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A Review of Intellectually Property Right and Biodiversity

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Abstract: At the national and international levels, the connection between biodiversity and intellectual property rights (IPRs) is a hotly debated topic. The bulk of the world's biodiversity is found in poor countries, which desire equitable ownership and fair benefit-sharing from genetic resources, while wealthier nations support tighter monopolistic protections to spur innovation and ensure profits. The difficulties of striking a balance between the commercial exploitation of biological resources and biodiversity protection are highlighted by international accords like the TRIPS Agreement and the Convention on Biological Diversity (CBD). With special attention to India's flexible strategy as a signatory to several treaties, this analysis explores the changing legal and regulatory frameworks pertaining to patents, geographical indications, plant breeders' rights, farmers' rights, and sovereign rights. Review the pressing need for a new and more inclusive global governance structure by highlighting the increasing conflict between the demands for fair benefit distribution, economic exploitation, and conservation concerns.

Keywords: Intellectual Property Rights, Convention on Biological Diversity, TRIPS, Geographical Indications, Sovereign Rights.

1. INTRODUCTION

The issue of who owns biological resources—made more contentious by their increasing economic importance—is at the heart of the national and international debate over biodiversity management. [1] Industrialized and developing countries' ownership patterns in this sector couldn't be more different. While developed countries support increasing monopolistic IPRs to profit from biodiversity and related innovations, developing countries own most of the world's remaining biodiversity and hence have a right to claim ownership of the resources. Developed nations also have more genetic engineering research capacity.

Concerns regarding biodiversity's economic potential, its role in sustainable development, and conservation needs have all been addressed by the convention on biological diversity and other international legal frameworks for the management of biological resources.

There are three main goals: ensuring the components are used sustainably, distributing benefits from genetic resources fairly and equitably, and protecting biodiversity. [2] The TRIPS Agreement's uniform structure of IPRs has had a particularly negative impact on poorer countries. Stronger protection of IPRs is opposed on the grounds that it would widen the gap between rich and poor countries throughout the globe. This is due to the fact that the northern

countries will gain from the TRIPS Agreement, which restricts the commercialization of genetic resources and biological variety, while the former will have access to better technologies. Since the TRIPS Agreement & the CBD came into effect in the first half of 1990, there has been intense political and scientific discussion regarding their relationship due to the claims that the two agreements are "incompatible," which have led to problems, disputes, and inefficiencies in their implementation [3]

The constantly evolving international legal framework, its influence on national laws and policymaking concerning sustainable development and biological resource management, and the growing need for a renewed approach to IP protection are all outcomes of recent global developments. As a signatory to multiple international accords, India has formulated its own legal framework for managing biological resources, which remains dynamic and continually adapting. These global trends directly shape local laws and practices in India.

2. INTELLECTUAL PROPERTY RIGHTS

Typically, IPRs are granted to groups or people for creative works and innovations, providing the creator or inventor with the incentive of a temporary right to prohibit others from using their work without permission.

A definition proposed for IPRs is a combination of "ideas, inventions and creative expressions" and the "public willingness to bestow the status of property" ascribed to them. Organizations and individuals may now legally own their ideas and innovations in the same way that they can own tangible assets. Anyone with ownership of an IP has the legal right to direct and profit from any and all uses of that IP. One of its underlying assumptions is that everyone would reap the benefits of more invention and creativity if everyone had the legal right to own and profit from their creations.

Additional types of protection have evolved to meet the unique requirements of knowledge producers; these include utility models, rights of plant breeders and farmers, rights of integrated circuit designers, and others. The term "sui generis" refers to something distinctly different from the previously mentioned types of protection.

IPR, these mechanisms may help safeguard it. In addition, "trade secrets" are legally protected in many nations as a means of keeping private knowledge that may provide an advantage in the marketplace. Here we have yet another kind of intellectual property rights. Geographical

indications, farmer's rights, plant breeder's rights, and patents are the most pertinent to a conversation about biodiversity.

Please find below a list of IPRs along with brief descriptions of each:

IPRs are most often associated with patents. The only legal right to produce, use, or sell an innovation for commercial purposes is known as a patent. No one other than the patent holder may profit from an innovation without the patent holder's explicit consent, which is often followed by royalties. As with other forms of intellectual property rights, a patent serves as both an incentive to continue inventing and a compensation for the innovator's work by granting them a temporary monopoly. When it comes to the limited scope of use for the protected invention, patents provide the most stringent protection for IPRs compared to other forms of IPRs . Patented plant varieties, for instance, are notoriously difficult to utilize in subsequent breeding efforts compared to Plant Breeders Rights types. The owner of a patent has extensive say over who may utilize their patented invention. As an example, the Neem tree has been the subject of ninety patents throughout the globe.

A patent primarily includes

- Typically, a patent will be issued for an innovation that is both new and practical (i.e., may be used in an industrial setting) and that relies on an innovative step that is not apparent to professionals in the area. [4]
- You may get a patent for a new way of creating an old product, for example, but you can also get a patent for a product itself.
- It's worth noting that several governments prohibit the patenting of certain processes or items (such food or pharmaceuticals) in the interest of the public good.
- A patent is valid for a certain amount of time. Twenty years is currently the standard on a global scale.
- A patent may be purchased, rented, or sold.
- Typically, a patent is only enforceable in the nation of its granting. Unless a local application is made, it will not be valid in other countries. [5]
- The increasing tendency of making patents relevant locally or worldwide, however, is

altering this.

- Applicants for patents are often required to reveal to the government's Patent Office the process by which an expert in the field might reproduce the innovation.

A trademark is a unique symbol, term, logo, form, slogan, etc. used to identify a product or service as belonging to a particular person or business. Customers are able to tell one manufacturer's products and services from another with their help. Another kind of trademark is a brand. Famous trademarks include TATA Tea, Microsoft, Coca-Cola, Boroplus, and Godrej.

A good's quality, name, and reputation as they pertain to a certain geographical location are the determinants of whether it is awarded a Geographical Indication (GI). An important component of a GI is a product description that links the product to a certain geographic area. The product's qualities, reputation, and location should all be considered. The acquisition of GI protection precludes the use of the GI to designate products made in any other country. A GI differs from other forms of IPRs in that it grants rights to a group of individuals rather than just one. To sum up, GI does not provide monopolistic rights to any entities. A GI may be requested by any manufacturer whose product meets the criteria mentioned before. Consider the Champagne area, where several wineries utilize the GI "champagne" designation. [6] Because they prohibit the wrongful use of a product's name rather than the product itself, they are similar to trademarks. Products with geographical indicators include Mysore silk, Darjeeling tea, Champagne, and Scotch whiskey. It should be mentioned that a GI is not required to specifically mention the place of origin (for instance, "Basmati" does not indicate a specific region but rather that the product is from India or Pakistan in the case of Basmati rice).

Unlike technical elements like the design of a watch, the form of a vehicle, wallpaper or carpet patterns, or the design of an item of jewelry, industrial designs safeguard the aesthetic qualities of an object, including its shape, texture, and pattern.

Secrets in the business world include things like manufacturing techniques and company strategies, which have monetary value. As long as they are kept secret, they are protected by laws that prohibit their acquisition by commercially unfair means and their unauthorized dissemination. Nevertheless, it is not considered unlawful to uncover information accidentally, a process known as reverse engineering. The Coca-Cola recipe and Microsoft's Windows

source code are two examples of famous trade secrets.

The aforementioned IPRs are all considered "industrial property" since they are practical business developments. Grouped under the umbrella term "artistic and literary property" are examples of copyrights and other forms of intellectual property. The purpose of copyrights is the same as that of patents: to recognize the authorship of a piece of art, literary work, or computer program and to allow that creator to receive royalties for its use. It stops anyone from making copies, translating them, airing them, etc. without the creator's consent. Nevertheless, with prior authorization, you are permitted to make restricted uses of protected content. Unless otherwise stated, all books, novels, music, and movies that are available on CDs or audiocassettes are protected by copyright.

PBRs are a subset of IPRs that pertain only to certain types of plants. An example of a plant species that comprises many kinds is rice, which may be further divided into Basmati rice, Jasmine rice, and so on. So, getting a patent and getting a PBR are two whole different things.

PBRs are founded on the idea that new plant types are more accurately described as 'improvements' than 'inventions,' the latter of which are eligible for patent protection. On the other hand, PBRs and patents are both recognized in certain nations as valid means of protecting plant types. Plant breeders sometimes discover that repeat sales of their varieties are reduced due to farmers' customary practices of selling, exchanging, or sowing seed from the previous year's harvest. Farmers may be forced to purchase fresh seed from breeders if PBRs limit their capacity to sell or sow seeds from PBR-protected plant varieties, as a result of a country's intellectual property law. [7]

Key characteristics of a PBR include:

The owner of a PBR has the sole right to sell or cultivate the protected plant variety, or they may let another party to do so in exchange for payment.
New plant varieties may only be protected by PBRs if they meet certain criteria:

Distinct: It has to have distinguishing features that allow it to be easily identified from other known types.

Uniform: To ensure consistent quality throughout harvests of the same variety, it should exhibit standard or uniform traits; planting and propagation circumstances should be the sole sources of variance.

Stable: Reproduction must result in offspring that are genetically identical.

Novel: It need to be an entirely novel kind, distinct from all others. (Some nations, including those that are part of the UPOV international convention, evaluate new varieties based on whether or not they have been commercially marketed before, rather than whether or not the variety exists.) [8]

Farmers' rights: Concepts of farmers' rights emerged from worldwide discussions about the unfair handling of plant breeders' work and the lopsided distribution of advantages between germplasm suppliers and technology developers. Farmer incentives and pay were nonexistent, in contrast to the financial incentives and remuneration available to plant breeders under intellectual property protections such as Plant Breeders' Rights (PBRs). Equal distribution of genetic resource advantages and incentives for farmers to preserve and share these resources were the underlying motivations for the establishment of farmers' rights.

Sovereign rights: Interstate relations are structured on the basic premise of sovereignty. All nations are considered to be legally equal and no authority is higher than states; this is the fundamental concept upon which international law is founded. When it comes to biological resources, the idea of national sovereignty is crucial. What we mean by "permanent sovereignty over natural resources" is that every state has the freedom to use and develop its own biological resources how it sees fit. It is the cornerstone of international law on the distribution of duties and rights in this area, since it is a universal issue. This principle implies that we must all work together to preserve and manage biological variety, as well as acknowledge its global significance. 'This approach does not compel any particular state to engage in the protection and management of in situ biological resources; rather, it aims to ease and encourage global collaboration in these areas. Down at home, the concept of sovereignty also has consequences. When a state asserts its sovereign rights, it is conceptually comparable to when an individual asserts their property rights.

3. BIODIVERSITY

The wide range of living forms found on our planet, including plants, animals, microorganisms, genes, and ecosystems, is collectively known as biodiversity. A profusion of life that has developed over millions of years highlights the interdependence of all forms of life and the roles they play in the natural world. It is most loosely defined as the variety seen within and between species, although it encompasses all forms of life or the ecological

processes that maintain them. Generally speaking, when we talk about biodiversity, we're talking about the variety of land, sea, and water creatures, as well as the ecological systems to which they belong and the genetic, species, and ecosystem-level variation that we see. [9] There are three main types of biodiversity: genetic, species, and ecosystem. Varieties of crops and animals are examples of genetic variety due to variations in DNA within a species. India is home to 47,000 plant species, or more than 11% of the world's total, and about 90,000 animal species, making it one of the most biologically varied nations in the world.

- The wide range of genes found in all known species of plants, animals, and microbes is known as genetic diversity. Within and across species, as well as within populations, genetic diversity is present.
- The variety of living species is known as species diversity.
- Ecosystem diversity encompasses a wide range of habitat types, biotic community composition, and ecological process types. Additionally, there is a great deal of diversity within ecosystems themselves, both in terms of the variety of habitats and ecological processes.

Humans continue to rely on basic biological systems and processes for their survival, health, happiness, and quality of life. The wild and tamed parts of biological variety provide humanity with all of its food, many medicines, & industrial goods. Additionally, ecosystems provide recreational opportunities and tourist attractions, and biotic resources are essential to these industries. As a whole, life's vast variety is priceless, likely making ecosystems and creatures more robust. There are significant social and cultural benefits to biodiversity as well. Primary producers, mostly plants, are crucial to the survival of humans and the vast majority of other species. An essential advantage of protecting biodiversity is the availability of wild plant genes, which may supplement the limited genetic background of these well-established food crops with traits like resistance to diseases, increased production, and varying degrees of tolerance to diverse environmental conditions. [10]

Rightful ownership of biological resources has been a growing trend since the 1930s. IPRs on living things were first implemented in the United States. Asexually reproduced plant species are now eligible for IPRs thanks to the 1930 US Plant Patent Act. Many other nations have now extended IPRs to include other types of plants. [11] Subsequently, and especially in the last two or three decades, private investment in agricultural research has surpassed that of the

governmental sector. One method that private investors may get their money back was via IPRs on plant types. Second, the field of life sciences has been experiencing unprecedented growth in innovation due to developments in nanotechnology and biotechnology, particularly in the last two decades. "This expansion has sparked discussions about what exactly constitutes an invention and, by extension, what kinds of IPRs such as patents and Plant Breeders' Rights can protect." [12] A common argument in favor of patenting or otherwise protecting genetically altered organisms is that they are innovations rather than things that happen in nature.

For instance, EU member states have decided to grant patents on genes that have been removed from their original habitat. This is because, according to these countries, genes cannot exist in isolation in nature and instead necessitate creative human intervention, which is what makes them patentable inventions rather than discoveries of things that already exist in nature. [13]

4. MANAGING BIODIVERSITY AND INTELLECTUAL PROPERTY

At both national and international levels, there has been increasing controversy over the management of biological resources, largely due to the growing recognition of biodiversity's economic potential, particularly through advances in genetic engineering. Consequently, international legal frameworks such as CBD have had to balance the dual imperatives of biodiversity conservation and its potential economic use in supporting development. From a legal perspective, the issue is significant because newly developed biotechnological products are often easy to replicate, prompting strong demands from the biotechnology sector for IP protection over GMOs, seeds, and animals.

However, the TRIPS Agreement, while primarily focused on intellectual property, has deeply influenced the capacity of India and other developing nations to design legal frameworks for managing their biological resources, despite its limited direct connection to environmental governance.

5. CONCLUSION

Ecological stability, food security, and sustainable development are all supported by biodiversity, which is a vital resource on a global scale. The growth of intellectual property laws, however, has made biological resources into assets that are hotly debated, widening the gap between rich and poor countries. The TRIPS Agreement tends to reaffirm the domination

of technologically sophisticated economies, in contrast to mechanisms such as the CBD that emphasize conservation and equitable benefit-sharing. Protecting indigenous knowledge and resources while still conforming to international standards for intellectual property and commerce is a formidable task for India, a country with a wealth of natural history. Stronger acknowledgement of farmers' rights, community involvement, and sovereign control over resources are essential components of effective biodiversity management, as are incentives for innovation and fair access. In the end, it will take a more coordinated and collaborative effort to save biodiversity as a collective heritage critical to human existence and prosperity, rather than just as a commodity for markets.

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