
CRITICAL ROLE PLAYED BY INTELLECTUAL PROPERTY RIGHTS IN PROTECTION OF BIODIVERSITY

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ABSTRACT

Forms of life on Earth is defined by ecological diversity, which serves as the foundation for long-term growth. Nevertheless, unwanted disruptions pose a continual danger to biodiversity, and conventional wisdom is frequently misapplied. In this context, this research paper attempts to examine the significance of conservation of biodiversity and the point to which intellectual property laws aid in protecting the bio-diversity. The historic viewpoint, India's attitude to environmental conservation, and the problems faced in biodiversity protection have all been examined. The paper closes with a few recommendations for guaranteeing biodiversity conservation through intellectual property regulations.

INTRODUCTION

Amongst the most concerning concerns contained within the scope of intellectual property laws (IPR) is the protection of bio-diversity and traditional knowledge. There is ambiguity in conserving these locally available resources because of the many difficulties involved. The notion of conserving biodiversity through with IPR got into prominence when the approval and execution of the CBD and TRIPS took place. It is self-evident that in the current situation, indigenous knowledge connected with a certain object is being marketed all over the world. This, in turn, has posed a significant danger to biodiversity, as it has an impact on people's livelihoods. As a result, safeguarding these resources and information has become critical. This, in turn, provides as the foundation for this study article.¹ There is a gap in global initiatives for protecting indigenous resources and intellectual property rights.

Biodiversity describes the variation of living creatures from all origins and the ecosystems of which they are a part, and it encompasses diversity within and between species as well as diversity of ecosystems. IPR are the legal protection afforded to ideas, inventions, or processes. Its purpose is to grant the creator a monopoly and to bar him from economic exploitation for a set length of time.

Biodiversity is a valuable resource that promotes long-term growth. IPR support the marketing of different innovations such as seed maturation, botanical variety protection. As a consequence, striking a steadiness between maintaining biodiversity and IPR is critical. It is worth noting that industrialized nations use emerging economies' resources to learn and manufacture of different commodities. Multiple genetic data is conveyed to industrialised nations, and these goods are safeguarded in exchange by patents and plant breeder rights (PBR). This unavoidably has an impact on biodiversity, resulting in loss and value.

INTELLECTUAL PROPERTY RIGHT AND BIODIVERSITY- A HISTORICAL PERSPECTIVE

The evolution of biodiversity as a commodity began in the United Kingdom for the aim of agricultural production by employing high-quality seeds, and corporations began to market such high-quality seeds as a result. Later, the government intervened, rewarding the

¹ Forum, A.I.L. (2020). Bio-diversity And Intellectual Property Rights: An Existing Conundrum. [online] ALL INDIA LEGAL FORUM. Available at: <https://allindialegalforum.in/2020/11/06/10891/?cv=1>

individual/company that developed the seeds further, which resulted in the breeder's rights, making its foot on commercialization. When commercialization grows on one side, the element of limiting usage grows on the other. Because of this, new plant varieties were produced, and as more new creations and varieties were released, rights and recognition began to be jeopardized. To coordinate the intercountry implementation of PBR, the Geneva-based UPOV-International Union for the Protection of New Varieties of Plants was established in 1961. Despite being ratified in Paris in 1961, the Convention did not enter into force until 1968, and it was amended in Geneva in 1972, 1978, and 1991. To be protectable, varieties must be different from existent, universally acknowledged kinds, substantially homogenous / consistent, robust, and ultimately modern i.e., they have not been commercialised preceding to specified dates defined as per the time of application for safeguard. Furthermore, patents with no limits are allowed in several countries for genetically modified organisms (GMOs) and microbes.

Multiple global treaties and organisations have long acknowledged the significance of biodiversity. The value of diversification stems from the fact that it increases soil fertility, protects against poor harvests, aids in food security, and maintains nutritional balance. As a consequence, it is critical to safeguard biodiversity. Nevertheless, it is frequently susceptible to various economic overexploitation and has introduced IPR into the system. It also plays an essential role in guaranteeing biodiversity's conservation and preservation.

INTELLECTUAL PROPERTY RIGHTS IN AGRICULTURE

Historically, intellectual property protection regimes mainly were applied to mechanical innovations of one type or another or artistic achievements. In industrialised nations, the attribution of IPRs to living organisms is a relatively new phenomenon. For example, only in 1930 was it possible to patent vegetatively propagated plants in the United States. PBRs, a novel kind of IP, only became prevalent in the second part of the twentieth century. In consequence, plant security methods are derived from the commercial structure and agricultural situations in industrialised nations during this period. The development of such systems mirrored the rising benefit of private breeders in safeguarding their IP. Planters have historically replanted, traded, or traded seed from the former year's harvest, making it difficult for breeders to recoup their expenditures in better varieties through recurrent sales. Patents or PBRs typically restrict farmers' ability to sell produced seed (and, in certain circumstances,

reuse it), increasing the demand for the breeder's seed. Even in affluent nations, seed reuse is frequent. However, for many crops, the yearly purchase is now the norm. In emerging nations, most farmers reuse, trade, or sell seed to neighbours on an informal basis, and yearly seed purchases are uncommon in most countries.

Along with the ratification of the TRIPS Agreement, evolving nations were indebted to embrace plant variety protections, whether it be through patents or other ways, without seriously considering whether such security would be advantageous to both farmers and consumers, or the possible effect on food safety. As with medicines, a crucial topic is whether and how IP protection can help encourage revolution pertinent to the emerging nations and underprivileged society's need. We must also evaluate how IP protection affects the cost and availability of seeds and other agriculture inputs.

If plant variety preservation aims to offer incentives to breeders, one of the issues that must be addressed is how farmers' impacts the protection and growth of plant genetic sources should be recognised and protected. Until official breeding programmes were implemented, farmers relied on a process of selection and experimentation to enhance varietal and cultural traits. Since then, formal breeding programmes have used those kinds and expertise to produce better varieties with increased productivity or other desirable features. The debate is whether farmers' contributions to conservation and innovation should be preserved or rewarded. The principles symbolized in the Convention on Biological Diversity (CBD) which is the foundation of latest International Treaty on Plant, Genetic Resources for Food and Agriculture, which pursue to create ideologies for enabling admittance of plant genetic resources and founding effectual and rational instruments of benefices.

WHY IS PLANT VARIETY PROTECTION NECESSARY?

Productive breeding necessitates a high level of expertise and understanding. Furthermore, substantial reproduction necessitates substantial investment in lands, specialized equipment (such as greenhouse and labs), and specialized, scholarly personnel. An enhanced plant species takes a while to create (10 to 15 years in the case of many plant species). However, not every innovative kinds of plants are effective, and even though the kinds exhibit considerable advances, changes in market demands may preclude the prospect of a profitability. As a result, the advantages must be balanced against the return on the initial substantial budget. Plant breeding, on the other hand, usually outcomes in the accessibility of variants featuring higher

production and higher qualities for the betterment of community. Lengthy period of reproduction initiatives are just meaningful when there is a potential to be compensated for the energy and time invested. To recoup the expenses of this R&D, the breeder may seek protection in order to gain exclusive rights to the new variety. Simultaneously, once a new variety is introduced, it is frequently easy for others to replicate it. As a result, the founding breeders are denied a reasonable chance to reap the benefits of his or her capital.

A VIEW ON BIODIVERSITY'S VALUE

The greatest environmentally sustainable form is diversity. Varied crops help to keep soil fertility high. In rain-fed areas, diversity improves soil management. It refers to crop failure insurance. Diversity increases labour availability while also ensuring food security. A diverse food helps to maintain nutritional balance. The cattle benefit from a diverse diet, which maintains them beneficial and fruitful.

INDIAN SCENARIO

India has ratified both the Convention on Biological Diversity and Trade-Related IPR Agreement. After its development, the Biological Diversity Bill of 2002 and the Indian Patent (Second Amendment) Act of 2002 were enacted. The Act's main highlights include the lengthening of patent duration, the inclusion of microorganisms within the scope of patents, and the issuing of PBR certificates to novel plant varieties. Furthermore, in order to conserve biodiversity, India in line with the Budapest Treaty has adopted the Plant Protection Bill.

India has a varied biological diversity with spot among the 12 mega-diversity hotspots. India claims as the origin of numerous yields, plant-life, animals, livestock, spices, and other goods, and it contributes significantly to world biodiversity.² Furthermore, inhabitants have a basic responsibility to safeguard the nation's ecosystems and wildlife.

IMPACTS OF IPR

It is difficult to provide an assessment of the consequences of intellectual property rights on biodiversity. Long-term genetic diversity advantages are rarely foreseeable. All twenty crops

² Forum, A.I.L. (2020). Bio-diversity And Intellectual Property Rights: An Existing Conundrum. [online] ALL INDIA LEGAL FORUM. Available at: <https://allindialegalforum.in/2020/11/06/10891/?cv=1>

are produced in impoverished countries. All are highly susceptible to pests and illnesses, and their survival is dependent on genetic variety. Most experts believe that an alarming amount of our primary food plants' genetic diversity has gone extinct in the last century. The protection and expansion of the world's left agricultural varieties is a major worldwide fear.

Farmers typically sow new and more economically viable seeds in order to improve their sales. In addition, various government initiatives may require them to adopt certain seeds or new plant types. Therefore, agricultural production promotes genetic uniformity, resulting in genetic deterioration. The IP system encourages agricultural production, hastening genetic loss. Biotechnology research focuses on commercial agriculture, resulting in a desire for intellectual property protection, which has potentially adverse effects on genetic diversity.

The conditions for obtaining a PVP (Plant Variety Protection) certificate are less severe than those for obtaining a patent. There are requirements for uniqueness and distinctness, but none for inventive step, commercial application, or usability. Thus, PVP limits allow producers to keep species with identical traits, implying that the system is motivated by commercial concerns about product differentiation.

Likewise, in UPOV type systems, the criteria for uniformity (and stability) prevent farmer-developed local varieties that are more genetically varied and less stable. These traits, however, make them more flexible and suitable for the agro-ecological system in which most poverty-stricken farmers live. The uniformity requirements are another source of concern. While supporters claim that PVP increases biodiversity by promoting the advancement of new types, the desire for uniformity and the certification of products that are essentially the same will aggravate agricultural uniformity and loss of biodiversity. Furthermore, comparable concerns have been raised about increased homogeneity because of the success of Green Revolution Varieties, which has resulted in increased vulnerability to diseases and a lack of on-field biodiversity.

Furthermore, the commercialization of genetically modified and trademarked resources promotes the trend toward monoculture farming. Furthermore, a created creature may have unforeseen adverse effects on other species in its new context, potentially leading to further erosion and ecological deterioration.

Enhanced seeds demand the usage of extra fertilizer and pesticides, which adds considerably

to bio-diversity damage and has an immediate influence on botanical and bacteriological species. Additionally, significant earnings given to advanced nations and transnational seed corporations would significantly raise the debt load, potentially aggravating environmental and societal disturbance if debit reimbursement strategies suchlike natural product exportation were used.

The establishment of creative connections between two opposing sides — official innovation and societal systems — will be required for the efficient spread of biological variety. Politicians must pursue research and extension with a strong bias toward active participatory approaches in order for technology transfer to be effective. Farmers and rural communities trying to exercise pragmatic power and authority over genetic diversity would be reciprocated from time to time by the conventional system with its analysis, research, specialized, institutional and governmental fluctuations in order to meet our international obligations while maintaining sustainability take biodiversity into account.

Consequently, it is crucial to understand the value and importance of intellectual property laws. A lot of conventional cultivation has opened the means for the various usage of plant variations and biodiversity, and so the protection of these plant types is critical. Intellectual property laws aid in achieving this goal by safeguarding agricultural production against genetic degradation. When compared to the requirements for acquiring patents, the norm and criterion for obtaining the Plant Variety Protection certificate are suitable to meet and are regulated by product difference. The existing Intellectual Property system is designed to encourage agronomic homogenization.

THE CONFLICT BETWEEN IPR AND BIODIVERSITY AND CBD AND TRIPS

The major concern has always been about safeguarding of genetic resources through effective regulations. There is a tension among communal and personal rights. Furthermore, governments confront various problems in developing organizational elements and jurisdictional concerns. It should be highlighted that the Agreement on Biodiversity precedes the TRIPS Agreement; nonetheless, there are several gaps in both of these agreements. It has fictitious authority, and the introduction of criminal offense is merely stated in the TRIPS Agreement. As a result, safeguarding IPR is unclear. It is well acknowledged that IPR impede the efficient application of CBD laws. As there is a continual disparity in the worldwide structures, this limits intellectual property rights and renders them useless. Furthermore, the

TRIPS Agreement strives to safeguard innovators' intellectual and private rights, whereas the CBD intends to conserve the usage of biologic variety. Furthermore, indigenous understanding is totally neglected in the TRIPS Agreement, posing significant challenges for indigenous people.

The Agreement on Biodiversity maintains the ownership concept by granting governments the authority to control foreigners' access to ecosystems and provides incentive mechanisms. The TRIPS agreement, on the other hand, grants the patentee the right to utilize other nations' biodiversity. While analyzing both of these clauses, it is clear that there is a significant difference between these conventions and agreements, rendering them useless and unsuitable.

CHALLENGES FACED IN PROTECTING BIODIVERSITY

When comparing the implementations of the Agreement on Biological Diversity with the TRIPS Agreement, there is a significant difference. The Nagoya Protocol and the Convention on Bio-diversity both require applicants for intellectual property protection to provide all necessary information relating to the source, evidence, approval, and advantageous arrangement. Nevertheless, wealthy countries are fiercely opposed to this issue, and there is no logical reason for this rejection. As a result, increasing bio-piracy is still possible in these locations. It is important to emphasize that this challenge need worldwide cooperation.

Another important worry for emerging countries is bio-piracy and bioprospecting. Following the CBD and TRIPS agreements, the phrase "bio-piracy" arose. Bioprospecting is the study of wildlife to gain genetic and bio-chemical resources for commercial use. It can be deemed ethical if certain legal criteria are met. It may be ascribed to a way of promoting medical and scientific research for the purpose of innovation. Bio-piracy, on the other hand, refers to the commercial exploitation of indigenous peoples' traditional knowledge. Bio-piracy causes a traditional group of individuals to lose control of a certain commodity. This frequently has legal ramifications and frequently violates the national regime. Only after the adoption of the Convention on Biological Diversity was the problem of bio-piracy really examined. It may also be defined as the usage of a certain source with no permission of the nation from where the source was taken. Soon after, such bio-pirated innovations and resources are granted intellectual property protection.

CONCLUSION

IPR is one of the crucial components that provide acknowledgement and rights for invention, and when considered in the context of biodiversity, most of the arguments and regimes were unfavorable. However, present regimes must be changed to provide adequate protection for emerging advances in areas such as biodiversity.

Consequently, it is possible to infer a clear legal gap in the international structures for preserving traditional resources. Furthermore, IP violates indigenous peoples' traditional knowledge to a large extent. On the other hand, traditional resource exploitation can be controlled with the aid of intellectual property regulations. Adequate punitive penalties and compensation amounts must be included in established legislation to prevent resource exploitation. Moreover, international coordination in managing IPRs and recognising the worth of traditional resources is necessary. Furthermore, conferring geographical indicator significance to a group of individuals, guarantees the preservation of such rights and precludes future manipulation.