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Role of IPR in Protection of Biodiversity

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ABSTRACT

The survival of ecosystems which provide significant resource yields such as food production or medicinal substances is heavily dependent on conserving biological diversity- its components including varying plant species among others. Unfortunately, among threats facing it are activities ranging from human encroachment upon natural habitats to global climatic changes.

To address these challenges intellectual property rights (IPRs) have been proposed as suitable means of safeguarding it by setting incentives for innovation while promoting equitable distribution of benefits. This calls for unified global action to protect our biological endowment. Through this paper we assess the role of IPR in protecting biodiversity by analyzing frameworks governing them and interrogating their impact on conservation efforts.

In conclusion we find that IPR is central in conserving biodiversity although its effectiveness must be balanced against other policies aimed at supporting or improving conservation efforts. The promotion of innovation and creativity is just one of the many benefits IPR offers but it is important to acknowledge its potential impact on biodiversity conservation. In this paper we delve into how IPR can protect biodiversity and what that means for those invested in preserving our planets rich diversity.

Keywords: *Intellectual property rights, Biodiversity, Promotion of innovation, Conservation.*

I. INTRODUCTION

The wide range of life on earth is referred to as biodiversity. It maintains the biological systems that give us the basic products and services we require to thrive, biodiversity is significant. Food, fuel, medicine, clean water, and air are a few of these. The importance of biodiversity to the world's cultural and aesthetic worth cannot be overstated.

Human activities like clearing forests, polluting the environment, illegal fishing, and climate change are putting biodiversity at stake. These actions cause ecological systems to be disrupted, species to become extinct, and habitats to be destroyed. The ecology and human health are seriously affected by the loss of biodiversity. The continued existence of our planet and its

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creatures depends on biodiversity. However, there is rising fret over the loss of biodiversity, and safeguarding it is now of the utmost importance on a worldwide scale. It has been acknowledged that intellectual property rights (IPRs) are a crucial instrument for preserving biodiversity.

Through a variety of actions, including patents, trademarks, and copyrights, IPRs can offer legal recourse to the ownership rights of indigenous and local people over their traditional knowledge and biological assets. These legal measures can aid in preventing the unauthorised utilisation, abuse, and monetization of genetic resources and traditional knowledge without the approval of the societies who created and protected them.

Additionally, IPRs can promote the creation of novel products and technologies that leverage biodiversity while guaranteeing those groups that contributed the genetic resources and traditional knowledge receive fair and equitable compensation for their contributions.

In all its forms, IPRs can be extremely important for defending the legitimate interests of local and indigenous communities and advancing biodiversity protection and responsible usage. IPRs must nonetheless be utilised in a manner that complies with the proprietary rights and interests of all parties involved, particularly the communities that have created and preserved traditional knowledge and genetic resources.

(A) Research Objectives

- To understand the concept of IPRs and their application to biodiversity protection.
- To have an overview of international framework for IPR and biodiversity protection.
- To identify the challenges faced in implementing IPRs for biodiversity protection.
- To explore potential solutions to the challenges of implementing IPRs for biodiversity protection.

(B) Research Methodology

This research paper adopts a qualitative research approach, utilizing a literature review of existing academic articles and reports on the role of IPRs in protecting biodiversity. A content analysis approach was utilized to analyze the identified articles and reports, in order to identify key themes and trends.

(C) Research Questions

- What are IPRs, and how do they apply to biodiversity protection?
- What are the challenges faced in implementing IPRs for biodiversity protection?

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- How can these challenges be addressed?
- What is the international framework for IPR and Biodiversity Protection?

(D) Analysis

Risks from rising temperatures, loss of habitat, contamination, and excessive consumption have made it critical than ever to safeguard biodiversity. Biodiversity can be protected through the use of IPRs, including patents, trademarks, and copyrights. Genetic resources, traditional knowledge, and traditional cultural manifestations can all be protected using those privileges.

Indeed, one of the most popular IPRs for preserving biodiversity is the patent. They can be used to safeguard breakthrough discoveries involving genetic resources, such as novel plant or animal strains.

They can be used to protect new inventions related to genetic resources, such as new strains of plants or animals.[2] In rare circumstances, traditional knowledge relating to the use of biodiversity might additionally be safeguarded by patents.

Yet another IPR that can be used to safeguard biodiversity is a trademark. The names and brands of goods created from biodiversity can be protected using them. For instance, trademarks can be used in order to safeguard the names of goods created with plant fibres or medicinal herbs. [3]

Additionally, copyrights can be used to safeguard biodiversity. Traditional cultural manifestations like music, dance, and painting can be safeguarded through them. Copyrights can be used to stop abuse and unauthorised use of these terms, which are frequently connected to particular locations and groups.[4]

The 1992 establishment of the Convention on Biological Diversity (CBD) aimed to advance biodiversity preservation and ecological usage. The CBD acknowledged the significance of the fair distribution of advantages resulting from the use of genetic resources as well as the requirement to safeguard traditional knowledge related to genetic resources. The use of intellectual property rights (IPRs) to safeguard genetic resources, traditional knowledge, and biodiversity has been acknowledged.[5] IPRs offer a structure under which genetic resources and traditional knowledge can be owned and managed.

[2] WIPO. Intellectual property and traditional knowledge.
[3] CUTS International. (2007). The Role of Intellectual Property Rights in Agriculture and Allied Sectors: Implications for Development and Impacts on the Poor.
[4] (Ministry of Environment, Forest and Climate Change, 2022)
[5] (Secretariat of the Convention on Biological Diversity, 2011)

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II. ROLE OF IPR IN PROTECTION OF BIODIVERSITY

Intellectual property rights (IPRs) are legally binding safeguards for creative works of literature, art, developments, and commercially useful symbols, names, and pictures. Patents, copyrights, trademarks, and trade secrets are examples of IPRs. IPRs encourage creativity and originality by allowing innovators to derive financial benefits from their works and preventing unauthorised duplication or use of their works. IPRs offer an outline for settling legal issues involving intellectual property.

Numerous issues, that involve as habitat loss, climate change, over-exploitation, and pollution, pose an imminent risk to biodiversity. Because it decreases the supply of necessities like food, medicine, and clean water, biodiversity loss has major negative effects on human wellbeing.[6] The depletion in biodiversity has an impact on the state of the ecosystem as well.

The destruction of biodiversity has an impact on ecosystems' ability to provide ecological advantages including pollination processes, soil quality, and the retention of carbon.

IPRs offer a number of tools, such as patents, trademarks, copyrights, and trade secrets, to safeguard biodiversity. Genes, proteins, and other substances that have been separated and characterised are examples of genetic resources that are frequently protected by patents. The names, logos, and other distinguishing indicators that identify a good or service are protected by trademarks. Books, music, and movies are among the creative works that are protected by copyrights. Trade secrets are utilised to safeguard private data, including equations, procedures, and methodologies.[7]

There are benefits and drawbacks to using IPRs to safeguard biodiversity. IPRs can, on the one hand, encourage development and the creation of new goods and technology. By establishing a market for biodiversity-related goods, they can additionally act as rewards for the preservation and ethical utilisation of genetic resources. However, IPRs can be exploited to monopolise assets and violate the fundamental freedoms of indigenous populations by prohibiting others from exploiting genetic resources and traditional knowledge.

III. IMPACT OF IPR ON BIODIVERSITY CONSERVATION

IPR can affect the preservation of biodiversity in ways that are beneficial as well as detrimental. By offering benefits for the creation of environmentally conscious usage practices, IPR can, on the one hand, encourage the conservation of biodiversity. For instance, trademarks may foster

[6] Chakraborty, S. (2020). Intellectual property rights and biodiversity conservation: An overview. Journal of Intellectual Property Rights, 25(2), 85-96.
[7] (Investopedia, 2014)

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the use of goods with materials that are responsibly sourced, while patents might promote the creation of new medications powered by biodiversity.

IPR, on the other hand, may have detrimental effects for the preservation of biodiversity. One of the issues is the possibility of biopiracy, in which business entities take use of traditional knowledge and biodiversity without giving local populations any of the rewards. This may result in the extinction of species and the deterioration of traditional knowledge. Additionally, IPR may make it more difficult for indigenous peoples and small-scale farmers to obtain traditional knowledge and biodiversity.

These organisations may find it challenging to take advantage of intellectual property (IPR) safeguards due to the significant costs involved in patenting and trademarking.

(A) International Framework for IPR and Biodiversity Protection

Numerous international accords and conventions that offer direction and assistance for the conservation and sustainable use of biodiversity constitute the worldwide structure for IPR and safeguarding biodiversity. Key declarations and accords pertaining to IPR and biodiversity conservation comprise the following:

Biological Diversity Convention (CBD): The CBD is a global agreement that was set up in 1992 with the aim of fostering biodiversity conservation and sustainable use.[8] In addition to recognising the necessity to guarantee a just and equitable distribution of the advantages resulting from the employing of genetic resources and traditional knowledge, the CBD also recognises the significance of IPRs in fostering creativity and the transmission of technology within the context of biodiversity.

Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization: Accordance with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Resulting from their Use: A addendum to the CBD, known as the Nagoya Protocol, was approved in 2010. A structure for the fair and equitable distribution of advantages resulting from the administration of genetic resources is provided by the Protocol, which comprises the application of IPRs.[9] The Protocol mandates that nations create country-specific structures for benefit-sharing and access laws, and that the use of genetic resources be conditioned on compatible conditions and beforehand given permission.

Organisation for Intellectual Property in the World (WIPO): The advancement of the

[8] (Convention on Biological Diversity, 1992)
[9] (Convention on Biological Diversity, 2011)

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safeguarding of intellectual property rights is the responsibility of WIPO, a specialised wing of the UN. WIPO offers a variety of services. The World Intellectual Property Organisation (WIPO) offers a variety of assistance and services for safeguarding of intellectual property rights relating to biodiversity, particularly encouraging the use of patents and other types of intellectual property interests to safeguard biodiversity-related developments.[10]

United Nations Framework Convention on Climate Change (UNFCCC): The UNFCCC is a global agreement that was created in 1992 with the aim of combating the effects of global warming. The UNFCCC advocates the utilisation of IPRs to foster the creation and implementation of technology that may assist to tackle climate change and acknowledges the significance of biodiversity in combating it.[11]

Several international accords and conventions, such as the CBD, the Nagoya Protocol, WIPO, and the UNFCCC, form a worldwide structure for the defence of IPR and biodiversity. These treaties recognise the significance of IPRs in fostering technological advancement and transfer in the context of biodiversity and offer recommendations and assistance for the preservation and sustainable use of biodiversity.[12]

IV. BALANCING IPR WITH OTHER POLICY MEASURES

IPRs (intellectual property rights) can be a helpful instrument for maintaining biodiversity, but they must be regulated with additional policies to make sure they do not obstruct efforts to preserve it. Some of the legislative measures that can be employed in relation to IPRs to safeguard biodiversity include the following:

Agreements for Access and Benefit Sharing (ABS): ABS agreements make sure that the nations as well as communities who give the genetic resources and traditional knowledge are adequately and fairly compensated for their contributions. This can support the sustainable use of biodiversity and assist to stop biopiracy.

Zones of protection and corridors for biodiversity: Protected places, including national parks, and biodiversity corridors can support the preservation of biodiversity while offering vital homes for threatened and endangered species. By halting the degradation and disintegration of habitats, these actions can contribute to the protection of biodiversity.

Sustainable use of natural resources: Utilising resources from nature responsibly may contribute encourage sustainability and minimise overuse of resources including fisheries,

[10] WIPO. Intellectual property and traditional knowledge.
[11] (United Nations Framework Convention on Climate Change)
[12] (Pereira & Gomez, 2016)

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forests, and wildlife.[13] This can be accomplished via strategies including quotas, certification programmes, and ecologically sound harvesting techniques.

Education and raising awareness: By developing public knowledge of the value of biodiversity and the necessity for its safeguarding, education and awareness-raising can support the preservation of biodiversity. This may involve media campaigns, outreach initiatives, and educational programmes.

Traditional ecological knowledge: Traditional ecological understanding (TEK) is the term used to describe indigenous and local groups' knowledge and customs linked to the utilisation and administration of natural resources.[14] TEK can offer insightful information about protecting biodiversity and can be included into the oversight and scheduling of conservation efforts.

International treaties and agreements: International conventions and agreements, such the Nagoya Protocol and the Convention on Biological Diversity (CBD), offer a structure for the safeguarding and long-term utilisation of biodiversity. These collaborations may offer direction and assistance with regional and national conservation initiatives.

Some of the policy approaches that are capable of being used in combination with IPRs to safeguard biodiversity include sharing agreements, protected areas and biodiversity corridors, sustainable use of natural resources, education and awareness-raising, traditional ecological knowledge, and international agreements and conventions.

V. CHALLENGES AND OPPORTUNITIES

The application of intellectual property rights (IPRs) for biodiversity protection presents a number of potential. Several of these possibilities include:

- **Promoting Innovation:** IPRs like patents can motivate companies and scientists to create new technologies and goods that are advantageous for the conservation of biodiversity. For example, businesses can create eco-friendly items that have less of a detrimental effect on the environment or utilise environmentally friendly farming techniques.
- **Enabling Sustainable Use of Biodiversity:** IPRs can support sustainable use of biodiversity by defending traditional knowledge and geographical designations. This can assist communities in emerging economies in preserving their customary ways of life and means of subsistence while preserving biodiversity.
- **Economic growth:** IPRs may contribute to the creation of novel goods that are profitable

[13] (International Institute for Sustainable Development)
[14] ScienceDirect.Traditional Ecological Knowledge.

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and technology. This can result in economic expansion and creation of employment, especially in rural areas with a high biodiversity.

- **Assisting Conservation Efforts:** IPRs can be employed to raise money for conservation initiatives. Companies that utilise biological assets or traditional knowledge, for instance, would be asked to pay a charge, the proceeds of which could be put towards conservation efforts.
- **Greater Awareness:** The application of IPRs to protect biodiversity can raise awareness of the value of biodiversity preservation. This may increase public support for conservation activities and motivate authorities to adopt conservation-friendly legislation. The use of IPR for the protection of biodiversity and the fair and equitable sharing of benefits is not without its challenges.

Challenges faced in implementing IPRs for biodiversity protection:

- **Lack of comprehension:** A shortage of understanding among stakeholders, particularly in poor nations, is one of the largest obstacles to applying IPRs for safeguarding biodiversity. Many people are unaware of the possible advantages of IPRs for biodiversity protection as well as the ways in which they might use effectively to safeguard their genetic resources and traditional knowledge.
- **Access and benefit-sharing:** (ABS) is a critical concern when implementing IPRs for the conservation of biodiversity. A just and equitable allocation of the advantages resulting from the application of genetic resources and traditional knowledge is referred to as ABS. There is confusion about how ABS can be applied in practise, so execution is frequently difficult.[15]
- **Biopiracy:** The unlawful exploitation of genetic resources and traditional knowledge by individuals or organisations without the permission of the communities who developed and safeguarded them is referred to as biopiracy. The fight to preserve biodiversity and traditional knowledge may be hampered by biopiracy, which can further exacerbate tensions between local groups and scientists.[16]
- **Limited Resources:** Implementing IPRs to safeguard biodiversity necessitates a large amount of complicated, financial, and human resources. Many poor nations lack the finances needed to successfully implement and uphold IPRs.

[15] (Convention on Biological Diversity, 2011)
[16] Biopiracy, R Gulahati

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(A) Addressing the challenges

- **Creating consciousness:** It's essential to inform participants about the possible advantages of IPRs for the preservation of biodiversity. Programmes for instruction and certification, efforts to educate the public, as well as conferences and training sessions can all be used to accomplish this.
- **Enhancing ABS:** Measures should be taken to reinforce ABS frameworks, such as the creation of precise rules and procedures for ensuring a just and equitable distribution of incentives. International accords and national laws can be used to accomplish this.
- **Administration and regulation**: To combat biopiracy, strong enforcement and regulatory measures need to be implemented in place. This may entail creating standards guidelines for businesses and researchers, setting up tracking and notification systems, and toughening sanctions for infractions.
- **Capacity building:** Programmes for capacity acquisition ought to be created to encourage the implementation and monitoring of IPRs for safeguarding biodiversity in order to cope with the issue of scarce resources. This can involve giving nations that are struggling funding and technical assistance as well as educational opportunities for legislators, lawyers, and elected officials.

VI. CONCLUSION

For life to continue existing on Earth, biodiversity must be protected. IPRs offer a way to safeguard novel technology and goods produced from biodiversity, which could serve a crucial role in preserving biodiversity. Nevertheless is crucial to strike an equilibrium between the rights of intellectual property owners and the necessity to advance biodiversity accessibility and the equal distribution of its advantages. To guarantee that the advantages of biodiversity are distributed fairly between all stakeholders, an arrangement of IPRs should be implemented.

IPRs have the capacity to be extremely important in preserving biodiversity. To be successful, they must overcome a number of obstacles, such as low awareness, ABS, biopiracy, and resource constraints.

Authorities, civil society organisations, researchers, and communities must work together to find solutions to these problems. Collectively, we can make sure that biodiversity is protected for the betterment of both current and future generations.

By implementing equitable and reasonable benefit-sharing methods, establishing explicit legal structures and norms, and promoting grassroots biodiversity conservation, these issues can be

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resolved.

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VII. REFERENCES

- Dutfield, G. (2012). "The role of intellectual property rights in biodiversity conservation." Journal of Intellectual Property Law & Practice, 7(5), 292-304
- World Intellectual Property Organization. (2010). Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions. Retrieved from https://www.wipo.int/edocs/pubdocs/en/intproperty/944/wipo_pub_944.pdf
- Fisher, J., & Martin, K. (2018). Intellectual Property and Biodiversity Conservation: The Role of the Patent System. Environmental Law Reporter, 48(6), 10525-10541.
- Schleicher, K. (2017). Intellectual Property and Biodiversity Conservation: A Review of the Literature. International Environmental Agreements: Politics, Law and Economics, 17(3), 407-425.
- Secretariat of the Convention on Biological Diversity. (2018). Access and Benefit-sharing: Key Concepts and Terms. Montreal, Canada.
- Swanson, T. (2019). Intellectual property rights and biodiversity conservation. Natural Resources Journal, 59(1), 1-36.
- Rimmer, M. (2010). The WIPO development agenda and biodiversity. Review of European Community and International Environmental Law, 19(1), 55-62.
- Convention on Biological Diversity. (1992). Convention on Biological Diversity. Rio de Janeiro, Brazil: United Nations Environment Programme. https://www.cbd.int/doc/legal/cbd-en.pdf
- World Intellectual Property Organization. (2020). Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions. Retrieved from https://www.wipo.int/tk/en/
- Kher, S., & Singh, S. (2021). Role of intellectual property rights in biodiversity conservation and sustainable development. Journal of Intellectual Property Rights, 26(2), 105-114. https://doi.org/10.1080/09725871.2020.1840243
- Krattiger, A. (2001). Intellectual Property Rights and Plant Genetic Resources: Options for a Sui Generis System. Journal of World Intellectual Property, 4(6), 853-875. https://doi.org/10.1111/j.1747-1796.2001.tb00202.x
- Halewood, M., Lopez Noriega, I., Ellis, P., & Louafi, S. (2019). The use of Intellectual Property Rights to protect traditional knowledge associated with genetic resources:

 [ISSN 2581-5369]

challenges and opportunities. Plant Genetic Resources, 17(1), 1-9. https://doi.org/10.1017/S1479262118000275

- Center for International Environmental Law. (2015). Intellectual Property and Biodiversity: A Guide for Policy-Makers. Retrieved from https://www.ciel.org/wp-content/uploads/2015/06/Intellectual-Property-and-Biodiversity-A-Guide-for-Policy-Makers.pdf
- Chakraborty, S. (2020). Intellectual property rights and biodiversity conservation: An overview. Journal of Intellectual Property Rights, 25(2), 85-96.
- Convention on Biological Diversity. (1992). Retrieved from https://www.cbd.int/doc/legal/cbd-en.pdf
- United Nations Framework Convention on Climate Change. (n.d.). What is the United Nations Framework Convention on Climate Change? Retrieved April 16, 2023, from https://unfccc.int/process-and-meetings/what-is-the-united-nations-framework-convention-on-climate-change
- Pereira, C. G., & Gomez, R. S. (2016). Intellectual Property Rights and Biodiversity: Current Debates and Challenges for Conservation. Biotemas, 29(4), 15-26. https://www.jstor.org/stable/43953268

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