Rights in 1994, the protection of plant varieties has become an important issue. In particular, the TRIPS Rules allow for the patentable subject matter of innovations across all areas of science and expressly calls for the defence of plants species either through patent or, via an effective generic method or via a mixture respectively.

3. Protection of Plant Varieties and Farmers Rights in India

As a member of both the TRIPS Agreement and the UPOV Convention, India, in addition to the protection of patents, has taken legislative steps to protect plant varieties. The Survival of Plant Varieties and Farmers' Rights Act, 2001 (PPVFR). It allows for the defence of different plants species, including ordinarily developed and genetically modified. Even so, the Patents Act exempts all living organisms types from patents (). This exclusion does not apply to a number, such as plants changed through genetic modification (GM) which is established through a microbiological process. The status of GM plants in India for patent protection is currently uncertain and is a controversy full of economic and ethical considerations. In order to perceive the situations relating to the patent protection of plant varieties, the intention of legislature is important to acknowledge that Patents Act is important to note and control the context of its amendments in accordance with the TRIPS and (Declaration on Patent Protection-

Regulatory Sovereignty under TRIPS 2014) Innovations in a broader sense

The Act provides a benefit-sharing agreement in which a patent holder must guarantee compensation to an individual allowing access to an indigenous biological resource. This act appears to suggest, unlike the a fore mentioned Patents Act, the possible grant of a patent on biological plant material that may also cover some parts of a plant variety. Besides that, the awarding of the privileges of breeding programs to organic matter is not eliminated, suggesting a potential connection between both the different schemes of protection. This argument was followed by an addition to the Indian Patent act, at first with regard to the protection of genetic properties.

The aim of the value strategy is to regulate the possible various priorities of rights-holders and society with a personal take in the genome sequence, however there is no direct solution to this potential conflict amongst owners of various intellectual property rights over biological content.

4. Non-Patentable Subject Matters

A combined reading of Article 27.3 and Article 27.1 () of the TRIPS would make bio-technological innovations in agriculture patentable and subject-matter that is not excluded, given that they otherwise qualify as patentable.

Explicitly, the 1959 Ayyangar Committee Report, on a basis from which the Patent Act became enacted, explained that perhaps there restriction laid down in Sec3 (h) was forbidden. Inventions in the field of plant propagation by asexual methods have to be applied, and are exempt from the patentability of asexual or horticulture methods by the Patents Act. At present, the Indian Patent Office tends to consider as a method of agriculture any traditional activity carried out in an open area, as a result of which any patent application referring to words such as germinate, crop, hybrid, variety, etc. referred to in Section3 (h) is objected to by the Indian Patent Office and is not patentable.

Section 3 (j) () revised in the year 2002, and the Patents (Amendment) Act, 2002, omitted the words "or plants." Thus, the handling of plants in order to make them disease-free enhance their financial worth was not longer covered by existing clause of Section 3 (j) or by any other provision set down in Sec3 of the Legislation.

In addition, Sec 3 (c) () of the Patents Act prohibits from patentable subject matter the "discovery" of naturally occurring living objects or non-living substances. This is suggested by developments such as DNA or proteolytic enzymes. In the other hand, DNA Sequencing

structures, altered DNA and customized laboratory-produced protein molecules requiring significant human intervention classify so reproducible subjects, as they cannot be considered as discoveries.

In addition, Section 3 (j) () of the Patents Act excludes plants and animals, in whole or in part, other than micro-organisms, but including seeds, varieties and species, and essentially biological processes for plant and animal development or propagation, from patentable subject-matter.

5. Difference Between Patent Law and PPV & FR Act

The Protection of Plant Varieties and Farmers' Rights Act (PPV & FR Act), 2001, is a sui generis legislation formulated by India to fulfill its TRIPS () duty to provide effective protection of plant varieties' intellectual property rights. However, it should be noted here that, in the light of the Distinctness, Uniformity and Stability (DUS) Testing, the PPV & FR Act, with a view to distinguishing and defining new, current, basically derived varieties and varieties of farmers, confers rights on agricultural growers/breeders/seed industries for particular varieties.

In addition, Section 2 (za) () of the PPV & FR Act describes a "variety" as "a class of plants with the exception of micro organisms of the lowest known rank with in a single botanical tax on. "In view this; it is never possible to compare a gene to a variety in which a characteristic is decided by the one or more genes. A nucleotide genome is also a chemical substance inside a seed that may offer a particular characteristic either phenotype to a plant, but cannot be labelled as an variety under the PPV & FR Act. Moreover, if a DNA or gene molecule is inserted via the transformation process into a plant species, such a procedure may not be protected under the protection of Act on PPV & FR. Only under the patent regime will such methods be covered, as there is no provision under the PPV & FR Act for the defence of a method of transformation of a plant or plant regeneration using tissue culture methods..

Another difference between the PPV & FR Act and the Patents Act is the provisions on the allocation of benefits under Section 26. () of the PPV & FR Act. However the benefit-sharing scheme is only applicable to varieties recorded under the PPV & FR Act, as is the restriction to "variety" under the PPV & FR Act. Where a variety has been licensed, the Authority shall make public claims, where it is recognized that a third party has played a role in contributing to the improvement of a registered variety, the Authority shall be entitled to receive part of the benefits that the registered owner of the variety can derive. The basic principle and purpose of the PPV & FR Act indicates

that the tax system for producers of income and farmers has been created. Societies which have sought to prepare the survival of the herm plasm, and may have led to the production of recorded variants. In reality, that will lead to an uncertainty in interpreting the profit sharing system as catering scheme for I Powner.

It was because the profit arrangement under Sec 26 of the PPV & FR Act extends only to the notified varieties based on research variations, which have been, in the traditional sense, variants derived from the key transition event, sometimes alluded to here in as a microbial system. Consequently, if transgenic innovation has been used to produce new genetically modified variants that aren't even subsequently approved under the PPV & FR Act, the benefit-sharing scheme would not be available there'd be littlere course to refund the IP holder for its required skill. This in justice is common if the invention had no patent rights in the first place. There fore, the interpretation that IP holders should take advantage of the value sharing scheme under PPV & FR Act is not a practicable choice.

6. Distinguishing Patents and Plant Variety Protection: A Comparative Analysis

6.1. Europe:-

Despite the existence of distinct legal mechanisms for the defence of patent and plant varieties in most countries, delicate inter face issue exists, largely owing to the lack of a consistent understanding of the essence of the law in force. From the strategies that some countries have adopted, this inter face is simple. In EU, for example, in view of the Guide line on the Defence of Biotechnological Innovations and the EU Patent Convention ('EPC'), which legally bans future overlaps, the most current case law established by the EU Patent Office ('EPO') affirmed that a patent had been issued in favour of a claim made up of plant varieties of Indian origin.

6.2. United States:-

In the United States, where plant patents are common place in addition to plant variety rights, it is far more likely than other countries that even a patent protection would identify a plant variation and eventually lead to a problem... In view of the temporary monopoly provided by the regimes, the simultaneous presence separate rights on the very same issue which bring into question the violation of the rights of owners as well as the customer rights.

The over lap between the right scan result in infringement suits. That the latter form of conflict which lead to a major case in Canada in which Monsanto, a multinational industrial corporation, brought a suit against a farmer for violation of its monopolyongly phosote-resistant plant

cells and genes as a result of the use of the proprietary ingredient by a seed farmer. Such disputes may be especially problematic in India, where intellectual property systems are less developed.

When protection of plant varieties is obtained and a patent protection is also given on a certain genetic ingredient or biological material that is part of the protected variety, disputes may also occur. Suppose that the organic matter generated by an insular and syn the sized crop geno type fall within the ambit of patent protection as long as the isolated gene has a specific function worthy of protection.

Subsequently, by recombinant DNA technology, the isolated plant gene may be insert edintoatargeted plant, producing a new variety of plants. This new plant variety would also involve the introduction of patented biological material or the use of a patented procedure, creating an overlap with the patents concerned and protecting the new plant variety. In view of the varying extent of the rights, the in fringement of such patent rights would in evitably in fringe the right to plant varieties, and vice versa.

6.3. India:-

Even as safe guarding of patent applications and planting materials needs to extend their context to include for the same or comparable subject-matter, this scenario becomes more likely and biotech no logical science continues to develop. This future conflict is unavoidable in almost all jurisdictions whether the privileges are specifically governed by specific provisions. Never the less, an adoption of different provisions alone isn't sufficient to address the conflicts in practise. It could be distinguished from the measures taken throughout India which suggest the possibility of an inter face between the protection of patents as well as the defence of planting material, even where different legal regimes apply to the protection of the two subjects.

In certain countries, such as the European Union, the system of mandatory cross-licensing is the chosen alternative because of this possible overlap, even with independent regulations, where licenses were owned by various rights owners. There is also fear in emerging and least developed countries that the presence of competing rights with separate optics of defence would adversely impact the agricultural markets and availability of crops.

7. Possible Solutions to the Interface Problem

For the complex conflict of rights indicated above, a simple solution is needed. One policy, followed in part by EU, is proposes method of compulsory scheme of cross-licensing in cases where, without mutual violation, the

rights could not be accessed or used. It shouldn't be mistaken with both the value agreements adopted by South Africa and Ethiopia, which only attempt to address potential conflicts among interest owners and the community that could occur in the sense of biodiversity and the protection of biological improvement.

In the place of external resource patents in which the patent owner is required to exchange an extracted income with the corporation concerned, this methodology is appropriate. However, this does not address the functionality between safe guard of the invention and the protection of the plant variety in the course of their abuse by the respective right holders. Nor does the existing legislation in these countries provide for a European-style cross-licensing scheme.

A mutually exclusive protection scheme under various explicitly delimited laws is another solution, one that excludes the potential inter face from the outset. This strategy, as applied in countries such as South Africa and Ethiopia, potentially eliminates the possible discrepancy between patent able products and processes and plant varieties. These regulations, however, aren't sufficiently clear to avoid the problem in practise, considering the possible future developments in patent and plant variety defence.

Only if the subject matter to which the rights are attached is specifically and solely regulated will the issue of overlap be prevented. This may essentially mean that, with the exception of its own type, one subject-matter is excluded from being protected by another legal regime. As an alternative, the existence of a prior right can prevent the further creation of other right. Both of the above methods have their benefits and draw bags, and each nation's policy must be tailored considering their requirements in order to accomplish the goal envisaged as per these programmes.

Excluding any biological innovations from patent protection, for example, would prevent this issue of competing rights and the strong, restricted monopoly advantages associated with such patentability, which appear to restrict farmers' access of products. However, the exclusion would the or etically hamper future advancement in that region, which would otherwise be achieved by patent protection. A less intrusive approach beyond absolute exclusion can be achieved by changing the exception to the patent system for farmers defending plant varieties.

8. Conclusion

In countries like India where agriculture is the corner stone

of the economy, an all around planned, all around out lined plant variety protection scheme is much more suitable than a dual protection system. From one perspective, it is difficult to stamp a clear demarcation between the various extents of Intellectual Property rights but, it is a lot simpler to consider straight, legitimate exclusion from the Patent Law. More over, patent on plant varietie scan possibly restrict or even limit admittance to seeds or to spread material to cultivators, yet this shouldn't be the situation for suigener is scheme. The condition can be substantially more rigid if there are patent rights simultaneously as the protection of plant varieties.

Not with standing, the simple utilization of the suigener is frame work would not inalienably block the conceivable cover between the interests of the various take holders. To guarantee the successful utilization of rights with the end goal of advancing imagination and feasible monetary turn of events, it is important to build up a precise arrangement, for example, compulsory cross licensing by significant enactment. In order to protect farmers, the exclusion for farmer sheavily influenced by plant varieties can beset down in patent law just as in some significant issues. Approache sought to be intended to find some kind of harmony between such competing interests.

9. Suggestions

- There should be a delineation between the scopes of both the legislations
- Compulsory cross-licensing system should be there where there spectve rights cannot be obtained or used without reciprocal infringement.
- Mutually exclusive security scheme under different laws should be clearly delimited.
- One subject matter, with the exception of its own category, is exempt from being covered under another legal regime.
- A less intrusive solution beyond absolute exclusion can be accomplished by adjusting the exemption for farmers under the defence of plant varieties to the patent system.

References

1. The Patent Act, 1970., 3 (j)
2. The Patent Act, 1970., 3 (h)
4. The TRIPS Agreement and the Conventions referred to in it, supra note 4 at Article 27.2 of the TRIPS Agreement—