

# Relationship Between Traditional Knowledge and Biodiversity Act

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**Abstract---** *India is one of the mega-biodiverse countries with different combinations of ecosystems. It occurs at different levels and is mostly associated with the traditional knowledge and its practice. With loss of biodiversity and commercialization of bio resources along with the knowledge associated have been causing great concern especially when the IPRs are applied to claim monopoly because of which the conservation of biological resources is now carried out on various level to address issues related to its conservations the Convention on Biological Diversity, 1992 was signed at international level and India being a signatory to the Convention is the first to implement it by enacting the Biological Diversity Act, 2002. This paper will give an in depth idea about what traditional knowledge is how it is important in today's time, and the issues related to it along with various Acts that are enacted to conserve the traditional knowledge and biodiversity.*

**Index Terms---** *Biodiversity, Traditional Knowledge, Intellectual Property Rights, Conservation, National Biodiversity Authority.*

## I. INTRODUCTION

The diversified living organisms present on the earth, collectively in air, water and land is called biological biodiversity or diversity. India is a diversified country with rich heritage of flora and fauna. India is rich in diversity and cultural heritage which are the valuable asserts of the country which can be utilised by India in order to generate the number of IPR products and technologies for international as well as domestic trade. Biodiversity is generally divided at three levels namely, species, ecosystem and genetic. "Species diversity" refers to the variety of species, "Ecosystem diversity" refers to mixture of ecosystems and habitats and "Genetic diversity" means disparities within individual species. There is about biodiversity has 1.75 million species that are identified around the globe out of which almost 2.7 lakhs belong to plant kingdom among them there are only 9000 species upon which the human is dependent for medicine, food, shelter, clothing. The distribution of agriculture is not same on earth it is to be noted that almost 90% of the species is confide to only 10% of the earth's land, because of this Some countries located near equator have abundance of

biodiversity while others have little or only moderate biodiversity. Areas with high are very rich in biodiversity are called mega- biodiverse countries. There are several mega diverse countries and India is among one of them.

Sustainable use and Conservation of natural resources by way of implication of traditional knowledge that has been gained through their ancestor's with the passage of time are some things that are ingrained in Indians. As a result India has a strong network of institution mapping biodiversity.

One of the key result of the industrialisation is the emergence of IPR system- which is based upon the idea of "rewarding the innovator for his hard work and intellect implication". IPR is one of the most important driving force behind the rapid Industrial growth and development.

The IPR system provided by the west was based on the protection of the philosophy of protecting "industrial property" but didn't include knowledge within its ambit. Therefore protection of Traditional Knowledge is important has our Indian system is based on Traditional Knowledge.<sup>2</sup>

## **II. CONTRIBUTIONS OF TRADITIONAL KNOWLEDGE**

Traditional knowledge is considered as one of the most important attribute to biodiversity and an important source of biodiversity development. Traditional knowledge is associated with many fields like, medicine, food, health care, education, agriculture, art, music etc. with the major contribution of forest conversation. Major pharmaceutical companies generally interact with these tribal people in order to accumulate traditional knowledge for their own benefit. The demand for the traditional medicines is increasing all over the globe. More than 80% of people from developing countries highly depend on traditional medicines for basic health demands. It is also seen that even in developed countries there is a high percentage of people who have used traditional medicine at least once there is, 90% in USA, 75% in France and almost 50% in the United Kingdom. Because of the high demand the level of expenditure on traditional medicine is also rising. In US, the total out- of-pocket expenditure for alternative and complementary medicine was estimated at US\$ 27 billion.

## **III. THREATS TO TRADITIONAL KNOWLEDGE**

### **Loss of Biodiversity and Traditional Lifestyles**

In India, a significant number of the forests, habitat and land of local communities as well as of tribal people is severely affected by activities like dam projects, logging, deforestation, road construction mining, conversion of forests to land for agricultural plantations and urbanization. The heavy loss of habitat and resources has misbalanced the ecological and social context within which the communities have made use of their traditional knowledge.<sup>3</sup>

Traditional Knowledge constitute as a valuable attribute to the indigenous, tribal and local communities that are depend on it. It is also considered as reflection of culture. Low-input agricultural systems, based on the traditional knowledge are applied knowledge about ecosystems and natural processes have successfully enabled millions of people

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<sup>1</sup> <http://theguardian.com/news/2018/mar/12/what-is-biodiversity-and-why-does-it-matter-to-us>, visited 23<sup>rd</sup> December 2019

<sup>2</sup> <https://www.biologicaldiversity.org/>, visited 23<sup>rd</sup> December 2019

<sup>3</sup> <https://www.cbd.int/traditional/intro.shtml>, visited 23<sup>rd</sup> December 2019

to endure for thousands of years in some of the most hostile environments. <sup>4</sup>The traditional lifestyles that the indigenous communities used to have has been urbanized with the migration of indigenous communities and tribal people from rural to urban areas. The impact of westernization and commercialization of agriculture with introduction of export and hybrid crops have made international organisations to take initiatives to conserve and protect knowledge and biodiversity related to the use of biological resources.

The international negotiations regarding the traditional knowledge in term of protection is mostly seen as providing a framework to encourage the maintenance of knowledge and practice embodying traditional lifestyle. But Article 8(j) of CBD also requires “wider application” of Traditional knowledge. <sup>5</sup>

### **Biopiracy**

Bio piracy is happens when the researcher organisations or researchers without a proper permission from the authorised body takes biological resources without official sanctions, mostly from underdeveloped or developing countries. Bio piracy is not limited to drug development it occurs in agriculture and industrial context. Indian products like, Darjeeling tea, neem and turmeric are the famous cases of Biopiracy these all are attempted to be patented by the foreign company. The most prominent problem that the future of traditional knowledge facing is the misappropriation of this knowledge, Many bioprospectors or the pharmaceutical corporations often approach these local communities and tribal people who generally shared their knowledge of the use of medicinal plants seeds and techniques of harvesting, storage and production, and also shared the seeds and genetic materials with them and they are the one who often patent their knowledge and make it a private property and gain huge profits out of it by selling products made out of these knowledge. Often the tribal and local communities are neglected and are then side-line by the bioprospectors or the pharmaceutical corporations once their work is done.

The widespread commodification of traditional knowledge through its appropriation, misuse and exploitation has accelerated the need for protecting traditional knowledge. In most of the cases, generally underdeveloped and developing countries are the major victims of these misappropriations by the scholars, institutions and researchers who are from outside the community with neither the approval of the community nor with an agreements to share benefits and profits arising from the use of their knowledge. <sup>6</sup>

### **Protection of Plant Varieties**

Food crops varieties have been developed by many farmers over generations of practice and using their expertise through cross- breeding. Until recently, plant varieties and plants are not patentable in India and many other countries. The situation is changing In India as the Government has enacted, “The Protection of Plant Varieties and Farmers Rights Act, 2001”, for the protection of “plant varieties developed by researchers and plant breeders”. Which has led to the mad rush among various multinational companies for development of patenting techniques to decode and spot the best plant genes of food crops. But the farmers who will actually developed the crops or plant variety would have no effective rights over the varieties that are patented by the multinational companies.

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<sup>4</sup> <http://uis.unesco.org/node/335063>, visited 23<sup>rd</sup> December 2019

<sup>5</sup> [wipo.int/tk/en/tk](http://wipo.int/tk/en/tk), visited 23<sup>rd</sup> December 2019

<sup>6</sup> <https://www.un.org/en/events/biodiversityday/background.shtml>, visited 23<sup>rd</sup> December 2019

#### **IV. PROTECTION OF BIODIVERSITY AND TRADITIONAL KNOWLEDGE: ISSUES AND CONCERNS**

##### **Disclosure of Origin and the Prior Informed Consent**

There have been substantial discussions on the introduction of requirement for the disclosure of origin of biological resources which are associated and have linkage with the traditional knowledge used in for the inventions for which IPRs has been applied. India along with other developing countries proposed that the rights of tribal and local communities should be recognised at national as well as on the international levels. And the benefit sharing mechanism should be institutionalise, if it is done it would ensure the domestic institutional mechanism to share of benefits of commercialise utilisation of patent holders with local communities. India also recommended that the acceptance of this practice of disclosure and prior informed consent (PIC) by all patent offices in relation to the world is essential to prevent biopiracy. India has also introduced the provisions for disclosure of the source of biological material in Patents (Amendment) Act, 2005.

##### **Access and Benefit Sharing**

The CBD negotiations have majorly discussed the issue of benefit sharing. Article 15 of the Convention has “addresses the terms and conditions for access to genetic resources and benefit-sharing”. “It asserts the sovereign rights of nations over their natural resources, and their right to determine access, promoting access and their common use”. It also calls for the equitable and fair sharing of benefits that are derived from the use of TK. <sup>7</sup>With respect to intellectual property, the Convention states, that transfer and access of genetic resources should be consistent with the “adequate and effective protection of IPRs”. Policies should also be put in place by government in order to ensure, especially for developing countries, that access to genetic resources takes place on mutually agreed terms. It is notes that many other IPRs specially patent may have an influence on application of the Convention, and there should be full corporation from governments in order to ensure that these rights are supportive of and do not run counter to the CBD’s objectives. <sup>8</sup>In 1992, the Convention was adopted and was entered in the end of 1993, not until 1999 the work began in earnest to operationalize these provisions. Although, the Convention is binding in nature but most of the provision are not mandatory but recommendatory in nature. Many state parties to the Convention have implemented the directives and objectives of the Convention. As there prime objectives related to PIC and benefit sharing which is seen to be important for the developing countries.

##### **Indian Initiatives for Protection**

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<sup>7</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2652775/>, visited 23<sup>rd</sup> December 2019

<sup>8</sup> <https://www.cbd.int/business/bc/ABS.shtml>, visited 23<sup>rd</sup> December 2019

In order to tackle biopiracy and conserve biodiversity, India made effort by enacting the following legislations “The Patents Amendment Act, 2005”, “The Protection of Plant Varieties and Farmers Right Act, 2001” and “The Biological Diversity Act 2002”.

### **Protection of Plant Varieties and Farmers Right Act, 2001**

India is seen as the home for many crops such as, little and kodo millets, cardamom, rice, moth bean, red gram, pepper, jute, many species, fruit and vegetables. Indian farmers through long process of conservation, cultivation and selection have gained extensive knowledge of each variety and because of these the farmers should also have a right to get recognition for their contribution and development of new variety that are cultivated by them. Therefore with the introduction of “Protection of Plant Varieties and Farmers Right Act, 2001”, the rights are granted to the framers and plant breeders through registration of their variety under the said act.

### **Biological Diversity Act, 2002**

Biodiversity is essential for functioning of ecosystems that provide us with products like food, fertile soil, oxygen, fuel and fresh water, along with that ecological services such as moderating storms, mitigating climate change etc. makes it possible for millions to survive on earth including human as well as animals.

India signed the Convention on Biological Diversity on June 5, 1992 at Rio de Janeiro which provides a framework to deal with the sustainable conservation and management of our country’s biological resources exactly after 10 years, in 2002 the Biological Diversity Act was enacted to ensure and conserve ecology and biodiversity and manage its sustainable use, enable equitable and fair sharing benefits arising out of the use of biological resources with the local communities. The Act deals with access to genetic resources by organizations, foreign companies or individuals. The National Biodiversity Authority (NBA) was set up under Section 8 of the Act on order to manage requests to transfer the results of any related research out of India and to determine benefit sharing arising from the commercialization and deals with requests for access to genetic resources by foreigners. <sup>9</sup>

The Act states some special provisions for the conservation and protection of Traditional Knowledge. Among them Chapter II of the Act, relates to the access of biological diversity. The Act prohibits “certain persons” from obtaining any biological material occurring in India or knowledge associated for bio-safety, commercial utilization, research and bio-utilization. The Act prevents “persons from transferring the results of any research for monetary consideration or other wise to such certain persons without previous approval of the NBA”. According to Section 6 of the “no person shall apply for any Intellectual Property Rights, by whatever name called, in or outside India for any invention based on any research or information on a biological resource obtained from India without obtaining the previous approval of the National Biodiversity Authority”.

The procedures for access and other purposes mentioned in the Act are provided to ensure efficient, effective and transparent access through applications and written agreements in prescribed formats. The National Biodiversity Authority, through proper consultation mechanisms can only dispose of the application and communicate its decision to

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<sup>9</sup> <https://www.iucn.org/theme/environmental-law/our-work/access-and-benefit-sharing>, visited 23<sup>rd</sup> December 2019

grant access or otherwise to the applicant within a period of six months from the date of receipt of the application. The Authority is although required to communicate the grant of access to the applicant in the form of a written agreement which is duly signed by an authorized official. The Biodiversity Rules, 2004 also states that the Authority shall provide reasons in writing in case of rejection the applicant is given reasonable opportunity for appeal. It also states that Authority shall publicize the approval granted through electronic or print media and shall monitor the compliances of the conditions that are agreed between the parties. The access procedures are only regulatory and are not prohibitive in any manner irrespective of their affiliations, nationalities or origin etc.

## V. CONCLUSION

The above discussion gives us the clear idea about the need for conserving the biodiversity of India which is diminishing at a fast pace along with the protection of traditional knowledge related to biodiversity. As it should be the high priority on the national agenda, the government should allocate significant budget for the effective and efficient implementation of the Act. India is proving itself by being a role model for other countries for protection of traditional knowledge and biodiversity. However, National Biodiversity Authority needs to accelerate for better results and needs more support, feedback and reviews from all sources on its activities. The government can work on various initiatives like installations of herbal gardens for traditional medical plants, ensure regular income for traditional healers or people who work in order to protect some kind of traditional knowledge and should include traditional knowledge as a part of the curriculum in studies in order to spread more awareness among young generation about the sacred knowledge that has been travelling through generation to generations.

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