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Significance of Medicinal Plants in Conservation of Traditional Medicinal Knowledge

Rashmi.A.H

Research Scholar

Department of Studies in Law

University of Mysore

Mysuru.

ABSTRACT

The medicinal plants are very much required in both modern healthcare as well as the indigenous healthcare system. The identification and usage of medicinal plants can be considered as living tradition in developing countries like India. The World Health Organization (WHO) opines that nearly 80 percent of primary health care requirements of developing countries are met by the Indigenous knowledge which is of tradition. Such indigenous knowledge system largely depends on the plants which form the bulk of medicines. Unfortunately these plants are facing threat of habitual destruction. The biodiversity as the treasure of flora and fauna should be protected to conserve the indigenous medicinal knowledge and the medicinal plants. Being a ratified country to the Convention on Biological Diversity (CBD) the India has been enacted many laws which directly effects on the existence of medicinal plants. The enacted laws, in one or other way lay some positive and negative effect on the conservation of medicinal plants. But a lot of medicinal plants are disappearing knowingly or unknowingly. Medicinal plants do some protection. It may be in the protected area or other, lack of focused conservation strategy leads to destruction of this valuable healthcare treasure. Most of the plant collections like roots, stem, wood, and sometimes whole plant causes the destructive harvesting. The replacement of local communities who are well known about the medicinal plants leads to depletion of medicinal plants and deprivation of indigenous medicinal knowledge which amounts to great loss of biodiversity. This is threatening to the life and survival of the ethno groups which are depends only on their traditional knowledge for their health care. The indigenous medicinal knowledge is the intellectual asset of local community and its protection strongly affirmed by the World Intellectual Property Organization (WIPO). The major issue with respect to the indigenous medicinal knowledge and plants is the misappropriation by the commercial intellectuals without benefit sharing. India had its bitter experiences with respect to sovereign rights over the natural resources .Fight for right over turmeric, neem, and basmati are the classic examples. Of course such experiences cause to enact the laws to protect our diversified

valuable biodiversity which also includes the protection medicinal plants and its knowledge in the local communities. The objective of this article is to analyses the importance of protection of medicinal plants in order to conserve the indigenous medicinal knowledge in India along with the legal issues.

Key words: - Indigenous, Medicinal plants, Biodiversity, Ethno group, Destructive harvesting.

Introduction:-

Indigenous medicinal knowledge is a traditional knowledge which is very important for sustainability of medicinal value of biodiversity. Sustainability of environment can be learnt from the ethno knowledge and the transmission of their locality based knowledge. The ethno medicare system of indigenous group deals with various medicinal plants and their conservation. The tribal tradition towards groves and tress recognizes medicinal value and provide the sacred status in their biodiversity. For instance, the Devarakaadu near Shimoga, India reserved to a village God and worshipped by the local people.¹ These types of conservation of biodiversity are present in the community managed forests. Traditionally the protection of biodiversity was an aspect of faith and belief in their lifestyle and it was enshrined in their culture which contributes in the protection and propagation of various species of medicinal plants in India. The conservation of environment is not new to the Indians; it was deep-rooted in the life of our ancients and it has been part of human culture since ancient times. The early living culture established an indivisible relationship with nature. The nature introduces the herbal solutions for healing and to treat many diseases to indigenous group who are creatures of biodiversity.

The medicinal plants are very much required in modern as well as indigenous health care system. Because of its preservative nature the health care knowledge of ethno group getting more popularity. The World Health Organization opines that nearly 80% of primary health care requirements of developing countries are met by Indigenous Knowledge which is of tradition.² These IMK largely depends upon the medicinal plants.³ The identification, utilization, conservation of medicinal plants itself are the IMK of indigenous group. The life style of indigenous group largely depends on biodiversity, which is the treasure of flora & fauna. That dependency is not only for healing or medication, but also for their fitness which is of right to life.

Medicare with medicinal plants is considered very safe as there is no or minimal side effects. And it is natural one .The golden fact is that the herbal treatment is easily healable to all age groups and sexes. The indigenous medicinal practitioners only believed that medicinal plants are only solutions to cure a number of health related problems and diseases.IMK is of the try and error knowledge which is experimented to arrive at conclusion even in the significance of medicinal plants. Indigenous medicine is the codification of knowledge, applicability, skills, practices based on the experiences and belief of indigenous in their different cultured life, that are used to maintain health, as well as to prevent the diseases . The indigenous

¹ . Shubhashree MN, Matapathi S, Dixit AK. “*Conservation and preservation of medicinal plants-leads from Ayurveda and Vrikshayurveda*”. Int J Complement Alt Med. 2018;11(5):275-279 <<https://medcraveonline.com/IJCAM/conservation-and-preservation-of-medicinal-plants-leads-from-ayurveda-and-vrikshayurveda.html>>accessed 09 September 2022

² . <https://www.wipo.int/export/sites/www/tk/en/documents/pdf/background_briefs-e-n6-web.pdf > accessed 8 October 2020 at 6pm.

³ .Here in onwards the Indigenous Medicinal Knowledge refers in short as ‘IMK’.

medicinal system has been followed by the many people other than the indigenous is often made it as an alternative or complementary medicinal system. By all these reasons the herbal treatment is growing in popularity across the globe. The All India Ethno biology Survey carried out by the Ministry of Environment and Forests estimates that over 7,500 species of plants are estimated to be used by 4,635 ethnic communities for health care across the country.⁴ The (CBD) convention on Biological Diversity lays an obligation upon the States to protect the natural medical treasure, in order to conserve the indigenous knowledge.⁵ At the same time it is the duty of the nation to protect the interest of the indigenous communities over their traditional knowledge and the nation has authority over them according to Article 8(j) of CBD.⁶ The state is empowered to enact laws for regulating the indigenous knowledge and benefit sharing including the medicinal plants.

Once upon a time India is the country in which highest numbers of medicinal plants are available. But now the fact is the local medicinal practitioners facing the rarity of medicinal plants. Prior to the effort of sustainability of ecology, biodiversity is at the extinction level. Medicinal plants are in endangering due several reasons.

The Indian Constitution recognized the cultural rights of the minority groups who are having different culture with the environment. Article 14 by envisaging the principal of equality in all aspects strengthened the opportunity of indigenous group in secured their life with native nature. Article 47,48, and 49 of Indian Constitution lies an obligation upon government to take the public health, organization of agricultural and animal husbandry on modern and scientific lines and protection of natural monuments from disfigurement and soon.

According to the Stockholm Declaration 1972 every person has a fundamental right to have a preserved environment for present and future generations. The preservation of medicinal plants for present and future is fundamental right of every one especially the ethno group for conservation of IMK. It is directly related to the right to life and personal liberty, right to trade and commerce guaranteed under the constitution. Under Article 51A (g) it is the duty of every citizen in India to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures.

Along with this The Wildlife Protection Act, 1972, The Forest Conservation Act, 1980, The Forest Dwellers (Recognition of Forest Rights) Act, 2006, The Indian Forest Act 1927, The Biological Diversity Act, 2002, The Environment Protection Act, 1986 such other laws are enacted and measures have been adopted to

⁴ . Dr. Palpu Pushpangadan, 'All India coordinated research project on ethnobiology and genesis of ethnopharmacology research in India including benefit sharing'(2018) 7(1)Annals of Phytomedicine <http://ukaazpublications.com/attached/publications/Article2.pdf> accessed 09 September 2022.

⁵ .Prof S. Kannaiyan, 'Biological Diversity And Traditional Knowledge', http://nbaindia.org/uploaded/docs/traditionalknowledge_190707.pdf accessed 8 september 2022

⁶ . Article 8(j) of the Convention on Conservation reads as follows: "Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of benefits arising from the utilization of such knowledge, innovations and practices".

protect and conserve the biodiversity. But the fact is that these attempts were failed in conserving the medicinal plants which is part and parcel of our biodiversity.

The reasons for destruction of medicinal plants are many, which need to discuss to find the solution. Before that one must understand the meaning of protection of medicinal plants for conservation of IMK. The protection of medicinal knowledge and the plants constitute the identification of plants with its medicinal value, utility of that and the sustainable harvesting of those to conserve them for present and coming generations in their natural nature within the biodiversity. The protection of herbs constitutes the restoration of identification, exploration, documentation and preservation of such specific ethno botanical knowledge of ethno group. The traditional indigenous group has sustainable as well as knowledge to conserve those valuable bio resources in their life style. Unfortunately these plants are facing threat of destruction because of several reasons.

The first reason for destruction is the sudden acceleration in the utilization of herbal medicine. The people are getting more interest in medicinal plant therapies as a result the demand for medicinal plants and their products is on the rise. This leads to commercialization and perhaps over exploitation of the plants. There is also the fear that this will be effect on the local consumption of ethno group. A proper regulation is necessary to compel the sustainability in the utility of herbs.

Another reason is the habitual destruction. Under the Forest (conservation) Act 1980 and The Wild life (Protection) Act 1972, The Protection of Plant Variety and Farmers Right Act,2001 and few enactments pertaining to medicinal plants do get some amount of protection in the reserved or protected area but there is no consolidated strategy for medicinal plants, due to lack of focused conservation strategy most of the herbs disappear without even the knowledge of it. The method of collection of medicinal herbs leads to destruction of medicinal plants. Over 70% of the plant collections involve the use of roots, bark, wood, stem and sometimes whole plant, which is destructive in nature.⁷ If it is not carefully monitored, it leads to depletion of diversity of medicinal plants. Traditionally the people used to learn the use of medicinal plants along with the conservation; often we can say it as 'folk variety'.⁸ But the commercial exploitation of pharmaceutical field leading to depletion of medicinal plants from indigenous group without any concern of conservation of those. It is very much required to teach how to preserve and conserve the knowledge rather than the utilization.

The replacement of forest dwellers is another cause for destruction of medicinal plants. The indigenous groups are the root maps for the rich forest diversity. Because their life starts in rich forest diversity, they know each and everything. Wild life management and conservation practices aimed at protection of natural resources. The ethno botanical garden plays a vital role in their health care. The biodiversity of forest includes the ethno group. The absence of indigenous group due to replacement under the enactment deprives the indigenous medicinal knowledge. IMK is fully depends on the wild life but the replacement of forest

⁷. G. Dutfield, 'Industrial utilisation of medicinal plants in developing countries' (eds) *Medicinal plants for forest conservation and health care*, (FAO 2003)

⁸.Dr.J.J.R.Upadhyaya, *Environmental Law*, (2nd edn, Central Law Agency,Allahabad 2008),p.427.

dweller's effects on the biodiversity as well as the medicinal value of the biodiversity. Sometimes the indigenous group found their life in selling the medicinal plants and their raw materials to the local communities in commercial value lower than the global market value. This is because of the stringent rules under established laws which are not easily met by the local people due to their social barriers. For example section 19 of the Biological Diversity Act of 2002 prohibits the transfer of any biological resource or knowledge associated thereto subjected to the prior consultation with the National Biodiversity Authority.⁹ The forest policies should concern itself in credible towards the protection indigenous people and their interest upon the resources available in the forest in order to conserve their specific indigenous knowledge.

The Urbanization & passion of jobs in urban areas effect on indigenous knowledge of remote rural community. Ethno group of remote areas the people attract towards the easy making money and other facilities available in the veil of labour welfare and rural society in our country saturated fails to provide employment opportunities in sufficient. Due to inheritance the people of rural get the small land holdings for cultivation which is uneconomical.¹⁰ Migration towards Urban is great loss of ethno botanical knowledge in particular has also accelerated the depletion of plants of medicinal value. The indigenous knowledge of ecosystem knew how to harvest plants in order to maintain its population. But due to urbanization, with this loss of intellectual traditional knowledge, we are fast losing the ethical means which ensure a sustainable harvest. State has to take appropriate measure to protect the rights and interest of cultural ethnic group and avoid the migration.

Biological Diversity Act is a law to provide for conservation of Biological Diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto. With respect to the Biological Diversity Bill 2002, the Union ministry of environment and forests in a National biodiversity plan admits by the report that there is lack of effective enforcement of the laws to protect biodiversity.¹¹ Forest is very much important for the ecological balance including the gene pools and tribal people.¹² As per the Forest (Conservation) Act, 1980 most of the forestlands should away from industrial and infrastructural activities. Since the enactment of same Act, about 15,000 projects involving 1.14 million hectares of forest have got official clearance.¹³ Over 40 per cent of India's forests facing degradation in different levels. The domestic demand for timber, fuel-wood and such other are big obstacles for conservation planning.¹⁴ About 80 per cent of the forest area faces heavy grazing while fire affects 50 per cent of the forest cover.

The intangible knowledge is not sufficient to protect the knowledge of medicinal knowledge under IPR. The protection under is by means of many intellectual rights like patent, copyright, trade secret. Medicinal and

⁹ .*id*,(p.421)

¹⁰ .K.Laxmi Narayan,"India's urban migration crisis", Allianz, <https://www.allianz.com/en/press/extra/knowledge/demography/111018-indias-urban-migration-crisis.html#>

¹¹ . Draft National Biodiversity Action Plan, Ministry of Environment and Forests, Government of India, August 2007, IUCN Red List of Threatened Species, 2007

¹² .*id*,(p.147)

¹³ .Meenakshi Joshi and Preet Pal Singh,"Tropical Deforestation And Forest Degradation:A Case Study From India"September 2 ,2021, <https://www.fao.org/3/XII/0250-A1.htm>

¹⁴ .*ibid*.

other therapeutic treatments are non-patentable.¹⁵With regards to knowledge of medicinal plants does not fall in the laws of above rights. The intellectual property law somehow fails to protect the intellectual knowledge of the indigenous group, so as to credit and benefit sharing. Under the Patents Act the interest of knowledge holder may be of source of medicinal plants and their availability, utility should be protect with legislative framework. In the veil of community knowledge it is not effectively regulating but subjected to neglect. It is a comprehensive law so as to ensure more effectively that patent rights are not worked to the loss of the consumer or the industrial development of the country keeping in mind the WTO obligations and commitments. The reward for knowledge should be involves in both legislative and non-legislative measures. The law should deal with medicinal plant or biological material and the benefit of knowledge holder. The Patents Act has a limited form of protection for traditional knowledge.¹⁶ It states that an Indian patent may be opposed or revoked if the invention was anticipated having regard to the knowledge, oral or otherwise, available within any local or indigenous community in any country. This would need to be reciprocated by other countries for Indian traditional knowledge to be adequately protected.

The use of biotechnology, technology is effectively adopted to develop the product of an indigenous medicinal knowledge. These are useful to solve the issue of bio-piracy relating to medicinal plants. The issue of neem and turmeric are best examples which taught us the significance of protection of traditional knowledge. Information of indigenous medicinal knowledge is required for research and development in order to conserve the plant species. The TRIPs Agreement requires WTO Members to protect bio-plants varieties using patent rights, a sui generis system or some combination thereof.¹⁷ The PPV&FR Act, 2001 was enacted to grant intellectual property rights to plant breeders, researchers and farmers who have developed any new or extant plant varieties. The protection under this enactment should extend so as to protect the wild life biological resources like medicinal plants and indigenous knowledge. The interest of indigenous group is looked in to.

Conclusion and suggestions:-

The consolidated strategy of in-situ and ex-situ are required for effective implementing of measures for protection of medicinal plants in order to conserve the indigenous medicinal knowledge. The law which is exclusively for regulate the protection of medicinal plants is necessary to preserve our biodiversity. Most of the enactments are concerns with the raw materials available from the forest. Any act which is not able to protect the environment is unable to protect the fundamental rights of indigenous people, whose life is totally depends on the specific biodiversity. The protection of medicinal plants as well as indigenous medicinal knowledge can protected by the consolidated strategic legal policy which defining the conservation of medicinal plants. Several suggestions from researchers, local people, legal experts, Eco-friendly organizations and the social workers should be taking in to consider for protection medicinal plants and IMK. Everyone should give an opportunity of opine to represent from their view, such multiple view will cause for

¹⁵ .Dr.V.K.Ahuja, “*Law Relating to Intellectual Property Rights*”, (2nd edn, LexisNexis) at 493.

¹⁶ .id (p.494)

¹⁷ .id(p.495 & 496)

the highest protection. The government should keep in mind that no laws will success in its object without obedience or support of the subject, so it is very much necessary to bring awareness in the people about the significance of protection of medicinal plants and IMK which are most valuable resources of our biodiversity. It is the obligation of state being the absolute owner or care taker of biodiversity. The conservation of biodiversity includes the bio resources, the ethno group and their specific indigenous knowledge and other biological materials like medicinal plants.

