

AN EXAMINATION OF THE PROBLEM OF BIOPIRACY:-THROUGH THE LENS OF THE NEEM CONTROVERSY CASE

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ABSTRACT

An fascinating case study in the subject of bio piracy is the controversy that has surrounded Neem. The complex relationships that exist between traditional knowledge, intellectual property rights, and commercial interests on a global scale are brought to light by this publication. The purpose of this abstract is to present a comprehensive outline of the analysis that was carried out on the controversies surrounding Neem. This will be accomplished by delving into the historical, legal, and ethical issues that are associated with the exploitation of traditional knowledge linked with Neem in the pharmaceutical and agricultural sectors. Within the context of an era of growing biotechnological innovation, the objective of this research is to give insights into the challenges that are associated with the preservation of indigenous knowledge. Obtaining this goal will be attained by conducting a comprehensive investigation into the case in order to unravel the complexities of bio piracy. The controversy surrounding neem serves as a striking illustration that prompts contemplation on the necessity of equitable frameworks that strike a balance between the interests of a large number of stakeholders, thereby supporting an approach that is both sustainable and fair in terms of the utilisation of natural resources and traditional knowledge.

KEYWORDS - *Biopiracy, the controversy around neem, traditional knowledge, biodiversity.*

1. INTRODUCTION

Bio-piracy is the term used to describe the illegal exploitation of biological resources and indigenous knowledge that is associated with them for the purpose of achieving economic aims. This sort of business behaviour often takes place without the persons who are responsible for the generation and maintenance of such information being recognised or compensated for their work. In India, the problem of bio-piracy has emerged as a serious worry over the course of the last

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few years, especially when taking into mind the country's abundant biodiversity and the traditional knowledge systems that it has for the first time.¹

In our day and age, which is characterised by fast technological breakthroughs and expanding global interconnection, a number of contentious arguments and disputes have arisen as a consequence of the convergence of traditional knowledge, intellectual property rights, and economic interests. All of these disagreements and disputes are a direct result of the confluence of these many factors. The dispute that has been growing around neem in recent times is an example of a compelling argument that has these characteristics of complexity. In order to accomplish the goal of this research paper, which is to study the different sides that surround the argument, an in-depth analysis of the historical, legal, and ethical elements of the Neem controversy will be conducted.

In the midst of a period when the world is struggling to come to terms with the consequences of biopiracy, the purpose of this research is to investigate the challenges that are associated with the use of traditional knowledge in relation to Neem, notably in the fields of agriculture and medicine. In particular, the primary emphasis of this investigation will be on the utilisation of medications and agricultural practices. The goal of this endeavour is to make a contribution to a more in-depth knowledge of the problems that are brought about by the collision of traditional philosophy and international business. This will be accomplished by working our way through the many aspects of this debate.²

Using the Neem dispute as a lens, which serves as a painful lens through which we examine these topics, we investigate the broader concerns of biotechnological innovation, intellectual property protection, and the requirement for sustainable and fair practices in the utilisation of natural resources and indigenous knowledge. Specifically, we focus on the Neem dispute. Examining these problems through the lens of the Neem controversy is the focus of this discussion.

In India, there is a great amount of concern around the commercialization of indigenous knowledge by a variety of companies and individuals for the goal of getting a financial advantage. As a result of this, traditional knowledge related to plant species, medical practices, and other natural resources has been exploited for commercial reasons in a way that is both unrecognised and disapproved of, which

¹ David M Masuhara, 'Artificial intelligence and adjudication: some perspectives', 111 *Journal of the Society for Advanced Legal Studies* 2 (2017).

² Vandana Shiva, *The Neem Tree - a Case History of Biopiracy, India*, available at: <https://twn.my/title/pir-ch.htm> (Last visited 20th Sept, 2024).

has resulted in the theft of these resources. This has led to the theft of these resources.³

Consider the fact that international corporations have copyrighted the medical benefits of the turmeric plant, despite the fact that the plant has been used extensively in Ayurvedic medicine in India for as many years as one can recall. This is an example that deserves attention and should be taken into consideration. Concerns have been raised over the likelihood that India's indigenous knowledge systems may be abused by foreign enterprises that utilise neem oil and seeds for commercial reasons. They have expressed their concern over this prospect.⁴

Biopiracy is a practice that not only violates the rights of indigenous populations but also has an effect on those communities' ability to make sustainable use of natural resources. Through the execution of a number of programmes, India has been able to solve this problem. One of these efforts is the construction of the Traditional Knowledge Digital Library, which is responsible for the recording and preservation of traditional knowledge that is related with biodiversity. Despite this, there is a need for more efforts to be made in order to safeguard traditional knowledge and to provide appropriate acknowledgment and remuneration to the communities who are accountable for the development and upkeep of this information.⁵

2. VALUE OF TRADITIONAL KNOWLEDGE AND ITS IMPORTANCE

Traditional knowledge is a dynamic collection of information that is nurtured, kept, and transferred throughout generations within a community. It often serves as an intrinsic component of the group's cultural or spiritual history. One of the most important things to take into consideration is the fact that Traditional Knowledge has deep historical roots and is typically passed down via oral tradition communication. The term "traditional knowledge" refers to the information, practices, and ideas that are passed down verbally from one generation to the next within a particular community. In most cases, indigenous cultures are in possession of this sort of knowledge, which is considered to be an essential component of their

³ Tarun Khurana, *The Neem Patent Case, India*, 23 Feb 2023, available at: <https://www.mondaq.com/india/patent/1286020/the-neem-patent-case> (Last visited 21 Sept, 2024).

⁴ Ankita Sabharwal, *Biopiracy in India: Scientific Eruption or Traditional Disruption?*, *India*, 22 July 2020, available at: <https://www.iam-media.com/article/biopiracy-in-india-scientific-eruption-or-traditional-disruption> (Last visited 19th Sept, 2024).

⁵ *Biopiracy: The Example of the Neem Tree, India*, 27 April 2016, available at: <https://www.health.belgium.be/en/biopiracy-example-neem-tree> (Last visited 16th Sept, 2024).

culture and identity. There are a few noteworthy facts that are included in traditional knowledge:⁶

1. FOR THE PROTECTION OF CULTURAL HERITAGE

Information that has been passed down over generations is often a part of the cultural inheritance of a community and is considered to be an essential element of their identity. Communities have the ability to maintain their cultural traditions and pass them on to succeeding generations if they take the time to preserve this knowledge.

2. EMPLOYING NATURAL RESOURCES IN A SUSTAINABLE MANNER

The sustainable utilisation of natural resources is a topic that is often discussed in traditional knowledge, which encompasses both behaviours and beliefs. In order to guarantee the sustainable utilisation of natural resources, it is vital to include traditional knowledge into the many techniques that are now under consideration for resource management.

3. CONTRIBUTIONS TO THE SCIENTIFIC KNOWLEDGE BASE

A number of fields, including health, agriculture, and ecology, have benefited greatly from the contributions that traditional wisdom has made to the advancement of modern understanding. The basis for a number of modern therapies and agricultural practices is located in the information that has been passed down through generations.

4. ENHANCEMENT OF INCLUSIVENESS AND DIVERSITY PROMOTION

Through the recognition and understanding of old knowledge, we may be able to build increased comprehension and reverence for a variety of civilizations. Traditional knowledge promotes diversity and inclusion by respecting and appreciating the contributions made by different people and cultures.⁷

⁶ Dr. Suri Babu Gola, *Traditional Knowledge Definition, Scope and Importance, Protection, Characteristics, Nature and Types of Traditional Knowledge, India*, 9 Dec 2020, available at: <https://www.slideshare.net/gollasuribabu/traditional-knowledge-definition-scope-and-importance-protection-characteristics-nature-and-types-of-traditional-knowledge> (Last Visited 15th Sept, 2024).

⁷ *The Convention on Biological Diversity, India*, 19 Oct 2021 available at: <https://www.cbd.int/traditional/intro.shtml> (Last visited 17th Sept, 2024).

5. UNAUTHORISED USE OF TRADITIONAL KNOWLEDGE THE FACTORS THAT CONTRIBUTE TO IT.

Biological piracy and the inappropriate use of traditional knowledge are both examples of activities that may be influenced by a number of different variables. It is important to note that Concerns Relating to Business It is possible for businesses to use traditional knowledge and biodiversity for their own gain without providing proper compensation to the persons who provide them. Traditional knowledge and biodiversity are usually left exposed to exploitation since they are not protected by intellectual property rules.

This is because there are no legal protections in place to protect cultural heritage and biodiversity. Insufficient agreement on benefit sharing Benefit-sharing agreements may be unclear or insufficient, which may result in communities not getting enough recompense for the efforts they have made. Furthermore, it is possible that the requirements associated with benefit-sharing agreements are inadequate.⁸

If one does not have adequate information or grasp of the relevance and importance of biodiversity and traditional knowledge, it is possible that one may fail to perceive and appreciate the full value of these resources. Generally speaking, this is referred to as the information gap. When there is a power imbalance between indigenous communities and external actors, it may lead to the unfair use of indigenous knowledge and biodiversity without the permission or benefit of the indigenous community. This will occur when there is a lack of equilibrium between the two groups. There is a potential for difficulties to arise when attempting to address and resolve instances of bio-piracy and the unlawful appropriation of traditional knowledge when there are no appropriate legislation in place. Additionally, insufficient governance and enforcement mechanisms might be a source of difficulty when it comes to tackling these issues. Both the growth of global markets and the interdependence of economies are examples of this phenomenon.⁹

A larger demand for natural resources and traditional knowledge has arisen as a result of the increasing interconnection of economies and the expansion of commercial opportunities. As a direct result of this, there has been a proliferation

⁸ *Traditional Knowledge, India*, available at: <https://www.wipo.int/tk/en/tk/> (Last visited 21st Sept, 2024).

⁹ Pushpagandan P, George V, Chithra MA, *The Importance of Traditional Knowledge, Intellectual Property Rights in Benefit Sharing*, 21 Gavin Publishers 57 (2017).

of efforts to exploit these resources for the purpose of gaining financial advantage. Currently, the Indian Patent Act of 1970 does not protect traditional knowledge since, according to Section 3(p)¹⁰ of the Act, it is not considered to be an invention. As a result, the Act does not cover traditional knowledge. Since it does not meet the criteria for an invention, it cannot be protected by a patent. The Indian Patent Act of 1970 has two sections: Section 25¹¹ and Section 64¹². These sections detail the reasons on which patent applications may be withdrawn in order to protect traditional knowledge systems. The preservation of traditional culture, creative works, and folklore is not particularly addressed under the Copyright Act of India, which was passed in 1957. Section 31A¹³ does, however, provide provisions for the protection of Indian works that have not been published. Under the Copyrights Act, however, there are certain requirements that must be satisfied, and the protection that it provides is only effective for a short amount of time.

The detrimental effect that biopiracy has on the wide range of biological life forms. The practice of biopiracy has the potential to have significant and long-lasting adverse impacts on biodiversity, and these effects may be particularly significant. Here are few instances that illustrate my point:

1. It is possible that biopiracy will lead to the overexploitation of natural resources and the degradation of ecosystems, both of which might eventually result in a reduction in the amount of biodiversity. It is also possible for biopiracy to result in the degradation of ecosystems. As a consequence of this danger, the ecosystems and the species that are reliant on them may suffer harm that cannot be repaired.¹⁴
2. The theft of traditional knowledge systems from indigenous people is one of the most widespread forms of biopiracy. This is also one of the most disruptive parts of biopiracy. It is probable that this may result in the disruption of their way of life as well as the loss of critical knowledge about their culture and the environment.
3. Through the process of genetic erosion, biopiracy may result in the loss of genetic diversity. This is because firms may only choose certain genetic resources that are advantageous for achieving their economic goals. Because of this, there is a possibility that genetic diversity may be lost. Ecosystems may become less resistant to the impacts of climate change as a result of this,

¹⁰ Indian Patent Act, 1970 (Act 37 of 1970), s. 3(p).

¹¹ *Ibid* at s. 25.

¹² *Ibid* at s. 64.

¹³ The Copyright Act, 1957 (Act 14 of 1957), s. 31(a).

¹⁴ Kusuma Daru Prabhu, Dinimaharawati Ashri, *Fixed Step Average and Subtraction Based Optimizer*, 15 International Journal of Intelligent Engineering and Systems 9 (2022).

and they may also become more vulnerable to viruses, pests, and other environmental risks as a result of this circumstance.¹⁵

4. The exploitation of genetic resources and the traditional knowledge that is associated with them is often the result of biopiracy. This occurs without the consent or consideration of the communities from whom the genetic materials are derived. One possible consequence of this is the existence of inequality in terms of both social and economic situations.
5. There is a possibility that biopiracy might result in an excessive use of natural resources, with little consideration given to the situation's sustainability over the long term. As a consequence of this, it is possible that this may result in the depletion of resources and the breakdown of ecosystems, both of which have the potential to have substantial ramifications for the well-being of people as well as for the biodiversity of the world.¹⁶

Despite the fact that there are now difficulties in the way of protecting such information, which allow for efforts and possibilities of appropriation, biopiracy is inherently an act of appropriation of traditional knowledge by individuals and corporations for the goal of obtaining an economic advantage. A few examples of such difficulties are as follows:

1. The exclusive rights that are provided by intellectual property rights are normally awarded to the individual who owns the material; nevertheless, the preservation of traditional knowledge is often granted to the community as a whole under the terms of the collective resource.¹⁷
2. Among the conditions for innovation in intellectual property rights: The great majority of traditional knowledge is not dependent on scientific processes of assessment; rather, it grows spontaneously with the support of communities as a response to new obstacles and necessities. There is no longer any element of novelty or innovation since such knowledge has been handed down from generation to generation. This is an indication that there is no longer any invention or originality. As a consequence of this, the standards of novelty that are essential for patents pertaining to intellectual property rights are often not satisfied by such information.
3. Due to the fact that it is tied to the ways of life of an indigenous community, traditional knowledge is required to be protected for an indefinite period of

¹⁵ Cissé MK and others, “*Integration of Cree Traditional Ecological Knowledge (TEK) into the Revegetation Process of the Eleonore Mine Tailings Storage Facility*” 3 *Indigenous People and Nature Insights for Social, Ecological, and Technological Sustainability* 330 (2022).

¹⁶ *Traditional Knowledge in IPR, India*, 20 Feb 2024, available at: <https://blog.ipleaders.in/ipr-vis-vis-traditional-knowledge/> (Last visited 14th Sept, 2024).

¹⁷ Marcia Ellen DeGeer, *Biopiracy: The Appropriation of Indigenous Peoples’ Cultural Knowledge*, 2 *The International Journal on Biopiracy* 183 (2018).

time. This is because intellectual property laws only provide limited protection for it. In the event that these methods are appropriated, there is a risk that they will be used. The Indian Patents Act does not include any provisions that would allow patents to be evergreened.

4. When it comes to the issue of benefit-sharing, it may be difficult to determine who the beneficiary is when it comes to the process of sharing monetary and other advantages that have resulted from the commercialization of a traditional practice through the appropriate legal procedure. For example, when it comes to the process of benefit-sharing, it may be difficult to determine who the beneficiary is. By way of illustration, around the middle of the 1990s, researchers at the Tropical Botanic Garden and Research Institute (TBGRI) created and copyrighted a medication that was referred to as "Jeevani." Despite the fact that TBGRI ultimately succeeded in establishing a benefit-sharing agreement with a trust that included members of the Kani tribe, not all Kani people are in agreement with the arrangement, alleging that they have traditional rights to the beneficial characteristics of the plant.¹⁸
5. There is a lack of sufficient documentation: Traditional knowledge is often the product of learning through experience and learning via oral traditions that have been passed down from generation to generation. There is a possibility that it was conceived, transmitted, and strengthened via the use of rituals, songs, oral history, human interactions, rites, languages, experiences, and practices. As a result of the lack of formal paperwork, these customs are often inaccessible to the individual who is the receiver of the patent or the organisation that is engaged with the subject.¹⁹

3. JUDICIAL RULINGS CONCERNING BIOPIRACY

1. BRIEF SUMMARY OF THE CASE'S BACKGROUND AND EVENTS

Mr. W.R. Grace and the United States Department of Agriculture were the ones that started the process of submitting the patent application for Neem to the European Patent Office.²⁰ The aforementioned patent was found to be a method of controlling fungus on plants that included coming into contact with the fungi using a formulation known as neem oil. This was proven to be the method. The procedure

¹⁸ Shammad Basheer, "Guest Post: Recent Developments in the 'Arogyapacha: Kani' Case", 1 Oct 2008, available at <https://spicyip.com/2008/10/guest-post-recent-developments-in.html> (Last visited October 1, 2008).

¹⁹ Rose Janna, *Biopiracy: When Indigenous Knowledge Is Patented for Profit, India*, 8 march 2016, available at: <https://theconversation.com/biopiracy-indigenous-knowledge-is-patented-for-profit-55589> (Last visited 12th Sept, 2024).

²⁰ *Supra* note 3 at 3.

for awarding the patent was contested in court by India, who submitted a legal complaint to being granted the patent.

In collaboration with the International Federation of Organic Agriculture Movements (IFOAM) and Magda Aelvoet, a former green Member of the European Parliament (MEP), the Research Foundation for Science, Technology, and Ecology (RFSTE), which is located in New Delhi, initiated the legal campaign to challenge the patent in question.

A tree that is respected in India is the Neem tree, which is cherished from its roots all the way up to its spreading crown. One of the most noteworthy of its potent compounds is azadirachtin, which is a chemical that can be found in its seeds. It is known to contain a range of other powerful chemicals as well. Because of its astringent properties, it may be used in a wide variety of procedures.

The barks, leaves, blooms, and seeds of the neem tree may be used to cure a variety of diseases. Neem tree seeds are also a potential treatment option. Diseases such as leprosy, diabetes, skin issues, and ulcers are included in this category. Because of its antibacterial properties, neem twigs have been used as tooth brushes by humans ever since the beginning of time. The adversaries provided proof in the form of ancient Indian ayurvedic literature that detailed the hydrophobic extracts of neem seeds.

Both for the treatment of dermatological ailments in humans and for the protection of agricultural plants from fungal infections, these extracts have been known and employed in India for generations because of their effectiveness in treating both conditions.

The European Patent Office (EPO) came to the conclusion that there was a lack of novelty, innovative step, and maybe a relevant prior art, which led to the cancellation of the patent. This is in addition to the fact that a number of patents in the United States have lately been revoked for emulsions and solutions that are based on neem.

4. GRACE PATENT OF THE UNITED STATES

The Grace patent is no different from any other example of regular American innovation, commercialization, and invention, as stated by the legislation governing patents in the United States.²¹ If a naturally occurring material is subjected to purification or modification in accordance with the criteria, then it may be eligible for patent protection. It would seem that the Grace patent satisfies

²¹ *Patent Grace Periods for U.S. and Foreign Countries, India*, available at: <https://neustel.com/patentability/> (Last visited 23th Sept, 2024).

the criteria of thirty-five different sections of the United States Code 3. In Sections 101²², 102²³, and 103²⁴, the requirements for the grant are outlined as follows:

- (1) The invention must have some practical use, and
- (2) It must be distinguishable in relation to what is referred to as the "prior art"
- (3) It not immediately obvious from the "prior art" to a person with ordinary competence in the art throughout the production of the invention;
- (4) Provides sufficient information to enable an informed individual to apply the invention in the most effective manner possible. The possibility that the Indian farmers may consider the concept to be "obvious" does not in any way undercut the objective of patentability in the United States. According to sections 102(a) and (b),²⁵ foreign knowledge cannot be used to refute the novelty claim of a United States patent unless published prior to the invention or application by the United States applicant. This is the case unless the foreign information was published.

5. CRITICAL ANALYSIS OF THE DECISION

Since it was awarded, the patent has been met with opposition from a variety of groups, including the International Federation of Organic Agriculture Movement and the Green Party in European Parliament, amongst others. Dr. Shiva, a prominent activist in India, was a member of one of their groups. It was finally decided by the European Patent Office in the year 2000 to revoke the patent; however, the victory was short-lived since an appeal was submitted after the revocation was granted.²⁶ During the course of the processes that were involved in the appeal, the opponents supplied them with testimonies from farmers who had been making use of this information for a substantial length of time. In addition to this, they supplied them with information on the two researchers who had conducted research on neem previous to the patent being granted.

²² The Constitution of United States, 1789, art. 101.

²³ The Constitution of United States, 1789, art. 102.

²⁴ The Constitution of United States, 1789, art. 103.

²⁵ *The United States Patent and Trademark Office, U.S.*, available at: [https://www.uspto.gov/web/offices/pac/mpep/s2133.html#:~:text=102\(a\)%20and%20\(b\).%5D,-I.&text=%E2%80%9CAny%20invention%20described%20in%20a,16%20USPQ2d%201321%2C%201330%20n](https://www.uspto.gov/web/offices/pac/mpep/s2133.html#:~:text=102(a)%20and%20(b).%5D,-I.&text=%E2%80%9CAny%20invention%20described%20in%20a,16%20USPQ2d%201321%2C%201330%20n) (Last visited 18th Sept, 2024).

²⁶ *“International Federation of Organic Agriculture Movements - EU Group, Europe, available at: https://youth.europa.eu/volunteering/organisation/49468_no* (Last visited 17th Sept, 2024).

A fungicide that was produced from the seeds of the neem tree was granted a patent by the European Patent Office in Munich in the year 2005.²⁷

The patent was for the production of the fungicide. The European Patent Office did not grant the appeal that was filed against the cancellation of the patent in the year 2005. The dispute was something that had been going on for a considerable amount of time in order to instil trust in typical purchasers. A statement was released by Dr. Shiva, one of the three parties who were opposed to the patent, which read as follows: "It was piracy in its purest form." For ages, farmers have depended on the oil that is derived from neem trees to protect their crops from fungus. Instead, it was neither a novel idea nor a unique one. It was neither new nor original. One of the most important victories that may be accomplished is having the appeal dismissed on appeal.²⁸

6. THE DISPUTE THAT FOLLOWED

As a result of the debate surrounding the neem patent, there has been a rising realisation in India of the need of protecting India's traditional knowledge. TKDL, which stands for Traditional Knowledge Digital Library, is an effort that has been launched in India with the purpose of providing patent examiners with assistance in their search for knowledge on substances or techniques. They have the ability to reject patent applications with the use of this resource if the substance or technique in question is already listed in the TKDL list as being considered Indian traditional knowledge. Regulations implemented at both the national and international levels with regard to biodiversity.²⁹

7. ON THE OVERALL NATIONAL SCALE

Protection of traditional knowledge is governed by a number of laws in India, which may be found here.

1. The Biological Diversity Act, which was passed in 2002, is a piece of legislation that protects the traditional knowledge that is related with biological resources. Before allowing access to genetic resources and the traditional knowledge that is linked with them, it is necessary to get the approval of local residents as well as the State Biodiversity Board, as stipulated by the Act. In

²⁷ *European Patent Office, Europe*, available at: <https://www.epo.org/en/legal/official-journal/2005/06/p363.html> (last visited 19th Sept, 2024).

²⁸ *IFOAM - Organics International, India*, available at: <https://www.ifoam.bio/> (Last visited 20th Sept, 2024).

²⁹ *Protecting India's Traditional Knowledge, India*, June 2011, available at: https://www.wipo.int/wipo_magazine/en/2011/03/article_0002.html (Last visited 21st Sept, 2024).

addition, the Act allows for the sharing of profits that are derived from the use of traditional knowledge.³⁰

2. **The Patents Act of 1970:** According to the regulations in the Patents Act, the patent office has the authority to refuse the granting of a patent if the invention is based on traditional knowledge or if it was obtained from a community or group of individuals who consider themselves to be the custodians of traditional knowledge. This authority is granted to the patent office.
3. **The Traditional Knowledge Digital Library (TKDL)** is a digital library for traditional knowledge that spans a variety of sectors, including agriculture, medicine, and handicrafts. It was founded by the Council of Scientific and Industrial Research (CSIR), known as the Council of Scientific and Industrial Research. The goal of the Traditional information and Knowledge Library (TKDL) is to prevent the inappropriate use of such information by digitising it.³¹
4. In India, the **Geographical Indications of Goods Act** allows for the protection and authorization of certain indications. Utilising geographic indications (GIs) on items allows for the identification of their place of origin, which in turn boosts the distinctive attributes, reputation, or other unique aspects of the product. By enabling the registration and protection of geographical indications (GIs) that are related with traditional knowledge, the Act guarantees the conservation and preservation of this kind of information.³²

8. AT THE TOP OF THE INTERNATIONAL SCALE

A number of international treaties and accords have been established with the purpose of preserving biological variety and fostering its use in a manner that is environmentally responsible.

One of the most important accords is the Convention on Biological Diversity (CBD), which was signed in 1992 and has been ratified by 196 nations.³³ This convention is considered to be exceptional. Recognising the significance of

³⁰ *Biological Diversity Act, 2002, India*, 28 Dec 2020, available at: <https://www.drishtiias.com/to-the-points/paper3/biological-diversity-act-2002> (Last visited 22nd Sept, 2024).

³¹ TKDL Traditional Knowledge Digital Library, India, available at: <https://tkdl.res.in/tkdl/langdefault/common/Home.asp?GL=Eng> (Last visited 22nd Sept, 2024).

³² Geographical Indications, India, available at: https://www.wipo.int/geo_indications/en/#:~:text=What%20is%20a%20geographical%20indication,are%20due%20to%20that%20origin (Last visited 23rd Sept, 2024).

³³ The Convention on Biological Diversity, 1992.

biodiversity, efforts are undertaken to safeguard it, guarantee that it may be used in a sustainable manner, and ensure that the benefits that are obtained from it are distributed in an equitable manner. In Article 8(j) of the Convention on Biological Diversity (CBD)³⁴, the indigenous and local communities are recognised for the priceless traditional knowledge they possess and the significant contribution they make to the conservation of biodiversity.

The CBD is supplemented by the **Nagoya Protocol**³⁵, which was approved in 2010. This protocol establishes criteria for accessing genetic resources and ensures an equitable and fair sharing of the advantages that result from the use of these resources.

In the discussion that surrounds the question of whether or not neem trees exist, there are many different variables that are at play. An inherent hostility to any action taken by multinational firms is possessed by a significant number of individuals in India. Their natural inclinations are the source of this dislike. Because of their lengthy history of colonial exploitation and the present large-scale industrial catastrophes that have happened, the Indian people have a propensity to see multinational businesses as the enemy of Indian freedom.³⁶

9. Conclusion

This is owing to the fact that these corporations have done so for a long time. On top of that, a significant number of people in India are dissatisfied with the fact that multinational firms seem to continue to reap large economic benefits from India, despite the fact that the nation as a whole continues to be in a situation of extreme poverty. Throughout the course of the disagreement, activist organisations expressed their discontent with the fact that Grace is able to make use of material that is so widely disseminated in India in order to get income from outside that are worth millions of dollars. Considering that this reality gives more evidence of this perspective, the impression that the international intellectual property rules are biased against developing countries like India is further bolstered by the fact that this reality provides more evidence of this perception.

It is inevitable that there will be resistance to the sharing of biological resources, as long as less developed countries continue to see the distribution of economic benefits brought about by intellectual property rules as being unfair. It is imperative that the United States of America, along with other Western nations in general, acknowledge and accept this aspect of the situation. The international

³⁴ The Convention on Biological Diversity, 1992, art. 8(j).

³⁵ The Nagoya Protocol on Access and Benefit-Sharing.

³⁶ *Supra* note 2

community has to take into account the many methods in which benefits may be distributed in order to encourage low-income countries to become willing partners in the process of utilising the potential offered by biodiversity.

There is a very low probability that individuals or communities in underdeveloped nations would be willing to reciprocate the enforcement of laws relating to intellectual property if they have the idea that their knowledge is being "ripped off" on a daily basis. As a result of the fact that this debate is likely to continue in a variety of ways, the community is obligated to openly address the philosophical disputes that are present over the topic of patenting life.

In conclusion, bio-piracy is a serious issue in India because it involves the utilisation of traditional knowledge about biodiversity for the goal of monetary gain without acknowledging or compensating the individuals who were responsible for its development and preservation. For this reason, bio-piracy is a huge problem in India. This behaviour not only violates the rights of indigenous groups, but it also violates the equitable use of natural resources. Both of these violations are a violation of the environment.

The implementation of projects such as the Traditional Knowledge Digital Library is one example of the actions that India has done to address this problem. However, more actions are required in order to safeguard traditional knowledge and guarantee that communities are acknowledged and paid for the contributions they have made. The international community must also collaborate in order to build a legal framework that safeguards traditional knowledge and forbids the theft of biodiversity. This is a requirement that must be met.³⁷

It is possible to provide the following actions in order to safeguard the traditional knowledge of indigenous peoples and put an end to the practice of biopiracy, while taking into account all that has been observed:

- In order to strengthen the basis of traditional knowledge (TK), the **Traditional Knowledge Development Laboratory** (TKDL) has to work towards becoming more efficient and should also interact with an increasing number of non-governmental organisations (NGOs). There should be a strong emphasis placed on encouraging indigenous communities to take an active role in the battle against biopiracy. Furthermore, in the event that they want to oppose a case that includes a violation of their traditional knowledge, they should be supplied with free legal counsel of their own choosing. For the purpose of ensuring that local indigenous communities are able to make the

³⁷ *Id.*

most profit possible from the use of their resources, it is of the utmost importance that particular criteria be created.

- It is of the utmost importance that the **Biological Diversity Act of 2002** incorporate provisions that make it possible for any individual to initiate legal proceedings in the High Court, citing instances of bio-piracy, illegal utilisation of biological resources, unauthorised use of indigenous people's innovations, and violations of Biological Diversity standards. It is possible to put a stop to the unlawful use by filing a case for an injunction before it has actually occurred. This is in contrast to the more common practice of appealing to the High Court after the illegal use has already taken place.³⁸
- The protection of the rights of the community that has natural resources, the preservation of traditional knowledge that is linked with those resources, and the conservation of natural resources should all be incorporated as a high priority in the plans and programmes that are developed by state governments.
- To guarantee that indigenous people who possess traditional knowledge (TK) are able to enjoy the advantages of these practices, the government should first identify local traditional knowledge practices and then take particular efforts to incorporate ways that are not suitable for research programmes. This would ensure that indigenous people are able to reap the benefits of these practices. By taking advantage of this chance, the government, researchers, and indigenous people will be able to create trust and respect for one another. Because the Acts need a higher level of clarity in certain areas that need to be addressed in order to protect the rights of indigenous people to preserve indigenous knowledge, it is thus important to have a type of law that is more decisive.
- Traditional knowledge is a legal specialty that is practiced by a very small number of judges and attorneys. Their practice is rather uncommon. The establishment of specialist courts is necessary in order to rapidly resolve issues over conventional knowledge. This is the reason why specialised courts are necessary. In order to speed up the process and ensure that huge firms do not get patents via unethical methods, it is necessary to involve experts as members of the team.

³⁸ The Biological Diversity (Amendment) Bill, 2021.