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Biopiracy: Ethical and Legal Considerations in Intellectual Property

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ABSTRACT

This paper explores the ethical and legal dimensions of biopiracy, focusing on the appropriation of traditional knowledge and biological resources from indigenous communities without adequate compensation or consent. It defines biopiracy within the context of intellectual property rights, emphasizing the ethical dilemmas surrounding fairness, equity, and social justice. The analysis highlights the historical exploitation of indigenous peoples, illustrating how biopiracy has evolved into a pressing issue, particularly with advancements in biotechnology. The paper discusses specific cases, such as the patenting of neem and basmati rice, to illustrate the complexities of intellectual property laws and their implications for indigenous rights. Furthermore, it critiques existing international legal frameworks, including the Convention on Biological Diversity, which aim to protect traditional knowledge but often fall short due to inadequate enforcement and recognition. The paper advocates for stronger legal protections and ethical considerations that prioritize the rights of indigenous communities while promoting sustainable use of biodiversity. By examining these issues, the paper aims to contribute to the ongoing discourse on biopiracy and the necessity for equitable legal frameworks in the global landscape of intellectual property.

Keywords: Biopiracy, Traditional knowledge, Intellectual property, Indigenous rights, Legal frameworks, Biodiversity, Patent law, Social justice, Equity

1. Introduction

The issue of protecting and regulating access to traditional knowledge has, in recent years, become the subject of much intellectual debate. The concept of 'biopiracy' is a part of this intellectual discourse, but it situates the issue within the broader framework of the conceptualization of intellectual property rights. It is an ethical and legal dilemma. Developed countries like the USA, the UK, and Germany, which are

advanced in technology, biotechnology, medicine, and agriculture, could achieve various advancements through research and development activities. In this era, one could only find the 'Known & against Known.' Biopiracy is an issue in contemporary intellectual property rights. There are two reasons behind choosing this research topic at the present time: first, it raises serious ethical issues of fairness, equity, and social justice because it involves access to the resources of poor people in the third world and indigenous people more generally; second, the research conducted gives an idea of the logical background under which we need proper legislation, not only at the national level but also at the international level, protecting traditional knowledge. (Nazem et al.2024)

Biopiracy has been a part of colonial and post-colonial history but has received renewed attention, especially because it takes place in the form of patents where innovations are translated into ownership titles. This, in addition to questions relating to knowledge protection, has something to offer in the context of patent law. While many have tried to undertake this exercise of putting it in a wider dimension, a deep understanding of the interdisciplinary approach between ethical and legal dimensions is not available. Patents have been looked at as 'grist' in various mills, either starting with the process/product dichotomy or rectifying the role of patents offsetting their adverse effects. This paper tries to endeavor to look deeper into the ethical implications of biopiracy in general and the ethical and legal implications of patents on innovations based on tikka, chandan, basmati, and neem. The implications have been discussed separately in sections titled 'Ethical Implications on Patenting of Tikka, Chandan, and Basmati' and 'Ethical Implications of Neem Being Patented.' A historical premise has been put in the introduction, while the first part of the paper is dedicated to the ethical background of biopiracy before moving to the ethical implications of patenting specific plants in separate sections.

2. Understanding Biopiracy

In short, biopiracy is the theft of traditional knowledge and biological resources from indigenous peoples by entities that convert these things into intellectual property. This area is delineated into two sections: definition and scope, and historical context. First, it is difficult to determine ownership in biopiracy cases, but generally, a biopiracy

case occurs when biological resources and traditional knowledge are appropriated from an indigenous community without providing adequate compensation and credit to the locals. Further complications arise from the quasi-relationship between commercialization and exploitation of biological resources on one hand, and the inventors of intellectual property theory on the other. This paper is primarily concerned with the ethical and legal issues of intellectual property and will not discuss these debates at length. Historically, biopiracy led to the degradation of ecosystems and contributed to the displacement of local populations. This culminated in the international community taking notice of these practices in the 1990s. Scandals surrounding the activities of companies competing for the rights to sell herbal medicines derived from rainforest plants, along with increasing awareness of the desperate situations faced by indigenous communities, sharply increased international interest in indigenous lands and the natural and cultural resources they contain. Consequently, several large companies, universities, and governments have made statements to the effect that they will no longer pursue bioprospecting and will return samples and information to their origins (Ashfi, 2022).

Biopiracy has a long history connected to the exploitation and abuse of indigenous peoples. In the 16th century, colonial powers from Europe began to experiment and commercialize products exported from Africa, Asia, and the Americas. Some products were converted, or further processed, into intellectual or industrial property and protected by IPRs. At the same time, the colonizers did not provide the local communities with any patents and royalties. This exploitation continued to the present century, leaving most indigenous communities impoverished and exploited, and the owned resources diminished. Owing to the complexity of establishing trends or making specific classifications, this paper divides the cases of biopiracy according to the time at which they began. However, developing societies, in their struggle for political, cultural, and environmental preservation, continue to experience the unrelenting force of an elite minority that refuses to acknowledge policy based on equal rights and duties. When defining biopiracy, it is further stressed that this is part of a broader crisis in contemporary human relations, as specific pressures such as poverty, famine, and underdevelopment cannot be considered as separate entities. For

this reason, biopiracy must be conceived in a wider context concerned with the protection of human cultural heritage, the relations between human community and nature, economic and social justice, and the possibility of sustaining economic growth, well-being, and development (Singh et al., 2022).

2.1. Definition and Scope

The term biopiracy refers to the appropriation of biological materials from indigenous or local communities and the utilization of traditional knowledge without the informed consent of the holder and any just compensation. The practices of biopiracy capture a range of fundamental issues in ethics and law of intellectual property rights. From a moral perspective, intellectual property laws are intended to reward creativity and the advancement of scientific knowledge; however, practice involves a bandwagon of research and biotechnological firms working on applied and basic research on biodiversity without the consent of their original holders. From a social perspective, the protection of traditional knowledge is important in order to promote the human rights and social justice of those communities that possess truly relevant knowledge of plants and minerals based on centuries of development. From an economic perspective, non-informed appropriation of biodiversity and traditional knowledge is a potential source of conflicts between research and biotechnological industries on the one hand and indigenous local communities as well as nation-states (Robinson et al., 2022).

Thus, in addition to the moral dimensions, biopiracy involves important economic implications and takes place mostly in developing countries. This is discussed in a number of documents of some national legislations and regional agreements. What is to be criticized is the use of some of these as crude forms of protectionism against foreign countries, and not as a way to promote national interests and safeguard certain human rights and values. In fact, below-average protection of biodiversity mainly takes place in developing countries, which, conversely, are massively exploited for their genetic resources. Some countries, mostly developing and recently industrialized, have provided a legal definition of biopiracy, even if in the main international agreements there are no precise definitions regarding the issue of intellectual property rights and genetic resources, traditional knowledge, and folklore. The law is

characterized by its precision while the need typically endows a large margin of preference for the judge in any case, and such relations are typically based on conventions rather than technical definitions.

2.2. Historical Context

There are numerous examples of biopiracy that have shaken the public's confidence in intellectual property and have led to the evolution of the legal concept of biopiracy. First, the poisonous drug rotenone was developed after causing Amazonian natives to be sick with noxious effects. Later, a company patented the improved technique to extract the drug from this natural source. In that same period, a corporation created a monopoly on the use of a yellow dye derived from turmeric called "pinacyanol" after years of R&D. This dye was regularly used by the Tsitsikamma Indians, which caused several concerns over the benefits its people received. Arguments were centered upon the 'sounding of the horn,' which was an infringement of trade secrecy and patents. However, the corporation felt that its patents on derivatives of pinacyanol would not pass the non-obvious requirement of the patent statute. As seen from these disputes, biopiracy problems generally have initial "knock-out" effects with Indigenous interests; then, when the commodity advances further in the legal system, it prompts an evolution and hardening in the law, in this case, patent and trade secrecy (Forssell, 2021).

International courts forced the United States Patent and Trademark Office to rescind a patent for a special type of bean that was sturdier than the rest. The problem arose where the patent mentioned locational features such as its color and perhaps marking and shape, stating the bean came from Pueblo Indians. At the application stage for granting a patent, the application is to be rewrapped and sealed so no one can see it until the patent is approved. The agency stated that the property markings with the ancients, even though there are no full-blooded natives accounted since the Folsom Man. Thus, it is impossible to connect with that "ancient Indian name" or even the ancient beans for patent and trade dress protection. The court agreed that it would be unfair to give exclusivity to the patent holder for the uniqueness of the useful dates for that particular bean that the application was redacted. Therefore, it was impossible to

find prior art at the time of the grant due to the deception in the application. This would set a precedent for cases yet to come involving Indigenous knowledge.

Biopiracy was present before the agreement of the Trade-Related Aspects of Intellectual Property treaty, as this part of the agreement did not have an effect on this concept at the time. Colonies through the history of international politics have been an era and environment packed with biopiracy. Taking in both biopiracy definitions, the truth is that biopiracy has existed since the post-medieval times when powerful kingdoms started to traverse the Earth and claim dominion over it. But not only has biopiracy carried on through this time, it has marked its name into the turning of our world right from the beginning. In the grand kingdoms and powerful nations of "Christianization," it was the sacred crusade against Islam that served as the doctrinal basis and political justification for taking Africa from its African states. For example, a document by Pope Nicholas V in 1452 was proof declaring war upon all non-Christians that invaded the planet to reduce them to perpetual slavery (Teessar, 2022).

3. Legal Frameworks and International Agreements

Existing international legal domains have attempted to intervene against biopiracy by either arguing for the safeguarding of indigenous rights and concerns or by stressing the importance of protecting biological diversity and offering a sustainable method to utilize it. Some of these international treaties and agreements include the United Nations Convention on the Law of the Sea, the TRIPS Agreement, the Convention on Trade in Endangered Species of Wild Fauna and Flora, the Ramsar Convention on Wetlands, and the Paris Convention. The most complete system in addressing the problem of biopiracy is the Convention on Biological Diversity, which is the principal international convention that directs countries to invest time and resources into the protection of biological diversity at national as well as international levels through fair and equitable utilization of resources and safeguarding of indigenous rights (Birabara & Shit, 2022).

Biological resources can be availed by local and indigenous communities or ethnic groups in several ways. The transmission of traditional knowledge with respect to agriculture, medicine, horticulture, and many other fields necessarily includes the genetic resources of indigenous or local groups as well. The Convention on Biological

Diversity aims to preserve traditional knowledge and necessitates its conservation through defined significant protection of holding similar rights for indigenous and local individuals. Protection of traditional knowledge is necessary as an aid to the domestic, political, social, and economic objectives of indigenous and local groups. It demonstrates at a global level a significant location of ethical concerns for global intellectual property as well as trade laws. However, legal application is relatively modest for two main reasons: the lack of prevailing forms of documentation, legal categorization, and global recognition; these issues become more problematic when considering a global location for an applied legal solution (Jamar & Mtima, 2022).

4. Case Studies in Biopiracy

The case study of Hoodia gordonii is only a single example of the frustrations felt by indigenous people concerned about the international commercialization of their traditional knowledge. These frustrated groups raise real problems for society and corporate profits. In this assignment, you are asked to consider in detail some case studies in biopiracy. In each instance:

Lay out very clearly the facts of the case including, particularly, the specific claims made by indigenous groups and the response of the governments involved. Where claims are made of patent theft or biopiracy, explain what legal and ethical response is possible within the context of existing intellectual property laws regarding plants. Discuss the international ramifications of the protection of traditional knowledge. Broadly reflect on the success or otherwise of biopiracy cases to date in providing redress to indigenous groups.

In 1996, the CSIR and a British biochemical giant applied for patents on the weight suppression properties of extracts of Hoodia gordonii. The claim of an effect on appetite was based on small rat and guinea pig studies. The application did not mention the San or the traditional uses of the plant, and the applicant later claimed that they knew nothing of the traditional uses at that time. Since then, CSIR's rights to commercialize its Hoodia patents have been bought by an unnamed, the largest ethical pharmaceutical company in the world, in a deal worth hundreds of millions of dollars (Zhang, 2023).

Phytopharm and the CSIR have performed a trial showing Hoodia extract to be safe, a further trial in obese human volunteers showing Hoodia extract to have no side effects, and animal studies demonstrating that a Hoodia extract can suppress appetite in the short term. Not one study supporting the appetite suppression property of the plant has been published in a journal, nor could the applicants point to any other scientific research in support of these claims. Tests going back to 1983 were filed. The San Lawyers' Association launched action in 2003 in an attempt to have the patent overturned. In response, Phytopharm, working through their lawyers, claimed that they were aware of Hoodia's potential as an appetite suppressant in 1997 before submitting their patent claims. According to the company, the outcomes of CSIR research into the matter had been reported back to a meeting in the United States between senior representatives of the CSIR and Phytopharm.

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