

Conservation of Biodiversity by Extending the Protection to Traditional Knowledge - With Reference to Biological Diversity Act, 2002

Rochani Rao K.N*

Introduction:

Traditional knowledge is essential for the long-term sustainability of natural resources, such as forests, water, and the ecosystem as a whole. The term 'biological diversity' is a general word used to describe the variety of living organisms which includes all the living creatures and ecological complexes on the earth.¹ Biological resources are the bone of the country's economy.² It increased the demand for biological diversity. The importance of traditional knowledge is becoming increasingly recognized in today's world.³ Not only does this information benefit those who rely on it daily, but it also benefits modern business and agriculture. Traditional knowledge is the source of many commonly used products, including cosmetics, health care products, and plant-based medications. Aside from handicrafts, other

* Student, CMR University, School of Legal Studies

¹ DR. GB. Reddy's Intellectual Property Rights and the Law, 2017 edition.

² Christoph Antons, Sui Generis Protection for Plant Varieties and Traditional Knowledge in Biodiversity and Agriculture: The International Framework and National Approaches in the Philippines and India, 6 INDIAN J. L. & TECH. 89 (2010)

³ Ibid

valued items derived from traditional knowledge are agricultural and non-wood forest products.

At the same time, there is also a threat of commercial over-exploitation of biological resources, and as a result of this exploitation many species are in danger of extinction by human activities. On the other hand, traditional knowledge of local and indigenous communities, which was preserved and continued for a long time, helps to protect the biological diversity of a country. Sustainable development can benefit greatly from the application of traditional wisdom. The majority of local communities and people of indigenous descent live in regions that contain the great bulk of the globe's genetic resources. Many of them have spent thousands of years cultivating and taking advantage of biological diversity.⁴ It has been demonstrated that some of their methods improve and encourage biodiversity locally and support the upkeep of thriving ecosystems. Local knowledge systems have been found to support sustainability.

Article 8(j) of the Convention is currently being implemented by numerous governments via their national biodiversity initiatives, strategies, and projects. Many governments have enacted laws, rules, and administrative frameworks specifically designed to safeguard traditional knowledge, to ensure that knowledge-holders give their prior, informed consent before their information is utilized by others.⁵

⁴ Claudio Chiarolla, Malcolm Hadley & Renaud Lapeyre, *Protecting Biodiversity and Traditional Knowledge*, 44 ENVTL. POL'y & L. 306 (2014)

⁵ Article 8 (j) of the convention of biological diversity

Meaning of traditional knowledge and biodiversity:

Biodiversity

The term ‘biological diversity’ is commonly used to describe the number and variety of living organisms on the planet. According to Section 2 of the Convention on Biological Diversity, 1992, biological diversity means the variability among living organisms from all sources including the terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within the species, between the species and of ecosystems.⁶

Traditional Knowledge

The World Intellectual Property Organisation (WIPO) says that traditional knowledge means tradition-based literary, artistic, or scientific works; performances; inventions; scientific discoveries; designs; marks; names and symbols; undisclosed information; and all other tradition-based innovations and creations resulting from intellectual activity.⁷ Traditional-based refers to knowledge, creations, innovations, and also cultural expressions that are slowly transmitted from one generation to the other. This traditional knowledge is held by the indigenous people of that local area.

⁶ Section 2 of the Convention on Biological Diversity, 1992

⁷ Myra E. J. B. Williamson, Geographical Indications, Biodiversity and Traditional Knowledge: Obligations and Opportunities for the Kingdom of Saudi Arabia, 26 ARAB L.Q. 99 (2012).

According to Article 8 (j) of the Convention on Biological Diversity, Traditional Knowledge means and refers to the ideas, practices, and knowledge of the indigenous people or local communities which has been developed from the experience and practice over a reasonably long period and which is adapted and inculcated to the local culture and is transferred from one generation to another.⁸

Conservation of Biodiversity and traditional knowledge and their interconnection.

Conservation of biodiversity

India is the second largest country in Asia and the seventh largest country overall, with a total size of 329 million hectares. India's rich and diversified flora was supported by the wide variety of habitats that result from different climates and altitudes. Fortunately, India is blessed with a variety of plant and animal species. However, the country is facing a very serious issue with the loss of biodiversity.⁹ More species of living things are going extinct than ever before, and biodiversity is under threat more than ever. Every species constantly interacts with others, creating a web of life in which each species depends on the presence of the others to survive. Approximately 1 million species are currently in danger of extinction, according to a recent preliminary assessment from the UN, which also warns that

⁸ Article 8 (j) of Convention on Biological Diversity

⁹ Bernice Marie Violago, Modernizing Protections of Traditional Knowledge: Batek and IPRA in the Digital Economy, 95 PHIL. L.J. 347 (2022).

global biodiversity is vanishing in all areas. The survey did note that however biodiversity is diminishing in places administered by indigenous people at a noticeably slower rate.¹⁰

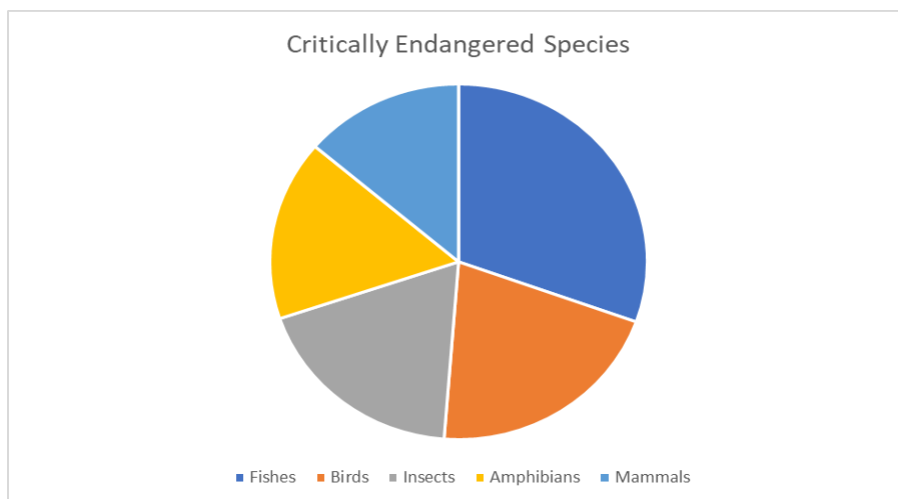
Role of traditional knowledge in preserving biological resources:

1. The local population worships plants and animals as deities and upholds the idea of coexistence. For instance, groves of worship dedicated to a local deity are thousands of years old.
2. In contrast to the current situation, local communities cultivate and improve a wide range of domesticated crops over time. They are battling hybrid and GMO crops with their traditional expertise.
3. An ancient medical system that relies on traditional knowledge and biological diversity is a component of India's official healthcare system.¹¹

The below graph explains the number of critically endangered and extinction species in India:

¹⁰ Supra-1

¹¹ Dr. S.R Myneni, Law of Intellectual Property Rights, 4th edition



Through this chart we can come to know how biodiversity is endangered and about to become extinct in a short period because of the over-exploitation by human beings.

Protection of Traditional knowledge and instances of biopiracy on traditional knowledge

Individuals and business entities now frequently have unrestricted access to information about indigenous cultures, traditions, and practices that are based on bioresources. This information frequently serves as a starting point for research and development projects aimed at patenting novel pharmaceuticals and other items. While the conventional knowledge holders may not get any benefit from the use of that information.¹² Sometimes they get the shares but it is very low. Further, when a particular knowledge is used for research and when it

¹² Supra-3

comes up with a new product then commercialization starts to happen which makes the producers commercially exploit biological resources which in turn leads to degradation of biodiversity. So, there is a need to protect traditional knowledge to protect biodiversity.¹³

Cases of biopiracy on traditional knowledge

Biopiracy is the practice of using indigenous knowledge that originated with indigenous people for financial gain without their consent and without providing any payment to them or with very less payment. In order to get patents on the inventions resulting from those genetic resources, developed countries use the genetic resources of developing countries and the traditional wisdom of indigenous people.

- Turmeric controversy (*Curcuma Longa* Linn):

In this case US Patent and Trademark Office (PTO) was compelled by India to cancel a controversial patent. It was issued to American researchers for the treatment of wounds. But in India turmeric rhizomes have been used for a long time to treat wounds and allergies. Then the patent got revoked.¹⁴

- Neem Controversy (*Azadirachta indica* A. Juss):

¹³ Ibid

¹⁴ 'Protection of Traditional Knowledge in India with reference to Neem, Turmeric, Basmati Rice' Name -Aditya SinglaProtection of Traditional Knowledge in India with reference to Neem, Turmeric, Basmati Rice' www.researchgate.net (22/10/2023)

In this case European Patent Office (EPO) granted a patent to the US Corporation named as W.R Grace Company and US Department of Agriculture for a method for controlling fungus on the plants by using neem extracts. India filed a suit and then the patent was revoked.¹⁵

- Basmati Rice Controversy (*Oryza sativa* Linn.)

Rice Tec. Inc. had applied for registration of “Texamati” before the UK Trade Mark Registry. Re-examination petition was filed by India because India had Basmati and Texamati was similar to Basmati then it was revoked.¹⁶

- Jeevani Case:

There was a tribal community named Kani in western ghats in Kerala in December 1987 Dr Pushpangadan along with his team came to Western Ghats, where Kani tribal people were living.¹⁷ At that time, he observed that Kani tribe people were continuously munching black fruit. Those people gave those fruits to these scientists as they were tired and told that it was very good for their health. After eating that they felt energetic. They made research on that and found that it has so much medicinal goodness in it. They applied for a patent for their invention but it was held that they came to know about this by the tribal

¹⁵ Ibid

¹⁶ Ibid

¹⁷ M. Ayyanar, S. Ignacimuthu Traditional knowledge of Kani tribals in Kouthalai of Tirunelveli hills, Tamil Nadu, India 102 JE 246–255 (2005)

people and its their traditional knowledge hence, benefit sharing has to be given. By this way indigenous peoples' traditional knowledge and their rights were protected.¹⁸

Extending protection to traditional knowledge to protect the biodiversity

Since oral transmission is the norm, cultural values, beliefs, rituals, and agricultural techniques, such as the evolution of plant and animal breeds, frequently take the shape of tales, songs, folklore. Its practical nature, notably in industries like agriculture, fisheries, health, horticulture, forestry, and environmental management in general, is what gives it significance. These knowledge systems are created through the gradual accumulation and transfer of information.¹⁹

Consequently, the following are some ways that traditional knowledge can benefit and contribute to biodiversity:

- Identify the factors to assess the existing level of ecological services, biodiversity, and cultural well-being;
- Set various thresholds to encourage various levels of management activities to reverse the decline in biodiversity; and

¹⁸ Ibid

¹⁹ Bala, Anu, Traditional Knowledge and Intellectual Property Rights: An Indian Perspective (November 1, 2011). Available at SSRN: <https://ssrn.com/abstract=1954924> or <http://dx.doi.org/10.2139/ssrn.1954924>

- Set goals and achieve them in accordance with the rate of healing.

Convention on Biological Diversity, 1992 and traditional knowledge

Since 1992 after Convention on Biological Diversity the conservation of indigenous and local communities' traditional knowledge ideas and practices has drawn growing international attention. The convention says that, each contracting party subject to its national legislation is required to respect, preserve, and maintain knowledge, innovations, and practices of indigenous and local communities tangible or visible lifestyles relevant for conservation and sustainable use of biological resources and promote the wider application of such knowledge, innovations, and practices with the approval and involvement of their holders as well as encourage the use of such knowledge, innovations, and practices in other contexts.

The Convention on Biological Diversity (CBD) is the main international agreement that explicitly recognizes the contribution of indigenous and local groups' traditional knowledge, ideas, and practices in the preservation and sustainable development of biodiversity. However, the convention's coverage of traditional knowledge is limited to genetic materials. It is a framework agreement that lays out broad guidelines that the parties concur should serve as their guidance in a protracted process.

Such knowledge systems have aided in the preservation of biodiversity and the maintenance of ecosystem services, the restoration of tropical ecology and bio-culture, sustainable water management, the preservation of genetic resources, and the management of other natural resources, among other sectors. Additionally, it has been discovered that indigenous knowledge is helpful for restoring ecosystems and frequently incorporates aspects of adaptive management. So, extending protection to traditional knowledge will protect biological diversity.

Whether Biological Diversity Act, 2002 is sufficient to protect traditional knowledge and biodiversity:

3.1: Biological Diversity Act,2002 and its objectives

A system for the fair distribution of benefits resulting from the use of conventional biological resources and knowledge is provided by this Act of the Indian Parliament for the preservation of biological variety in India.

The following are some of the Act's key goals:

1. To protect biological diversity,
2. Sustainable use of biodiversity's constituent parts.

3. A just and equitable division of rewards resulting from the utilization of biodiversity.²⁰

Act also has provisions for establishment of National Biodiversity Authority and State Biodiversity Boards and Biodiversity Management Committee for the habitat preservation, breeds of animals and micro-organisms preservation, by controlling and authorizing use of biodiversity and also by documentation of knowledge pertaining to biological diversity.

Power of Central Government to Notify Threatened Species:

Section 38 of Biological Diversity Act, 2002 provides this power to the Central government. This provision says without affecting the provisions of any other currently in effect laws, the Central Government, in consultation with the concerned State Government, may from time to time declare any species as a threatened species, prohibit or regulate the taking of that species for any purpose, and take appropriate measures to preserve and rehabilitate that species.²¹

Protection to traditional knowledge

Traditional Knowledge Digital Library:

After the Biological Diversity Act, 2002, The Council of Scientific and Industrial Research (CSIR) and the Ministry of Aayush launched the

²⁰ Biological Diversity Act, 2002

²¹ Ishan Puranik, Intellectual Property in the Coffee Industry, 3 INT'L J.L. MGMT. & HUMAN. 40 (2020)

traditional knowledge digital library in 2011. It serves as a depository for the nation's traditional knowledge. Library's goal is to prevent the nation's traditional knowledge from being exploited through biopiracy and unethical patents by electronically documenting it and categorizing it in accordance with the worldwide patent classification system.

The Central Government shall make an effort to respect and protect the local people's biological diversity-related knowledge, as recommended by the National Biodiversity Authority, through such measures, which may include registering such knowledge at the local, State, or national levels and other protection measures, such as sui generis systems.²²

Protection of traditional knowledge is of two types one is defensive and the other is positive.

Two types of intellectual property (IP) protection are sought for traditional knowledge:

- Defensive protection, which tries to prevent outsiders from obtaining intellectual property rights over shared information.
- Positive protection, in which communities are granted the authority to advance their traditional knowledge, regulate its applications, and profit from its commercial exploitation.

Biological Diversity Act, 2002 has appropriate provisions which can protect biodiversity and traditional knowledge of local people. But

²² Ibid

these provisions have to be implemented properly to avoid degradational biodiversity and violation of rights of indigenous people.

Conclusion:

In order to properly recognize the traditional knowledge holders, documentation of traditional knowledge is also recognized. This particular portion of the Traditional Knowledge Digital Library (TKDL) project, which is already underway, involves documenting Ayurvedic medication formulations in India. The 35,000 formulas employed in the Ayurvedic medical system are part of the scope of the TKDL programme.

However, I believe that in order to safeguard the indigenous and local communities of India's traditional knowledge, a sui generis system independent from the current IPR system should be created