

INTERNATIONAL JOURNAL OF LEGAL SCIENCE AND INNOVATION

[ISSN 2581-9453]

Volume 2 | Issue 1

2020

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Enforceability of Patent Rights in Agro Biotech Industry: A Challenge

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ABSTRACT

The agro biotechnology industry of India is continuously expanding. The Indian agro biotechnology did not had a head start but still the industry is blooming at a slow pace. This article talks about the impact of IPR in agro biotechnological industry. It describes about principal types of IPR which are in relation to agricultural research: copyright, patents, trade secrets, confidential information, trademarks, and plant variety rights. Commitment and roles of developing countries under TRIPS is also reviewed. The positive and negative effect of IPR on crop bio security and farmers' is highlighted. Though India is yet to produce an exceptional biotechnology product, it has excessive science support and has the potential to generate a lot of revenue. In the last two decades, the academic front and industrial sector of the Indian biotech industry has noticed a number of scattered and fitful initiatives.

I. INTRODUCTION

The current progress in the field of agriculture field has further assisted in the development of agro biotech industry. The latest study in field of functional and structural genetics has produced enduring variety of crops and plants. In the late 19th century genetically modified crops were not much recognized. From 2001 onwards there was a paradigm shift in sector of genetically modified crops and the affected the agriculture practice's in India. The Trade-Related Aspects of Intellectual Property Rights (TRIPs) agreement had a huge effect on developing countries as strengthening of IPR was made a compulsion. This gives an inventor a absolute right to restrict any person from selling, using, manufacturing, growing his invention without his prior permission. If the intellectual property rights are strengthened then the product and technology of developed countries will flow to developing countries, this would create an incentive of innovation for local firms. The commencement of genetically GM crops was linked with intellectual property rights. However, enactments of these rights of patents are still a challenge. In recent times the violation of patent rights of

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GM crops has increased.² With the growing privatization in agriculture sector, it makes a notable issue for researcher in agro-tech area. So, they need patents, intellectual property protection. However, it was taken into account that giving excessive rights or a patent on GM crops might bar it from the people who need it most. Due to the ownership of IPR in agro biotech industry transfer of technology and development of new products has become an issue.³

The genomics revolution, however, has provided an additional impetus to the debate about IPRs for crop safety and biosecurity. Most of the more advanced countries are expanding both their own technology base by developing and importing new biotechnologies. Some countries in Asia, Africa and Latin America are attempting to develop biotechnologies specifically directed to solving their agricultural problems through publicly funded national agricultural biotechnology research systems. Most developing countries, however, have not yet reached this stage in the development of agricultural biotechnology due to many tangible and intangible reasons in their research and development systems and their under-developed market infrastructure. If developing countries are to benefit from the use of modern biotechnology in agriculture and want to increase the status of crop biosecurity then the key constraints such as bioterrorism and bio piracy, etc., within the research, technology development and delivery system need to be clearly identified with the introduction of appropriate policy measures.⁴

II. STATEMENT OF PROBLEM

India has begun to become aware of the need for greater IP protection, however, these outcomes are only the first steps on the path of India's knowledge based economy because the patenting of bio-logical material is comparatively new to India. The bar of the stringent legislation should be brought down. The different level made to classify for a patent should be lowered.

III. BODY

(A) UNDERSTANDING IPR

IPR can be elucidated as set of rules and regulations formulated with a motive to protect or to give advantage to creator or inventor of the new technology. The creator are dependent on the legal protection as knowledge could be shared with many different people without degrading

¹Cohen J. I. 2005. 'Poorer nations turn to publicly developed GM crops'. *Nature Biotechnology*, 23: 27-33.

⁴ Commission on Intellectual Property Rights (2002) Integrating IPR and Development Policy – Report of the Commission on Intellectual Property Rights. CIPR, London.

the value so, as to prevent them from using or direct copying the process or product. Thus IPR for a fixed period of time gives exclusive rights to creator. Repositories which were source of crop biosecurity has preserved biological data and material. This biological data provides both great challenges and great opportunity in the field of biosecurity and crop safety.

(B) PATENTS

A patent is an inventor's exclusive privilege. Once granted, then it could prevent others from using, producing, and buying or selling the invention, a patent grants a creator the legal right to create a monopoly for a fixed period of time. This right is limited to a certain period; it is valid from the date on which patent application is filled to a minimum period of 20 years. The inventor, in exchange of the exclusive rights would reveal the complete and minute information of the patent after it's expiry. This would provide an opportunity to public to make profit. After fulfilling these three conditions a patent can be granted:

- The patent should be new or novel.
- It should be non obvious and must be an inventive step for the betterment of the society.
- It should have a industrial application otherwise the value of the patent would become null.

(C) PATENTING AGRO BIOTECHNOLOGY IN INDIA

Though India is yet to produce an exceptional biotechnology product, it has excessive science support and has the potential to generate a lot of revenue. In the last two decades, the academic front and industrial sector of the Indian biotech industry has noticed a number of scattered and fitful initiatives. The Indian Patent Office considers that biotechnological developments are linked to living organisms of natural origin, such as animals, humans and parts of them, living organisms of artificial origin, such as micro-organisms, vaccines, transgenic animals and plants, biological materials such as DNA, plasmids, chromosomes, vectors, tissues, cells, replicas, biological material process, human or animal body treatment methods, biological processes and simply biological processes. Under Section 3 of the Indian Patent (Amendment) Act 2005, the following biotechnological inventions are not considered patentable.⁵

(D) INTERNATIONAL CONVENTION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

⁵Biotechnological Innovations Patent: A Review 131-135 (2nd Edition, Rishabha Malviya 2010)

(UPOV)

Originally patent law for safeguarding new plant varieties was considered unsuitable. Therefore in 1961 International convention for the protection of new varieties of plants (UPOV) was established though it has been revised several times. According to this a country can develop a subgenres system i.e. a system of rights for a particular place which are suitable to them. These rights safeguard the interest of an inventor by preventing others from using or selling or buying the patented plant variety for at least minimum of 15 to 20 years.

(E) PLANT BREEDER'S RIGHT

This provides an inventor of new plant variety exclusive rights for minimum 20 years. This right can differ from country to country depending upon the uniqueness and particular context of that area.

(F) UNDERSTANDING AGRO BIOSECURITY:

It is necessary to understand crop biosecurity in order to determine that whether patent plays an important role or not in helping to achieve the target of crop biosecurity. During the last two to three decades there has been many conferences and conventions at the international level for systematic usage of biological resources. This has become a necessity in the current era of science and development. The present situation is contradicting the era of green revolution when there was no dearth of germline mutation throughout the world. Also no issues were raised regarding IPR. But with the free market economy as a commanding force the domestic and international situation changed and agriculture was seen as a business or money making industry. The division of biotechnology in India, in particular its branch of plant biotechnology, is remarkably balanced for a significant change in growth. Innovations involving living beings have created one of biotechnology's controversial problems that are maintained politically on a regular basis (Archana, 2013)⁶. As the rural biotechnology shortcomings of the counter-trial progressed into DNA, transgenic and atomic marker-helped plant reproduction techniques during the 1990s, the Government of India needs to update a coordinating policy aid and regulatory system designed to fit the way of magnitude in R&D, management and biosafety.

(G) ROLE OF IPR IN CROP BIOSECURITY:

It is argued by many that IPR is necessary to vitalize economic growth of a country which in return aids in poverty reduction through crop biosecurity. Industrial and agricultural

⁶Archana, K. (2013) Do We Need Patent Protection to Biotechnology Inventions? *International Journal of Scientific and Research Publications* 3(4), 1–5.

production can be increased by new inventions and technologies. It is not necessary that techniques used by developed nation for crop biosecurity would be useful for developing nation. Therefore, according to the FAO undertaking, the issue of IPRs and plant genetic material has been related to farmers' rights and, the Biodiversity Convention is related to the equitable distribution of the benefits arising out of the usage of the plant genetic resources. Despite the agreement signed by the TRIPs signatories to incorporate IPRs in one form or another to cover plant germ line mutation, plant varieties and plant sections, there have been widely divergent opinions about both the possession and control of genetic resources and the functions of IPR regimes.⁷ This section's main point of convergence is associated with plant biotechnology on secured development rights (IPR). Article 27.3(b) of the TRIPs covers the protection of living and living conditions. This article is intended to allow the broadest patent classifications, including hereditary construction and other new biotechnologies. This scientific preparation's accompanying grounds give subtleties why such licenses should be banned and disavowed.⁸

1. All beautiful organic aspects that are definitely not under the researcher's direct control. We cannot be considered as inventions, despite life confiscations.
2. The all- in and all-out inventions as 'creations' do not satisfy the critics and are characteristically dangerous to well-being and biodiversity.
3. To support the protection of qualities, genomes, cells and microorganisms, there is no logical establishment.
4. Numerous licenses are unscrupulous; they deny fundamental human rights, pulverize occupations, make creatures unworthy of endurance or are otherwise shrewd despite the profound open quality and demand.
5. For decades, many covered 'innovations' have been used by community networks, including examples of written forgery of native knowledge and bio-theft of reared plants / creatures (Cooper, 1985).
6. The technique itself cannot be patented without any material generated or delivered via a chemical process that includes a few biotechnological and biochemical substances.

(H) THREATS TO BIOSECURITY:

⁷ Kumar, A. and Das, G. (2010) *Biodiversity, Biotechnology and Traditional Knowledge: Understanding Intellectual Property Rights*. Nervosa, New Delhi.

⁸Trips Act (1955)

1. **BIOPIRACY:** There is no fixed definition of biopiracy given anywhere. Although it has been defined as The practice of using naturally occurring biochemical or genetic material for a commercial purpose, in general by gaining patents covering its potential use, without paying equitable compensation to the society from which it originates.⁹
2. **GRANTING OF WRONG PATENTS:** Wrong patents are granted to invention that neither has an inventive step nor are novel to the prior knowledge. Patents like this could only be granted when either the patent authority did not have the knowledge about the patent or due to fault in patent examination. There are two reason behind this first that that knowledge is not written and second is that knowledge is written down but might not be reachable with the outdated tools present with examiner.
3. **PATENTING STANDARDS ABOVE PAR:** The regulation which are required to get a patent are way too high and it is not less than making a discovery. There is a big hand of traditional knowledge or genetic resources in getting a patent filled, if it does not fulfill these demand then rights of patent is not granted even if there is a general invention.

(I) CHALLENGE OF IPR IN CROP BIOSECURITY:

- Governments must remain cautious of possible long-haul negative outcomes of prohibitive value for rehearsals on crop biosecurity and plant biotechnology and the rights of research foundations to provide access to inherited organic resources, and must be set up to address these negative outcomes.
- Governments need to move in the direction of universal harmonization of the wide assortment of laws, guidelines and practices went for ensuring the wellbeing and security of people, creatures, plants and nature from possibly perilous organic materials. This will debilitate unseemly employments of organic assets and will guarantee crop biosecurity.
- Government need to grow universally perfect laws, guidelines and works on in regards to plant materials and information, in request to secure yields, so the dishonest treatment of natural materials and information from plants can be ensured.
- Nations must boost their efforts to achieve more influential international harmonization of regulations, rules and practices. Legal and administrative

⁹Elenita C. Daño.2005. 'Biodiversity, Biopiracy and Ecological Debt'.

contrasts between nations, particularly with regard to well-being and safety, the use of plant materials, moreover, IPR can prompt unnecessary confinement of access to exchange in hereditary plant genes.

(J) FUTURE OF CROP BIOSECURITY, IPR AND BIOTECHNOLOGY:

There are maximum chances that a couple of new inventions in field of genetics, genomics and biotechnology will bring changes in our society and different industries. Repositories which were source of crop biosecurity has preserved biological data and material. This biological data provides both great challenges and great opportunity in the field of biosecurity and crop safety. Biological material could be retracted from genomics and biodiversity. Also genomics and biodiversity can play a major role in research and development of agriculture. Concern has been communicated especially among NGOs that creating nations will be denial of access to new hereditary technologies straightforwardly when innovation is secured by IPRs and in a roundabout way at the point when they are unable to pay greater expenses inferred. It should be remembered that for both initiating the research process and the end product there is a need to access the genetic technology, without this is no sense of middle path. Most developing countries, however, have not yet reached this stage in the development of agricultural biotechnology due to many tangible and intangible reasons in their research and development systems and their under-developed market infrastructure.¹⁰If developing countries are to benefit from the use of modern biotechnology in agriculture and want to increase the status of crop biosecurity then the key constraints such as bioterrorism and bio piracy, etc., within the research, technology development and delivery system need to be clearly identified with the introduction should take control and stop the misuse of genetic resources of their countries. Another part of issue is that it should comply with the conditions of CBD which says that developing and developed countries should confine the usage of these rare genetic resources. For example countries like China which is developed and India which is developing have made laws for such restrictions. Prior to this, various germ plasmas were held in quality banks and bio-materials were made openly accessible to developing and developed countries as a result of their own examination. These were also available to both the public and private sectors.¹¹ In any case, examining the costs and benefits of introducing or buying hereditary innovations versus improving the neighborhood. In fact, the interpretation of IPRs is likely to be confused. One of the main issues at stake in creating nations is whether IPRs are susceptible to improving the work of neighboring trailblazers

¹⁰Kumar, A. (2007, June). Indian agro-biotech sector (Working Paper). Mumbai: Rabobank International

¹¹ Arif, Najmul.1996. "International Environmental Law: Basic Documents and Select References". New Delhi: Lancers Books, India.

and, by suggestion, enhancing national potential for advancement. The evidence referred from past indicates that private research and plant propagation projects would be improved by providing IPRs for those who harvests and also where business demands exist. It is very common that the big private companies will not spent a single penny in research and development for the crops of small and poor farmers unless they are provided with an incentive. Also they will not invest in research of open pollinated varieties of crops. It could be implied from the moves and behavior of the local innovators that alone IPR is not acting as an incentive. They should at least meet with some more requisites like private sector development and favorable environment for the invention. While the facts indicate that, given the current difficulties of subsidizing open work, rural research and development remains packed in open sector establishments in many developing nations, there is a growing awareness of the need to raise private area contribution. In many developing countries different types of incentives are provided to many private firms such as screening test, financial support, exclusion from tax. This is done so that the private companies should assist in formation of local firms and in development of new technology or they should make an alliance for doing research in this field. Even without IPR recognizing a large number of significant seeds and agro-substance organizations related to crops, numerous extensive worldwide organizations of those with substantial forefront research related to advances initiatives have either set up subsidiaries or have embarked on joint adventures.

IV. RESEARCH METHODOLOGY

The research will be conducted using doctrinal research. The exiting contentions related to the subjected matters; challenge of filling patent in Indian patent act& certain international legal provision form the basis of this research. Also, the descriptive method of research is used as they research describes the current practice of India's engagement with international laws.

V. CONCLUSION

It should be noted that an implementation of IPR to agricultural products is a recent event. The general utility or achievement of protecting inventions is little known. Income from IPR insurance can help pay the costs of maintaining fundamental structures for the provision of IPR guidance to scientists, reporting progress, and preparing applications. There is a need for less stringent legislation related to the filling of patent related to crops. It basically demands the fulfillment of requisites. The patent should be The patent should be new or novel. It should be non obvious and must be an inventive step for the betterment of the society. It

should have a industrial application otherwise the value of the patent would become null. It is a very difficult decision to select the correct type of protection to protect invention from agriculture sector. While selecting on which types of IPR protection to implement, it is important to consider whether an innovation will only have regional application or whether it will be more widespread, even worldwide. If developing countries are to benefit from the use of modern biotechnology in agriculture and want to increase the status of crop biosecurity then the key constraints such as bioterrorism and bio piracy, etc., within the research, technology development and delivery system need to be clearly identified with the introduction of appropriate policy measures. No IPR security is required to apply innovations to the needs of networks that usually do not rely on acquired data sources. Actually, any business benefits would far outweigh the costs of such protection. However, if that equivalent advancement has ramifications worldwide, some kind of assurance could probably be prompted at that point. The industry should try to overcome the contentions. The government hold the choice to expand IPR protection to agriculture but it will also rely on evaluating the effect of such choices on farmers who use spared seed crops for planting in consecutive years. In most developing nations, the core of the agrarian system is dominated by small and medium-scale ranchers and those employed in an asset-restricted environment. Any IPR security course of action must consider the necessities of this system similarly to the organizations provided for the business or extraordinarily advantageous territory, including constraints that may be restricted on the ability of a farmer to replant saved seed. The open doors suggested by open source biotechnology can create a striking influence on sustainable horticultural development through unimpeded access to current biotechnology techniques. Open-source biotechnology is moderating, however many issues should be addressed in order to appreciate the benefits of this new development.
