

BIO-PIRACY IN INDIA: A PRACTICE OF PATENTING TRADITIONAL KNOWLEDGE FOR PROFIT

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Abstract

India is widely believed to be home to a diverse range of cultures and customs. As a result, India stands out as a nation with a wealth of traditional Knowledge (TK). Traditional Knowledge has been utilized for ages to provide treatments for human ailments that have been tried and true. Due to the effectiveness of alternative medicine practices and the lack of awareness of patent offices, it is simple for outsiders to get patents on medical products that originate from traditional medical methods. The lack of legal protection for traditional knowledge and the difficulty in enforcing intellectual property rights in foreign countries make it challenging for India to prevent bio-piracy.

In this article, we'll go through the protective mechanisms India has put in place to protect traditional Knowledge and conserve its biodiversity. Further, the article makes an effort to highlight the threat posed by bio-piracy and how industrialized nations have wrongfully exploited Indian Traditional Knowledge for their financial gain without paying or acknowledging the indigenous Knowledge. The article concludes with some specific suggestions and recommendations which can help protect Traditional Knowledge against the menace of Bio-piracy.

Keywords: *Biodiversity, Traditional Knowledge, Protection of Traditional Knowledge, Conservation of Biodiversity, bio-piracy.*

Introduction

Bio-piracy refers to the use of biological material and associated traditional knowledge without consent and for commercial gain, often without giving credit or compensation to the communities that developed and maintained that knowledge. In India, bio-piracy has become a significant concern in recent years, particularly in the context of the country's rich biodiversity and traditional knowledge systems. The exploitation of traditional knowledge by corporations and individuals for profit is a significant issue in India. This has resulted in the misappropriation of traditional knowledge associated with plant species, medicinal practices, and other natural resources, which have been used for commercial purposes without permission or recognition of the knowledge holders.

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One notable example is the patenting of the turmeric plant's medicinal properties by foreign corporations, despite the fact that the plant has been used in Ayurvedic medicine in India for thousands of years. Similarly, the use of neem oil and seeds by foreign companies for commercial purposes has raised concerns about the exploitation of India's traditional knowledge systems.

Bio-piracy undermines the rights of indigenous communities and undermines the sustainable use of natural resources. India has taken steps to address this issue, including the creation of the Traditional Knowledge Digital Library, which documents and protects traditional knowledge associated with biodiversity. However, more needs to be done to protect traditional knowledge and ensure that the communities that develop and maintain it are properly recognized and compensated for their contributions.

Significance of Traditional Knowledge

Traditional knowledge means the knowledge, practices, and beliefs that have been passed down from one generation to other generation within a particular community, often through oral transmission. This type of knowledge is often associated with indigenous communities and is considered to be an important part of their culture and identity. There are several significant aspects of traditional knowledge:

- A. **Preservation of cultural heritage-** Traditional knowledge is often deeply rooted in a community's cultural heritage and is considered an important part of their identity. By preserving this knowledge, communities are able to maintain their cultural traditions and pass them down to future generations.
- B. **Sustainable use of natural Resources-**The sustainable use of natural resources is a topic that is frequently covered in traditional knowledge through practices and beliefs. We can make sure that natural resources are used sustainably by incorporating traditional knowledge into current resource management techniques.
- C. **Contribution to scientific Knowledge-**Traditional knowledge has contributed to scientific knowledge in a number of fields, including medicine, agriculture, and ecology. Many modern medicines and agricultural practices are based on traditional knowledge.
- D. **Promotion of diversity and Inclusivity-**Traditional knowledge promotes diversity and inclusivity by acknowledging the contributions of different communities and cultures. By recognizing and valuing traditional knowledge, we can promote greater understanding and respect for different cultures.

Reasons for Bio-Piracy or Misappropriation of Traditional Knowledge

Bio piracy or misappropriation of traditional knowledge can occur for various reasons, including:

- A. **Commercial Interests**-Companies may seek to exploit traditional knowledge and biodiversity for commercial gain, without providing fair compensation to the communities from which they are taken.
- B. **Lack of legal Protection**-Traditional knowledge and biodiversity are often not protected by intellectual property laws, leaving them vulnerable to exploitation.
- C. **Inadequate benefit-sharing arrangement**- Benefit-sharing arrangements may not be well-defined or may be inadequate, resulting in communities not receiving fair compensation for their contributions.
- D. **Information Gap**-Lack of information or awareness about the value and significance of traditional knowledge and biodiversity can lead to undervaluation and under appreciation of these resources.
- E. **Power Imbalance**- Power imbalances between indigenous communities and external actors can result in the exploitation of traditional knowledge and biodiversity without the consent or benefit of the communities.
- F. **Lack of Governance**-Inadequate governance and enforcement mechanisms can make it difficult to prevent and address bio-piracy and misappropriation of traditional knowledge.
- G. **Globalization and the expansion of Markets**-Globalization and the expansion of markets have increased the demand for natural resources and traditional knowledge, leading to greater pressure to exploit these resources for commercial purposes.

Adverse effect of bio-piracy on bio- diversity

The adverse effects of bio-piracy on biodiversity can be significant and long-lasting. Here are a few examples:

- A. **Loss of Biodiversity**-Bio-piracy can lead to the over-exploitation of natural resources and the destruction of habitats, leading to a loss of biodiversity. This can have a devastating impact on ecosystems and the species that depend on them.
- B. **Disruption of traditional knowledge Systems**-Bio piracy often involves the theft of traditional knowledge systems from indigenous communities. This can lead to the disruption of their way of life and the loss of valuable cultural and ecological knowledge.

- C. **Genetic Erosion**-Bio piracy can result in the loss of genetic diversity, as companies may only select certain genetic resources that are useful for commercial purposes. This can reduce the resilience of ecosystems and make them more vulnerable to pests, diseases, and climate change.
- D. **Inequitable distribution of Benefits**-Bio piracy often results in the exploitation of genetic materials and its associated traditional knowledge without the consent or benefit of the communities from which they are taken. This can lead to social injustice and economic inequality.
- E. **Lack of sustainability**-Biopiracy may result in the overuse of environmental resources, without any consideration for long-term sustainability. This can result in the depletion of resources and the collapse of ecosystems, which can have severe consequences for both biodiversity and human well-being.¹

Relevant case judgements on bio- piracy²

Following are some of the bio-piracy-related cases in which the developed countries have patented Indian Traditional Knowledge without recognition to the indigenous people.

A. Turmeric Case (*Curcuma longa* Linn)³

Indian cuisine is spiced with turmeric rhizomes. Additionally, it has qualities that make it useful in medications, cosmetics, and colours. It has been used for ages to treat burns and wounds.

A US patent for the use of turmeric to heal wounds was issued to two Indian-based expats working at the University of Mississippi Medical Center in 1995. The Indian government, however, later contested the patent during a reexamination, noting the existence of prior art. Turmeric has long been used to heal burns and rashes. Thus the government claims that its medicinal application is familiar. They backed up their claim with written evidence of traditional Knowledge, including a document written in ancient Sanskrit and a 1953 research in the Journal of IMA (Indian Medical Association).

Notwithstanding the appeal by the patent holders, the US PTO upheld the objections raised by the government and invalidated the patent. In the turmeric case, a patent based on Indian traditional Knowledge was successfully contested for the first time, leading to a landmark decision. The US Patent Office cancelled this patent in 1997 after concluding that there was no

¹ Farzin Naz, "Prevention of Bio-Piracy under Indian Legal Regime for Better Conservation of Biodiversity" 1 ILPR, Volume 1 Issue 1 (2021).

² Council of Scientific & Industrial Research, Bio-piracy of Traditional Knowledge, *available at*: <https://www.tkdil.res.in/tkdil/LangDefault/Common/Home.asp> (Last visited on Dec. 2, 2022).

³ *Turmeric Case (Judgement)* [1997] U.S. Patent No. 5401,504.

originality and that the information about the patent had been well-known in India for a long time.

B. Neem Case (*Azadirachta indica* A. Juss)⁴

The Neem case refers to a legal dispute between India and the US regarding the patenting of the Neem tree and its medicinal properties by several US-based corporations in the 1990s.

The European Patent Office (EPO) granted a patent to the US Corporation named W.R. Grace Company in 1994 for a method of fungal control on plants using hydrophobic extracted Neem oil (EPO patent No. 436257). The patent was granted despite the fact that Neem had been used for centuries in India as a natural pesticide and that its properties were well-known in traditional Indian medicine.

The granting of the patent to W.R. Grace was met with widespread protests in India, with activists arguing that it was an attempt to misappropriate traditional knowledge and patent it for commercial gain. The Indian government subsequently challenged the patent in the EPO, arguing that the fungicidal properties of Neem were already well-known in India and that the patent was granted in violation of India's traditional knowledge.

The EPO eventually revoked the patent granted to W.R. Grace in 2000, following a long legal battle between India and the US. The EPO recognized that the fungicidal properties of Neem were already well-known in India and that the patent granted to W.R. Grace was not based on any genuine invention.

C. Basmati Rice Case (*Oryza sativa* Linn.)⁵

The Basmati rice case refers to a legal dispute between India and the United States regarding the ownership and recognition of Basmati rice as a Geographical Indication (GI).

In 1997, the RiceTec company, a Texas-based seed company, applied for a patent on Basmati rice and its method of cultivation in the US Patent and Trademark Office (USPTO). India objected to this move, arguing that Basmati rice was a product indigenous to India and that RiceTec's claim amounted to biopiracy, as it sought to appropriate traditional knowledge.

India filed a petition with the USPTO, seeking to prevent RiceTec from obtaining a patent on Basmati rice. The Indian government argued that Basmati rice had been cultivated in India for centuries and had acquired a distinct reputation for its aroma, taste, and cooking quality. The government also claimed that the patent application by RiceTec was an attempt to monopolize

⁴ *Neem Patent Case (Judgement)* [2000] E.P.O. Patent No. 436257.

⁵ *India-US Basmati Rice dispute*, [2001], U.S. Patent No 5663484 A.

the production and export of Basmati rice and would adversely affect the livelihoods of Indian farmers.

The USPTO eventually granted RiceTec a patent on Basmati rice, but only on certain aspects of its cultivation and not on the rice itself. The patent granted to RiceTec excluded the core components of Basmati rice, such as its grain characteristics, taste, and aroma. The decision by the USPTO was widely criticized in India, and the Indian government filed an appeal.

In 2001, the Indian government succeeded in revoking the patent granted to RiceTec after the USPTO reviewed the case. The USPTO recognized that Basmati rice was a product indigenous to India and that the use of the term "Basmati" on RiceTec's products was misleading to consumers. The USPTO's decision was seen as a victory for India's traditional knowledge and the protection of Geographical Indications

Legal regime relating to bio-diversity at national and international level

A. National level

In India, the legal regime for the protection of traditional knowledge is primarily governed by the following laws:

1. **The Biological Diversity Act, 2002:** Traditional knowledge related to biological resources is protected by the Biological Diversity Act. According to the Act, local people and the State Biodiversity Board must first provide their informed agreement before any access to genetic materials and related traditional knowledge may be granted. The Act also allows for the distribution of gains from the use of traditional knowledge.
2. **The Patents Act, 1970:** According to provisions in the Patents Act, the patent office is permitted to deny the issue of a patent if the innovation is founded on traditional knowledge or if it was acquired from a community or group of people who claim to be the guardians of traditional knowledge.
3. **The Traditional Knowledge Digital Library:** The Council of Scientific and Industrial Research (CSIR) created the Traditional Knowledge Digital Library (TKDL), a digital repository for traditional knowledge from a variety of industries, including handicrafts, agriculture, and medicine. By making traditional knowledge accessible in a digital format, the TKDL seeks to prevent its improper use.
4. **The Geographical Indications of goods:** Geographical indications (GI) in India are allowed under the Act, and they are also protected. The use of geographic indications (GIs) on products gives them a distinctive quality, reputation, or other qualities by

identifying their origin. By enabling the registration and preservation of GIs linked to traditional knowledge, the Act safeguards its use.

B. International level

The legal regime relating to biodiversity at the international level includes various agreements and conventions aimed at conserving and promoting sustainable use of biological diversity. The most prominent is the Convention on Biological Diversity (CBD), signed in 1992 and ratified by 196 countries. It recognizes the intrinsic value of biodiversity and promotes its conservation, sustainable use, and equitable sharing of benefits arising from its use. Article 8(j) of the CBD recognizes the traditional knowledge of indigenous and local communities and their role in conserving biodiversity.

The **Nagoya Protocol**, adopted in 2010, supplements the CBD by providing a framework for access to genetic resources and the fair and equitable sharing of benefits arising from their utilization.

Conclusion

In conclusion, Bio-piracy is a major issue in India because it involves the utilisation of traditional knowledge relating to biodiversity for financial gain without acknowledging or compensating the communities who created and maintained it. The rights of indigenous groups are violated by this practice, as is the fair use of natural resources. India has made measures to address this problem with programs like the Traditional Knowledge Digital Library, but more has to be done to safeguard traditional knowledge and make sure that communities are acknowledged and paid for their contributions. The international community must also cooperate to create a legal framework that safeguards traditional knowledge and forbids the theft of biodiversity.

Considering all that has been seen, it is possible to recommend the following actions to safeguard indigenous peoples' traditional Knowledge and stop bio-piracy:

- To strengthen the TK base, TKDL should become more effective and work with an increasing number of NGOs. Indigenous groups should be encouraged to participate in the fight against Bio-piracy, and they should be given free legal representation if they choose to contest a case involving a breach of their traditional Knowledge.
- Particular criteria should be established so local indigenous populations can utilize their resources with the greatest possible profit.
- The Biological Diversity Act 2002 must include provisions allowing anyone to initiate lawsuits in the High Court alleging bio-piracy, unlawful use of biological resources,

unauthorized use of indigenous people's inventions, and violations of Biological Diversity norms. By filing a lawsuit for an injunction, the unlawful use may be stopped rather than only appealing to the High Court after it has already occurred.

- The conservation of natural resources, related traditional Knowledge, and the rights of the community that holds them must all be a priority for state governments in their plans and programs.
- The government should identify local traditional knowledge practices, and it should take action to include unsuitable techniques in research programs so that indigenous people who are the holders of TK may profit from them. Between the government, researchers, and indigenous people, it will foster trust and respect.
- A more definite form of law is thus required since the Acts need more clarity in certain areas that must be addressed to preserve indigenous people's rights to protect indigenous Knowledge.
- Few judges or attorneys specialize in traditional Knowledge as a field of law. Therefore, special tribunals should be set up to resolve disputes involving traditional Knowledge quickly. Experts should be included in the team to speed up the process and ensure that large business entities do not get patents via unethical methods.