

Study on Protection of Intellectual Property Rights with Special Reference to Protection of Biodiversity, Traditional Knowledge of Indigenous People in India, and Sustainable Development

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Abstract

The world can be divided into two parts based on the availability of rich biodiversity and the lesser availability of such biodiversity. Biodiversity consists of flora, fauna, animals, insect species, etc. from small bacteria to huge animal, it includes everything. Human conduct is causing threat to biodiversity. It is resulting into extinction of certain species of plants and animals. India is rich in biodiversity having the culture of protecting environment. Extinction of certain species is natural in evolution of nature. However, when human being is responsible for extinction, it may cause serious threat to his existence. Biodiversity can be seen to be distributed in India in Himalayas, Gangetic Plains, deserts, and on Eastern and Western Ghats. It has been observed by World Conservation Monitoring Centre (WCMC) that a million plus out of 5–10 million species on the earth are eliminated due to bio pressure. Forests, medicinal flora, domestic animals, and marine biodiversity need protection on priority. Even the WHO has started study, documentation, and testing of popular tribal remedies. At national level for the protection of biodiversity, Convention on Biodiversity and National Level Indian Biodiversity Act, 2002 plays an important role. At global level, we need safeguards to protect biodiversity and the traditional knowledge of indigenous people who conserve biodiversity through their skill and knowledge about environment. Majority of indigenous people even are not aware that their traditional knowledge regarding medicinal plants are their intellectual property rights. In majority of cases, the rights of such indigenous people in developing countries are violated by exploitation of their IP rights by developed nations having advanced technology but less with biodiversity. This article deals with the concept of biotechnology, threat to biotechnology, need of protection of biodiversity, and sustainable development. It also deals with IP protection to different plant varieties, microorganisms, different laws dealing with protection of biodiversity, and most importantly rights of Indigenous people in protection of their traditional knowledge, etc.

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INTRODUCTION

The state needs to show serious concern about biodiversity, sustainable use of biodiversity, and IP rights of indigenous people. There are different contemporary subjects like the commercialization of seed development, protection of rights of new plant breeders, microorganisms and genetically modified organisms which need to be protected as an intellectual property right. Various developed

countries have great research environment but they are less with biodiversity, or the natural resources, and on the contrary, developing countries have great natural resources and biodiversity, but it is less with the research and development in this field. The issue may arise when the developed countries make research on the material which has origin in developed country, or they use traditional knowledge of the indigenous people without giving these people any monetary benefit. So, here the right of such indigenous people may arise. So, under this paper, author of the article has studied the concept of biodiversity, its use in contemporary era, the need of protection of biodiversity and traditional knowledge of indigenous people, and finally the convention on biodiversity.

Biodiversity can be commercially exploited. There are various examples, such as United Kingdom used the high-quality seeds to increase agricultural production. The invention of such high-quality seeds can be protected by IP. When such type of high-quality seeds is protected by IP, they cannot be used by anybody else for the cultivation without the consent of inventor. In this way by IP, plant breeders' rights can also be protected. At international level, the IPs in microorganisms are protected by Budapest Treaty.

Since civilization, human activities are increasing rapidly. To fulfill human needs, we are exploiting natural resources. We are cutting trees without planting new trees. It is disturbing ecological balance and the biodiversity. Biodiversity is the base of human and animals, and human being is destroying it. It is the accountability of present generation to protect the environment today for future generation. In this situation, sustainable development is a burning issue in various developing countries.

There are 12 mega biodiversity countries in the world and India is one of them. Diversity in India can be seen in wetlands, grasslands, different coastal areas, and in marine. All it consists is different types of unique species. In India, the trans-Himalayas, Himalayas, the Indian deserts, Western Ghats etc. have been declared as 10 biological zones. In those zones, various species of plants, animals and mammals are near to extinction phase. Protection of biodiversity is a part of Indian culture. In Indian tribal areas, biodiversity is protected and conserved through the traditional knowledge of indigenous people living in those areas. Those indigenous people also have knowledge of agro diversity along with rare medicines.

The multidimensional culture of India has protected biodiversity by using indigenous knowledge system. Traditional systems like Ayurveda, Siddha, and Unani are dependent on medicinal plant sources and have, in turn, helped maintain their diversity as well [1].

MEANING OF BIODIVERSITY, INTELLECTUAL PROPERTY RIGHTS

The term biodiversity has been defined by the Biological Diversity Act, 2002.

It provides that "the term biological diversity is variability among the living organisms from all sources and the ecological complexes of which they are the part in, and it includes diversity within species or between species and of ecosystem. Here, the biological resources consist of plants, animals, and microorganisms, or parts of microorganisms and their genetic material."

Biodiversity convention defines biodiversity as

"Biological diversity means the variability among living organisms from all sources including inter alia, terrestrial, marine, and other aquatic ecosystem and ecological complexes of which they are the part. This includes diversity within species, and between species and the ecosystem".

The concept biodiversity was first used by Walter G. Rosen in the meeting of "The National Forum on Biodiversity". The meeting was conveyed in Washington, USA on September 1986. Biodiversity consists of variety of flora and fauna, and their ecological role and the genetic variability they contain [2].

Whereas “Ecosystem means a dynamic complex of plants, animals, and microorganism communities, and their non-living environment interacting as a functional unit” and “Habitat means the place or type of site where an organism or population naturally occurs”. Whereas the term “Sustainable” use is the use of component of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspiration of present and future generation.

To make invention in new plant varieties, biodiversity, and its sustainable use, a person needs intellect, skill, and experience. A small farmer having knowledge in this field or the indigenous person having skill and experience in finding and using medicinal plant have right to earn monetary benefit as his skill and knowledge is his intellectual property. Intellectual property is emerging from human creativity, innovation, and skill. Such creativity can be used, sold, traded, and protected just as conventional property. In India, under the Indian Patent Act, 1970, which has been amended in the year 2002, has made the provision for the patent protection to food, medicine, and drugs [3].

IP PROTECTION TO PLANT, ANIMALS, AND MICROORGANISMS

Here, the question arises whether the invention consisting of such plants or microorganisms is also patentable. Can it be protected as an intellectual property? The answer to this question is ‘yes’. India has signed the TRIPS agreement; accordingly, such inventions can be protected by patent.

Indigenous people’s traditional knowledge about medicines and agro biodiversity is their IP right. India is also a party to Convention on Biological Diversity, accordingly, to effect to it, Indian Patent Act was amended by Indian Patent Amendment Act 2002 and the Biological Diversity Bill, 2002. India now protects microorganisms and rights of breeders of plant by developing a sui generis system. Plant breeders’ right is protected by the Plant Varieties Act. Their ability of finding out unique breeds is their IP right, which is protected for the period of 30 years.

At international level, IPs in microorganisms are protected by the Budapest Treaty. The invention consisting of microorganisms or plants varieties, seeds, etc. also need to pass the test of novelty, no obviousness, and the industrial applicability test. To bring uniqueness and novelty, inventors bring characteristics in new breeds of plants. Such genetically modified plants have the susceptibility to disease; it may also result in loss of biodiversity. Such modified crops may be harmful to other species in environment. It may result in ecological degradation. Such genetically improved seeds need more fertilizers and pesticides which again lead to soil degradation and degradation of nutritional value of that crop. Finally, it may also result into biodiversity degradation as well. Here, the need for sustainable development arises. We need to develop crops and its production. We need to motivate the plant breeders for inventions. But at the same time, we cannot destroy the biodiversity, which is the foundation of existence of mankind. So, here we need to again think about biodiversity conservation [4]. International community has taken protection of rights of new variety of plant breeders very seriously and accordingly through making international conventions for protection of new plant varieties of plant (UPOV). This convention was adopted in the year 1961 and came into force in 1978. It was revised in the year 1991 [5].

Need of Protection to Biodiversity and Traditional Knowledge of Indigenous People

India is rich in biodiversity with a variety of flora, fauna, animals, etc. It has drawn the attention of world towards the medicinal plants and the traditional knowledge of indigenous people. It is the observation of World Health Organization that more than 80 percent population of world use traditional medicine and out of it, 65 percent population use ‘Ayurveda’ for the primary health care. Majority of Ayurvedic plants are found in several parts of India. Indigenous people from India have exclusive knowledge of different medicinal plants and procedure of using it in treatment of various different diseases. Due to poverty and illiteracy, these people do not have knowledge about the asset of knowledge they already have [6].

All living creatures are connected with each other. If any element is disturbed, it may result into imbalance in whole ecosystem. We need conservation of biodiversity as greater the biodiversity of wild species, greater the opportunity for production of new species. All the crops and livestock we eat are hybrids. They are the result of crossbreeding originally from wild species. Hybrids always have threat from abnormal climate variation as compared to their wild ancestors. Wild ancestors need to be protected as they are very sensitive towards the environment changes. They give signal regarding any change in nature.

The Red List of Threatened Animals provides that there are 44 species of plants in India which are under the category of “Critically Endangered Plants”, 113 plant species are under the category of “Endangered Plants”, and 87 are Vulnerable Plant Species. Among the animals, 18 are critically endangered, 54 animals are in category of endangered, and 143 are vulnerable.

India is at second number in terms of threatened species of mammal, and sixth in terms of threatened species of birds. We are causing the extinction of those species of plants, mammals, and birds for our development. Human being is causing pollution which leads to species loss and overhunting leads to extinction of wild animals. Human beings are developing at the cost of extinction of biodiversity and environment degradation.

NEED OF CONSERVATION OF BIODIVERSITY AND ITS SUSTAINABLE USE

Sustainable development is “development that meets the present needs without compromising the ability of future generation to meet their own needs”. Sustainable development ensures distribution of benefit of economic progress more equitably. If we want a healthy environment, protection and conservation of biodiversity is must. We should not forget that more than 1.2 million people still live on wild resources, two billion people live on traditional medicines. Putting biodiversity in danger means putting the whole mankind in danger. We should use natural resources in such a manner that it will not create any threat to wild species and varieties, agricultural ecosystem, domesticated species, etc. Our main concern should be development with minimum degradation of environment and biodiversity.

BIODIVERSITY, SUSTAINABLE DEVELOPMENT, AND LEGISLATIVE APPROACH IN INDIA

Indian Constitution, through its various provisions under Fundamental Rights and Directive Principles, protects the environment from its degradation. Article 48 A provides that the state will take efforts for the protection and improvement of the environment, forest, and wildlife. Article 51 A (g) of Indian Constitution, obliges us to protect environment. Duty to protect environment is a traditional obligation of each individual. Today, there is a need to think that Part III provides us enforceable right to go to court for right to pollution-free environment but if we fulfill our duties provided under Part IV A of Indian Constitution, we would not need to demand our rights [7].

Environment consists of forests, lakes, rivers, wildlife, etc. We have different laws dealing with protection of environment viz. The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981, The Environment (Protection) Act, 1986, The Forest Conservation Act, 1980, The Wild Life Protection Act 1972, The Biological Diversity Act, 2002. All these Acts give confirmation to the principles provided under India’s international obligation, treaties and other commitments [8].

EFFORTS OF INDIA TOWARDS PROTECTION AND CONSERVATION OF ENVIRONMENT AND BIODIVERSITY

In India, the awareness regarding the environment, environment ethics, and biodiversity is at a very low level and government measures are also not adequate. India’s common man is seen to be very insensitive towards environmental degradation. However, certain safeguards seem to be taken by the

Indian Government for the protection of the environment and biodiversity. Deployment of CNG buses in Delhi, banning of public smoking, banning of burning crackers beyond certain hours are certain initiatives taken by the Indian Government. At individual level, people are protecting trees and creating awareness regarding environment ethics and importance of tree. The Chipko Movement, Medha Patkar and Arundhati Roy's Narmada Bachao Andolan are honest efforts of individuals in India [9].

India has signed the Convention on Biodiversity (CBD), and accordingly taking steps to protect biodiversity from its degradation. For this purpose, India has prepared and implementing national Action Plan, like National Biodiversity Strategy and Action Plan (NBSAP), enacting legislations like Biodiversity Act, 2002, Biodiversity Conservation Rules, 2004, etc.

In India, various laws were enacted with the objective of protection of environment and biodiversity. However, today we need to study and implement environmentalism consisting wide range of ideas, practices, a concern for nature, its relationship with human beings, and sustainable use of natural resources, and create awareness about it individually and also with assistance of government [10].

SUGGESTION

- Indigenous people have traditional knowledge of using sustainable use of natural resources; their knowledge should be used and acknowledged by State by providing them monetary benefit.
- The traditional knowledge of indigenous people should be given IP protection, and its enforceability should be ensured strictly. Such indigenous people should be made aware regarding their IP rights over their traditional knowledge.
- Forests, medicinal flora, domestic animals, and marine biodiversity need protection on priority. State should provide effective measures to protect biodiversity.
- Strict implementation of pollution laws with stringent fine and punishment might give fruitful results in protection of biodiversity.
- Research and development need to be done in the area of sustainable use of environmental resources and protection and conservation of biodiversity.
- Conservative strategies need to be framed by states by appointing proper authorities to protect biodiversity and rights of indigenous people in tribal areas.

CONCLUSION

To conclude this paper, it can be said that biodiversity is a foundation of mankind. Its loss can never be compensated by human being. Man, himself is causing threat to biodiversity. It is a fundamental duty of every citizen to conserve the environment. However, while going to court, to enforce right to pollution-free environment as a fundamental right, we forgot to do our duty first. Human being has ability to think and do inventions. He has right to protect his inventions. However, the inventions should not be of such a nature that it will degrade the environment and destroy biodiversity. Indigenous people should be involved in protection of biodiversity, flora, and fauna. Even though there are various laws dealing with conservation of biodiversity, however, those laws cannot give fruitful result unless we as an individual through our conduct take active steps to promote and protect it and state takes active steps by effective enforcement of biodiversity and environment protection laws.

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