

## BIO-PIRACY: A GLOBAL CONCERN AND PROTECTION OF TRADITIONAL KNOWLEDGE IN INDIA

*Agrani Bhati\**

*Aditya Singh\*\**

### **Abstract**

*Bio-piracy or the unauthorised use of indigenous knowledge and resources is a crucial global concern today, particularly in developing countries like India, which are blessed with abundance of traditional knowledge and resources. The present article endeavours to provide a broad overview of bio-piracy's historical evolution and its impact on indigenous communities. While the article discusses about the infamous incidents of bio-piracy in India and their potential effects on nearby populations and owners of traditional knowledge, it also seeks to analyse the international and Indian legal frameworks for bio-piracy and traditional knowledge, alongside. Furthermore, this article talks about the correlation between traditional knowledge and intellectual property rights and deliberates upon the challenges associated with preserving traditional knowledge under the current intellectual property regime. Through a thorough examination of relevant literature and case studies, the need for preserving traditional knowledge and ensuring equitable benefit-sharing in bioprospecting activities has also been highlighted upon. Conclusively, this article aims to contribute towards the ongoing discourse on bio-piracy and traditional knowledge by laying special emphasis on the need for aiding initiatives that promote advancement of social justice in India and around the world through development of appropriate policy and framework.*

**Keywords:** Bio-piracy, Bioprospecting, Indigenous Communities, Justice, Infringement.

### **1. Introduction**

With the advancement in genetic science, our capacity to use plants and animals to create novel medicines or alter crops for fulfilling the world's growing demand for food has also developed in multiple folds. Biomaterials have grown in significance as components of industrial production over the past 20 years. In order to develop new technologies based on natural genetic material, the pharmaceutical,

---

\* B. A. LL.B. (Hons.) Student, Maharashtra National Law University, Mumbai.

\*\* B. A. LL.B. (Hons.) Student, Maharashtra National Law University, Mumbai.

biotechnology, and agricultural sectors conduct research and development. Pharmaceutical research and development has been based on the entire process of searching for potentially valuable genetic material and biochemical substances in nature for centuries, and this has resulted in the discovery of a number of significant pharmaceutical entities and products.

By granting the innovator temporary exclusive rights, the Intellectual Property Rights (IPR) regime supports innovation by safeguarding the outcomes of research and development and ensuring returns on such investments. Researchers frequently rely on local people's traditional knowledge of a particular plant, animal, or chemical molecule while looking for novel bioresources. At the same time, since no property rights are there in general for being assigned to traditional knowledge, and major part of this understanding is located in developing regions of the world where protection for such things cannot be fought; researchers frequently use this understanding of plants, which generates substantial financial rewards for various stockholders. Since at times this knowledge serves as a starting point for the discoveries and aids to focus on research of plants with particularly potent biodiverse medicinal characteristics, instances of unauthorised access to and misuse of genetic resources and conventional biodiversity knowledge have occurred frequently. This is what we call 'bio-piracy'.<sup>1</sup> In simpler words, "bio-piracy takes place when researchers use traditional knowledge without permission, or exploits the cultures they are drawing from."<sup>2</sup>

In this article, threats posed by the fervent use of bio-piracy, along with the importance of IPR in the field of traditional knowledge, as well as the international and Indian legal framework for protection of the same, have been discussed in further detail. In addition to the same, bioprospecting as an alternative for securing the future of traditional knowledge from its misappropriation, has been further elucidated upon.

## 2. Bio-piracy and its Background

It can be remarkable to see the range of distinct and individual cultures and traditions found around the world. Furthermore, all kinds of expression, including customs, art, and handicraft, reflect the traditions of each of those civilizations. As trade

---

<sup>1</sup> Hamdallah Zedan, "Patents and Bio-piracy: The Search for Appropriate Policy and Legal Responses" 12 *The Brown Journal of World Affairs* 198-205 (2005).

<sup>2</sup> *Ibid.*

and society became more globalised during the past century, a number of local communities and governments argued that such traditional forms of expression ought to be legally protected. Some businessmen have tried to capitalise on others' expertise and reputation as specific goods and abilities from particular places to achieve a global reputation. Based on what kind of traditional expression is sought to be protected, such as music, a plant-based substance, or a learned ability in a particular craft, etc., different Intellectual Property (IP) safeguards are used, such as patents, trademarks, copyright, geographical indications, etc.

Patent laws protect many herbal products that are derived from conventional medicine. In terms of copyrights, patents, trademarks for their pharmaceutical preparations, and registered designs, phytoconstituents enjoy a wide variety of IP rights. Trade secrets and trademarks are the two most widely used types of IP protection for herbal remedies. However, when it comes to plant-derived therapeutic goods and methods based on traditional knowledge, securing its patent seems to be a key issue in the realm of IP rights discourse. Thus, interplay of indigenous knowledge with IPRs have resulted in numerous modern legal complexities. Concerns pertaining to protection of traditional knowledge extend beyond the field of the law.<sup>3</sup> It is crucial to note that traditional knowledge itself is not covered by regular intellectual property laws.<sup>4</sup>

When indigenous knowledge of nature that was once owned by indigenous people is utilised for commercial advantage without their permission and with little to no recompense or recognition to the indigenous people themselves<sup>5</sup>, it is defined as bio-piracy. It works by unlawfully applying patents to genetic resources and traditional knowledge, and it is the usurpation or theft of genetic materials, particularly plants and other biological materials, through the patent process.<sup>6</sup> Although elite groups or government officials may steal resources from less powerful populations within a nation,

---

<sup>3</sup> Bency Baby T. and Suriyaprakash TNK, "Intellectual Property Rights: Bioprospecting, Bio-piracy and Protection of Traditional Knowledge-An Indian Perspective" *IntechOpen*, 2021, available at: <https://www.intechopen.com/chapters/78249> (last visited on March 24, 2024).

<sup>4</sup> IP Helpdesk, "Protection of Traditional Expressions and Cultural Knowledge in India", *European Commission*, 26<sup>th</sup> September 2022, available at: [https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/protection-traditional-expressions-and-cultural-knowledge-india-2022-09-26\\_en](https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/protection-traditional-expressions-and-cultural-knowledge-india-2022-09-26_en) (last visited on March 23, 2024).

<sup>5</sup> *Supra* note 3.

<sup>6</sup> Suvarna Pandey, "Bio-piracy Related to Traditional Knowledge and Patenting Issues", available at: <https://birac.nic.in/webcontent/dib.pdf> (last visited on March 23, 2024).

bio-piracy is more commonly associated with international trade. The power disparities between affluent, technologically advanced nations and less developed but bioresource rich nations are frequently highlighted by bio-piracy.

Bio-piracy has historically been connected to colonialism because many of the resources of formerly colonised nations were taken away violently. The international economy has been significantly influenced by all the subjects that were once regarded as colonial ones, such as, pepper, sugar, coffee, quinine, or rubber, and they continue to be so. The concept of ownership pertains to be the central issue. International trade associations and multinational corporations fiercely defend patents and trademarks. Nevertheless, many traditional farmers or indigenous communities believe that it is unreasonable to provide sole ownership of an organism that is always growing and evolving to one individual as opposed to a group of users.<sup>7</sup>

A number of bio-piracy cases involved researchers from developed countries accessing genetic resources or associated traditional knowledge from developing countries and using patents to protect their interests without sharing any rewards with the countries of origin or with the indigenous communities that provided the traditional knowledge. The need for appropriate policy and legal solutions has emerged in order to ensure ongoing access to genetic resources while also promoting benefit sharing, protection from unauthorised access and misappropriation, and protection against those things.<sup>8</sup>

The key sociological disturbances that bio-piracy may bring about is that, an area, group, or nation's genetic resources or knowledge are being taken and claimed as one's own. The utilisation of this genetic resource or body of knowledge outside of its usual uses or geographic origins may be hampered, and the patent holder will profit unfairly from the patent. Such an unethical and unlawfully obtained patent is certain to

---

<sup>7</sup> Janna Rose, "Bio-piracy: When Indigenous Knowledge is Patented for Profit", *The Conversation*, 8<sup>th</sup> March 2016, available at: <https://theconversation.com/bio-piracy-when-indigenous-knowledge-is-patented-for-profit-55589#:~:text=When%20researchers%20use%20traditional%20knowledge,drawing%20from%20%E2%80%93%20it's%20called%20bio-piracy.&text=This%20is%20more%20commonly%20used,a%20legal%20and%20respectful%20manner> (last visited on March 23, 2024).

<sup>8</sup> *Supra* note 1.

disrupt an existing system. Additionally, bio-piracy has been held responsible for the loss of biodiversity worldwide.<sup>9</sup>

### 3. Traditional Knowledge and Intellectual Property Rights

The term traditional knowledge refers to “knowledge, possessed by indigenous people, in one or more societies and in one or more forms, including, but not limited to, art, dance and music, medicines and folk remedies, folk culture, biodiversity, knowledge and protection of plant varieties, handicrafts, designs, literature...It is knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity...It is integral to the identity of most local communities. Indigenous people, especially in rural communities, use Traditional Medicinal Knowledge to maintain their health system.”<sup>10</sup>

The term traditional knowledge can be categorized into three classes: (i) Traditional Medicinal Knowledge, (ii) Traditional Agricultural Knowledge and (iii) Traditional Ecological Knowledge.<sup>11</sup> For the majority of local communities, traditional knowledge is fundamental to their identity as it plays an essential role in their social and physical environment, making its maintenance of the utmost importance. The interests of its lawful custodians may be harmed by attempts to misappropriate traditional knowledge or to use it for industrial or commercial purposes. Traditional knowledge must be protected and nurtured for sustainable development in accordance with the interests of traditional knowledge holders in the face of such hazards. For developing nations in particular, it is crucial to preserve, safeguard, and promote local communities’ inventions and practises that are founded on traditional knowledge. Their traditional knowledge and biodiversity endowment, which is rich, is essential to their development, trade, environment, culture, religion, identity, and health care systems. However, this priceless resource is in danger in many regions of the world.

Tensions arise from the fact that the third parties are using and patenting traditional knowledge without the prior informed consent of its holders, while offering

---

<sup>9</sup> *Supra* note 4.

<sup>10</sup> Dr. V.K. Gupta, “Protecting India’s Traditional Knowledge”, *WIPO Magazine*, 2011, available at: [https://www.wipo.int/wipo\\_magazine/en/2011/03/article\\_0002.html](https://www.wipo.int/wipo_magazine/en/2011/03/article_0002.html) (last visited on March 13, 2024).

<sup>11</sup> *Supra* note 3.

little to no share of the associated revenues to the communities from which the knowledge originally came. These concerns have placed traditional knowledge at a high level in the list of world's agenda and prompted a contentious debate over how to preserve, promote, and apply traditional knowledge sustainably.

Multinational corporations have violated IP rights of the indigenous people on multiple occasions, making the need to protect traditional knowledge more crucial than ever. Since the domestic laws and the international legislations have lacked in recognising the rights of indigenous people on their traditional knowledge, these violations often do not technically represent a violation of established legal standards. The granting of patents for non-patentable entities (as opposed to traditional pharmaceuticals), which is based either on the most recent medical knowledge in the developed world or a small version of that information, has greatly alarmed poorer nations. The developing nations, such as India, have been frequently required to battle for the revocation of the awarded patents in cases where indications of bio-piracy of traditional knowledge are given.<sup>12</sup> However, cancellation may not be a possibility for all patents based on traditional knowledge as this entails substantial costs and effort. A gap is created for rich and industrialised countries to utilise traditional knowledge and indigenous capital because there are less clear legislative policy mechanisms for the conservation of traditional knowledge in developing countries. The traditional knowledge's correct safeguarding is crucial to the upkeep of indigenous peoples' longstanding customs since it contains knowledge and information on a variety of topics, including resource management, traditional remedies, crafts, and creative and cultural designs. In the global best interests, this right must be protected and fairly distributed.

In the global scenario, it is the need of the hour to make provisions satisfying following types of protection which are being sought with respect to protection by IPR to traditional knowledge-

- i. ***Defensive protection***, which tries to prevent outsiders from obtaining IPR over shared information. For instance, as evidence of prior art when assessing patent applications, patent examiners may rely on Indian traditional medicine data that has been compiled into a searchable database. Defensive tactics can also be

---

<sup>12</sup> John Reid, "Biopiracy: The Struggle for Traditional Knowledge Rights" 34 *American Indian Law Review* 79-80 (2009).

employed to prevent sacred cultural expressions, such as words or symbols, from being registered as trademarks.

- ii. **Positive protection**, whereby communities are granted the authority to create and manage their traditional knowledge and to profit from it. While other nations have additionally created particular legislation, the current intellectual property framework can safeguard some traditional knowledge uses.<sup>13</sup>

The urgent need is for the rights of the holders of traditional knowledge, who are mostly India's tribal and indigenous populations, to be recognised legally. It goes without saying that the indigenous and tribal people who are protecting biodiversity by using sustainable methods need to be acknowledged and compensated. Since there is virtually little public awareness about traditional knowledge, we need to educate people about these risks. The World Intellectual Property Organization (WIPO) first heard India's fundamental argument for why the old knowledge-based system should not be treated equally with the industry-based system.<sup>14</sup>

#### 4. International Legal Framework

In order to curb bio-piracy, it is important to make sure that indigenous groups are treated fairly and paid for using the knowledge and genetic resources. It is important for individual nations to understand that changing their laws to account for the requirement of equitable recompensation for indigenous populations is necessary, as doing so will result in empowering indigenous peoples to produce positive outcomes.

The WIPO acknowledges the demand for an international response to the issue of traditional knowledge protection. Even though some nations offer this kind of protection, it is not possible to do so globally. Communities from all around the world are clamouring for a universal legal instrument that would grant their traditional knowledge equal rights. A "*sui generis*" protection is used to describe this. To create such a tool, nations must come to an understanding of what traditional knowledge is and the rights that communities associated with it should have. Communities desire to safeguard their cultural history from exploitation, but industry insiders contend that the public should

---

<sup>13</sup> Dr. Ghazala Javed, "Protection of Traditional Knowledge: Initiatives of India", *WIPO*, available at: [https://www.wipo.int/edocs/mdocs/tk/en/wipo\\_ipk\\_ge\\_2\\_16/wipo\\_ipk\\_ge\\_2\\_16\\_presentation\\_12javed.pdf](https://www.wipo.int/edocs/mdocs/tk/en/wipo_ipk_ge_2_16/wipo_ipk_ge_2_16_presentation_12javed.pdf) (last visited on May 15, 2024).

<sup>14</sup> *Supra* note 4.

have access to such a wealth of information. *Sui generis* instruments are needed to create a legal framework for traditional knowledge's protection, upholding the rights of indigenous communities, preventing the exploitation and control of traditional knowledge, creating an access and benefit-sharing system, etc. While nations concur that *sui generis* protection is essential for traditional knowledge, they disagree on the best way to implement this protection. Countries must adopt a proactive stance and put in place policies to safeguard the traditional knowledge systems in order to reach this consensus. *Sui generis* protection can only be achieved with a coordinated effort from all nations.<sup>15</sup>

Few important international conventions related to protection of traditional knowledge include the Convention on Biological Diversity (CBD)<sup>16</sup> as well as Nagoya Protocol.<sup>17</sup> Article 8(j) of the CBD<sup>18</sup> says that, the parties must recognise that there should be preservation of the knowledge held by indigenous communities and the promotion of the widespread use of traditional knowledge based on reasonable and equitable benefit distribution. In accordance with the procedural standards set in Article 15 of CBD<sup>19</sup> for the use of genetic resources, including those that are subject to prior informed consent and negotiated terms, Article 16 of CBD<sup>20</sup> recognises traditional knowledge as a “key technology” for efficient methods of biodiversity protection and sustainable utilisation.

The Nagoya Protocol<sup>21</sup> was adopted on October 29, 2010, in Nagoya, Japan, addressing access to genetic resources and the fair and equitable sharing of benefits arising from their utilization. This international accord supports the implementation of the CBD and plays a key role in achieving one of its three objectives: ensuring the fair and equitable distribution of benefits derived from the use of genetic resources. The Nagoya Protocol is essential for regulating biodiversity on a global scale, affecting a wide range of commercial and non-commercial sectors that rely on genetic resources. It

---

<sup>15</sup> IP Law, “What is Traditional Knowledge and Can IPR Protect It”, *Intellectual Property Talent Search Examination*, 7<sup>th</sup> December 2020, available at <https://iptse.com/what-is-traditional-knowledge-and-can-ipr-protect-it/#:~:text=Other%20methods%20of%20protection%3A%20There,knowledge%20bank%20for%20commercial%20use> (last visited on May 11, 2024).

<sup>16</sup> The Convention on Biological Diversity, 1992.

<sup>17</sup> Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, 2014.

<sup>18</sup> *Supra* note 15, art. 8(j).

<sup>19</sup> *Id.*, art. 15.

<sup>20</sup> *Id.*, art. 16.

<sup>21</sup> *Supra* note 17.



outlines rules for access, benefit-sharing, and compliance, while recognizing the importance of traditional knowledge related to genetic resources. Furthermore, the protocol sets guidelines for engaging with local and indigenous communities, acknowledging their rights to provide access to these resources. Contracting Parties are required to take measures, in line with domestic laws and customary practices, to secure prior informed consent from these communities and ensure a fair and equitable sharing of benefits. The following needs to be pertinently kept in cognizance for formation of further policy suggestions-

Recognizing the knowledge, innovations, practices, institutions and values of indigenous peoples and local communities, and ensuring their inclusion and participation in environmental governance, often enhances their quality of life and the conservation, restoration, and sustainable use of nature, which is relevant to broader society. Governance, including customary institutions and management systems and co-management regimes that involve indigenous peoples and local communities, can be an effective way to safeguard nature and its contributions to people by incorporating locally attuned management systems and indigenous and local knowledge. The positive contributions of indigenous peoples and local communities to sustainability can be facilitated through national recognition of land tenure, access, and resource rights in accordance with national legislation, the application of free, prior, and informed consent, and improved collaboration, fair and equitable sharing of benefits arising from the use, and co-management arrangements with local communities.<sup>22</sup>

### **5. Legal Provisions in India**

Traditional knowledge is not substantively protected by any act or law in India, unlike other kinds of IP rights, however other IP legislations do have clauses pertaining to it. According to the Patents Act of 1970, “invention means a new thing or a process involving an inventive step and suitable for industrial application.” Additionally, a substance created by a simple admixture that just aggregates the attributes of its constituent parts is not an innovation and is not, thus, patentable, according to Section 3(e) of the Patents Act.<sup>23</sup> A special clause of the Indian Patents Act states that an invention

---

<sup>22</sup> IPBES, Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019, *available at*: <https://www.ipbes.net/global-assessment> (last visited on September 15, 2024).

<sup>23</sup> The Patents Act, 1970 (Act 39 of 1970), s. 3(e).

is not patentable if, “an invention which, in substance, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components.”<sup>24</sup> Applications relating to traditional knowledge and/or biological material must also pass a critical review in accordance with Section 10(4)(a) and (b) of the Patents Act<sup>25</sup> the whole ‘specification’ must provide all necessary details on the invention’s operation or usage, the method by which it is to be implemented, and the best way to carry out the invention using practical examples the applicant is familiar with. Traditional knowledge also may come under as one of the reasons for revoking a patent application in Sections 25 and 64.

According to Section 6(1) of the Biological Diversity Act, 2002,<sup>26</sup> it is violative of the law to file a patent application without first receiving approval from the National Biodiversity Authority (NBA) for an innovation that is based on research into or comprehension of a biological resource obtained in India. The Biological Diversity Act requires the consent of competent authorities for the admission of traditional knowledge and the completion of IPR applications for goods or inventions using traditional knowledge.

The Copyright Act of 1957<sup>27</sup> does not specifically mention about the protection of traditional literary, artistic, or cultural works or folklore, but Section 31A<sup>28</sup> does protect Indian works which are not published. Traditional knowledge protection under this IP is nonetheless constrained due to the limited duration of copyright protection and the restrictions that must be satisfied.<sup>29</sup>

India has excelled in numerous domains for millennia and has been a beehive of tradition and ability in many forms of art and craft. Geographical Indications (GIs) have received a lot of attention in recent years as the Indian government has made an increased effort to strengthen its IP system, with GIs being a key topic of debate for both domestic law and international agreements. In reality, the topic of traditional knowledge was thoroughly covered in the Parliament’s Review of the IPR Regime in India in 2021. The

---

<sup>24</sup> *Id.*, s. 3(p).

<sup>25</sup> *Supra* note 23, s. 10(4).

<sup>26</sup> The Biological Diversity Act, 2002 (Act 18 of 2002), s. 6(1).

<sup>27</sup> The Copyright Act, 1957 (Act 14 of 1957).

<sup>28</sup> *Id.*, s. 31A.

<sup>29</sup> *Supra* note 16.

Parliament sought to address the lack of traditional knowledge documentation and the inherent difficulties that come with trying to safeguard cultural assets through conventional IPRs in a more systematic manner. The IP right to employ to guarantee a product's authenticity would be GIs. "A GI is a designation applied to goods with a certain geographic origin and traits or a reputation related to that origin."<sup>30</sup> It also recommends improving the Traditional Knowledge Digital Library (TKDL) and recognising the contribution of GIs to the conversion of traditional knowledge into IPRs. The GI label is applied to any product having a particular geographic origin and attributes or a reputation derived from that origin.<sup>31</sup>

The Protection of Plant Varieties and Farmers Rights Act of 2001<sup>32</sup> and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006<sup>33</sup> all provide additional protection.

A useful instrument for preventing the theft of traditional information is the TKDL, which is located in India. On the TKDL initiative in India, the Ministry of Agriculture, Food, and Public Health (AYUSH) and the Council of Scientific and Industrial Research (CSIR) worked together. It is a national endeavour to prevent patents from being granted for applications based on long-forgotten traditional knowledge in India by international patent offices. India contested both the European Patent Office's (EPO) and the United States Patent and Trademark Office (USPTO) patents on the antifungal qualities of neem (*Azadirachta indica*) and turmeric's (*Curcuma longa*) ability to heal wounds, which led to the creation of TKDL. More than 2.60 lakh formulas from manuscripts of India's traditional medicinal systems, including Ayurveda, Unani, and Siddha, may be found in the Traditional Knowledge Database (TKDL), which preserves our historic traditional knowledge. Databases of non-patent books on Indian traditional knowledge are accessible through the library. Topic specialists do the abstraction, and the database provides data on modern and regional names in a language and format that patent examiners can understand. Between formulations that already exist in local languages and a global patent examiner, TKDL serves as a bridge. It seeks to combine traditional wisdom from the nation with cutting-edge research. Before issuing a patent, patent

---

<sup>30</sup> The Geographical Indication of Goods (Registration and Protection) Act, 1999 (Act 48 of 1999).

<sup>31</sup> *Supra* note 4.

<sup>32</sup> The Protection of Plant Varieties and Farmers Rights Act, 2001 (Act 53 of 2001).

<sup>33</sup> The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

examiners are required to consult this database. When it comes to acting as a solid foundational wall for preserving traditional knowledge in India, TKDL has, by far, been a success story.

## 6. Landmark Cases of Bio-piracy

### 6.1. The Turmeric Patent Case

In a US patent,<sup>34</sup> Mr. Suman K. Das and Mr. Hari Har P. Cohly received the prize for the research they did on the usage of turmeric for the purpose of healing of wounds. The two Indian expatriates were working at the University of Mississippi Medical Centre when they were honoured with the prize. The USPTO received a re-examination case from the Council of Scientific and Industrial Research (CSIR), India, New Delhi which was countering the same work and regarding it to be the prior art. According to CSIR, the use of turmeric as a medicine, dates back thousands of years and has been used to cure rashes and wounds. They were supported by historical evidence of accepted knowledge, which included a prehistoric Sanskrit manuscript and a 1953 report published in the Bulletin of the Indian Medical Association. The USPTO revoked the patent after receiving an appeal from the patent holder and considering the CSIR's arguments. The Turmeric patent case created a remarkable position in the legal history because it was the first time a patent based on a developing country's common knowledge had been successfully challenged. Since it was judged that the invention lacked novelty and had been known in India for centuries, the US Patent Office revoked this patent in 1997.<sup>35</sup>

### 6.2. The Neem Patent Case (*Azadirachta indica A. Juss.*)

A variety of pests and fungi that harm agricultural crops are frequently combated with neem extracts. Combining neem extracts with soap can aid in the treatment of meningitis, skin conditions, and even malaria. Neem seeds are also used to make an oil that is used to treat cold and flu. EPO gave a patent<sup>36</sup> to a US company, W.R. Grace Company and the Department of Agriculture of US in 1994 which looked after the use hydrophobic Neem oil for the management of fungus growth on plants. Then in 1995,

---

<sup>34</sup> US Patent no. 5,401,504.

<sup>35</sup> Shahnaz Kaushar, "Bio-Piracy in India: A Practice of Patenting Traditional Knowledge for Profit" 1 *IPR Journal of Maharashtra National Law University, Nagpur* 54-61 (2023).

<sup>36</sup> EPO patent No. 436257.

few groups of Non-Governmental Organisations (NGOs) established internationally along with attorneys for the farmers in India filed a suit against this patent. They bought in the evidences which showed that, the fungicidal properties of neem seed extracts, used for generations in Indian agriculture to save crops, are not trademarked. Since every aspect of the current situation was well known to the public before the patent application, the EPO determined in 1999 that none of them were innovative or creative. The Neem patent was revoked by the EPO in May 2000. The United States Department of Agriculture (USDA) and the chemical multinational W. R. Thanks' plea was rejected in March 2006 as a result of the EPO's *a priori* decision to revoke the patent on seeds produced from the required seeds' fungicidal qualities.

### 6.3. The Basmati Rice Patent Case

Before the United Kingdom Trade Mark Registry, RiceTec, Man. Inc. submitted an application to register the trademark "Texmati." The opposition was effectively repelled by Agricultural and Processed Food Export Development Authority (APEDA). The patent was one of the documents RiceTec provided as evidence proving the approval of the aforementioned trademark<sup>37</sup> issued to RiceTec by the US Patent Office on 2 September 1997, and this is how this patent came to be the subject of controversy. This patent was noteworthy since it said that the plants of rice belonging to the regional range spanned North, Central, or South America or the Caribbean Islands and that its attributes were identical to those of common Basmati rice lines from India. The patent was given to RiceTec by the USPTO on September 2, 1997. A unique rice plant, several rice lines, plants, and grains, seed deposits, and a method for selecting a rice plant for breeding and reproduction were all included in the patent's 20 claims. It filed 15-17 claims for rice grains that have qualities with Indian Basmati rice varieties. These arguments 15-17 may have successfully stopped Indian shipments to the US.<sup>38</sup> Information from the Indian Agricultural Research Institute (IARI) Report was utilised with regard to points 15-17. The finding was aided by the 1978 germplasm selection made by the Hyderabad Rice Research Directorate. The claims made by Central Food Technological Research Institute (CFTRI) specialists about grain characteristics were utilised to dispute those claims 15-17. Specialists from CFTRI analysed the various grain qualities and finally, on April 28,

---

<sup>37</sup> US Patent no. 5,663,484.

<sup>38</sup> *Supra* note 35.

2000, a request for a re-examination of this invention was made. After finishing the request for re-examination, RiceTec made the decision to reject claims 4 and 15–17. In this case it was viewed that traditional knowledge bio-piracy is an issue worldwide, it is not only confined in India and hence it need stringent application of laws and protection from the higher authorities.

### **7. Bioprospecting as a Way Forward**

The term “bioprospecting” is relatively new and was created to describe how to use natural resources responsibly, respect the rights of indigenous peoples, and find and market bio goods. Bioprospecting is defined as the search for biodiversity, for valuable genetic and biochemical information found in wild animals, plants or microbial organisms for product development as a purely scientific and commercial endeavour.<sup>39</sup> Bioprospecting, in simpler words, is exploring biodiversity for novel biological resources with economic and social worth. It is practised by several branches of agricultural, manufacturing, engineering, construction, and many other sectors, with the pharmaceutical sector being the most well-known. The concept of bioprospecting depends on the recognizing the need to find novel and natural products for developing new medicines and crops, which typically relies on knowledge passed via generations for a long period of time. In the late 1980s or early 1990s, there was discussion about the emergence of the language of “bioprospecting” with the purpose of looking for biological resources that could aid in both product discovery and conservation.<sup>40</sup>

Bioprospecting has received more attention recently as a result of the growing conscience that new drugs will be crucially required in the near future, either to treat the rising number of diseases that are currently incurable or to replace the growing number of medications that are currently used to treat them. Bioprospecting tends to affect industries which can wholly or partially depend on procuring, accessing, processing, or generation of genetic resources to make feasible goods for the global market. Bioprospecting, the process of discovering and commercializing natural resources like plants and animals, could be a key strategy for economic conservation. The utilisation of

---

<sup>39</sup> Ritu Priya and Chris Kurian, “Regulating Access and Protecting Traditional Health Knowledge through Intellectual Property Rights? Issues from a Holistic Health Systems Perspective”, 23 *Science Technology and Society* 504-529 (2018).

<sup>40</sup> *Supra* note 2.

local medical knowledge by major, international pharmaceutical corporations without recognising that it is indigenous intellectual property, a practise that also is counted in the act of bio-piracy, has drawn harsh criticism of pharmaceutical bioprospecting.<sup>41</sup>

While bioprospecting or collecting biological samples can help medical and other scientific research, bio-piracy or illegal collection, on the other hand, infringe on the sovereign rights of nations, decrease the economic health of indigenous communities and deplete or destroy species. In other words, bio-piracy can also be called as ‘unrestricted bioprospecting’.<sup>42</sup> Indigenous people consider bioprospecting as an appropriation of their cumulative and communal creation, which they have utilised, protected, and preserved from the beginning of time. It has frequently been accused of causing poverty in donor areas by claiming monopolies on the resources and knowledge that historically allowed communities to satisfy their requirements for food and healthcare and by having those communities pay for what was originally theirs.<sup>43</sup>

Bioprospecting is being sold as an alternative to bio-piracy as a framework for interactions between companies that commercialise indigenous knowledge and indigenous communities that collaboratively produced the information. Extracting information from indigenous people through bioprospecting is the first stage in developing an industrial system that promotes items manufactured with the use of indigenous knowledge, but is independent of its ethical, epistemological, or ecological foundations. International businesses take the place of regional expertise and biodiversity that they have stolen by using fragments of biodiversity as a raw material to make biological commodities that are patented. Therefore, bioprospecting has the responsibility of having a propensity to be the first step towards creating a dominant system of monocultures and monopolies, allowing the erasure of diversity in the process. In order to conduct bioprospecting, a company typically sends an ethno-scientist to speak with a member of an indigenous group and negotiate a price with them. The effects of this transaction, however, might be felt in the future by other communities.<sup>44</sup>

---

<sup>41</sup> *Ibid.*

<sup>42</sup> *Supra* note 4.

<sup>43</sup> Vandana Shiva, “Bioprospecting as Sophisticated Bio-piracy” 32 *Signs: Journal of Women in Culture and Society* 307-313 (2007).

<sup>44</sup> *Ibid.*

Hence, the bioprospecting paradigm is an unsustainable method of benefit sharing. The foundation is a twofold exclusion. The first exclusion occurs when user/innovator communities are left out and one group is assumed to be the sole holders of knowledge. The second exclusion occurs when a commercial entity that signs a bioprospecting contract asserts an IPR as an unjustifiable claim to invention on knowledge that was transmitted from an indigenous community.<sup>45</sup>

It is important to look at the bioprospecting paradigm in the context of equity, paying particular attention to how it affects the donor community, possible recipient communities, and bioprospecting corporations. A more thorough examination of the ethical and epistemological assumptions and implications of implementing an IP rights system through bioprospecting contracts is essential. This is particularly crucial because, in indigenous societies, biodiversity knowledge is a shared heritage rather than a privatized asset. It is not the product of individual creation but a collective societal innovation. Consequently, the entire community, including past generations, has contributed to this knowledge, with multiple communities actively using and exchanging biological resources.<sup>46</sup>

## 8. Conclusion

The promotion of intellectual innovation is a crucial requirement for all forms of social, economic, and cultural development. Various forms of IP including copyright, trademarks, industrial designs, patents and protections against unfair competition play an essential role in safeguarding traditional cultural expressions. India, one of the most biologically and culturally diverse countries in the world, has witnessed a significant transformation in IP law over the past decade.

India, as a hub of traditional knowledge and a nation rich in unique resources, holds immense untapped potential for the development, promotion, and application of TK. Bioprospecting, the search for commercially valuable natural medicines, is a key aspect of this potential. However, addressing bio-piracy on a global scale is critical. It is hoped that existing national and international legal frameworks will effectively reduce the incidence of bio-piracy.

---

<sup>45</sup> *Supra* note 43.

<sup>46</sup> *Ibid.*



The international IPR framework must consider concerns regarding the access to and use of traditional knowledge and genetic resources. Discussions in relevant international fora reflect the growing awareness within the global community about these issues and the need for appropriate policy responses. Such responses must strike a balance between enabling access to genetic resources and traditional knowledge for research and development, supporting the conservation and sustainable use efforts of provider countries and communities, and ensuring the fair and equitable sharing of commercialization benefits. Governments, NGOs, enterprises, and communities all have vital roles to play in fostering traditional knowledge-based innovations for the common good, while respecting IPRs.