



Sensitizing and Imparting Awareness about Intellectual Property Rights among Students



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IPR Issues in the field of Traditional Knowledge of Medicinal Plants-An Overview

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ABSTRACT

India has rich resources of not only of medicinal plants but also has traditional crop varieties along with the indigenous knowledge on conservation and sustainable use of common crop varieties. But commercialization of our plant resources in current scenario of “Herbal revolution” makes this ancient knowledge vulnerable to misappropriation in global market. Since the founding of WTO in 1995, IPR related issues comes into limelight in International commerce and trades which also affects the areas of biological resources of any country. This integration of commercialization of traditional knowledge and the use of IPR for its regulation are major challenging issues in today’s time which are needs to be addressed in current scenario of globalisation. The purpose of this paper is to provide a brief overview of some national legal legislation related to the protection of traditional knowledge based plant resources with a brief account of some important medicinal plants.

Key Words: Herbal revolution, IPR, Traditional knowledge, WTO, Conservation

INTRODUCTION

There has been global revolution in the commercial use of plant based products by the name of “Herbal”. But the growth of these so called” Herbal products” makes our plants based traditional knowledge vulnerable to misappropriation in global market. Commercialization of our plant resources led to the interconnectedness of international and national legal regimes for the protection of traditional knowledge. Since the founding of WTO in 1995, IPR related issues comes into limelight in International commerce and trades which also affects the areas of biological resources of any country. India is one of the 17 mega diversity countries in the world with its two biodiversity rich “Hotspots”. With 47000 species of plants discovered so far more than 7000 species of plants have recognised to have medicinal properties. India has rich resources of not only of medicinal plants but also has traditional crop varieties along with the indigenous knowledge on conservation, sustainable use of these crop varieties. Local communities of villages and specially the tribe communities of forest area often has vast knowledge of cultivated plant genetic resources and common healing properties of their native plant species. Our popular traditional medicine system such as Ayurveda is also primarily a plant based. It is the use of this traditional knowledge only that makes Patanjali Pharmacy of Haridwar a global leader in International market. The National Intellectual Property Right (NIPR) Policy, 2016, emphasized that there is ‘considerable unexplored potential for developing, promoting and utilizing traditional knowledge of India’ and the need to reach out to the less visible Intellectual Property (IP) generators like the Traditional Knowledge (TK) holders. National Health Policy, 2017 and AYUSH Policy, 2016 also emphasize greater utilisation of TK, in particular traditional medicinal knowledge, which, in turn, raise serious concerns and debates on protection of the these knowledge resources. This integration of commercialization of traditional knowledge and the use of IPR for its regulation are major challenging issues needs to be addressed in current scenario of globalisation. There are many forms of TK that remain legally unprotected and vulnerable to misappropriation in foreign jurisdictions despite the several Indian legislation related to the

protection of Traditional Knowledge. In the past, several cases of misappropriation of Indian TK have been documented. **Bio piracy: Imitations not Innovations**, the Gene Campaign, book documented two publicised significant bio- piracy cases of famous Indian Medicinal plants. The purpose of this paper is to provide a brief overview of some national legal legislation related to the protection of traditional knowledge based plant resources with a brief account of some important medicinal plants.

IP misappropriation Case Studies:

- **The Turmeric Patent**-Turmeric plant commonly called as “Haldi” (*Curcuma longa*) has many anti-inflammatory properties which makes it to use for wound healing. All the medicinal properties of this plant are mentioned in our ancient Ayurvedic text. But patenting of wound healing properties of turmeric by two Scientists in the United States (US) in 1994 raise debate on the protection of our traditional knowledge. Again in 1997 Turmeric patent was most publicised news because India forcibly managed to make patent and Trade mark Office of the U.S. revoke a petition that the former had given to the U.S. researchers to use turmeric in powdered form for healing purposes.
- **The Neem Patent**-Neem Tree (*Azadirachta indica*) which is commonly called as “Village Dispensary” in India is another medicinal plant whose every part have medicinal properties. This plant is well known in Indian Culture and medicinal values are already mentioned in our traditional text. But in 1994, European Patent office granted a patent to its researchers for the method of controlling Fungi on plants with the help of neem extract. This was challenged by several NGO’s in the country and once again created a heated debate on the exploitation of our already existed traditional knowledge. With the result India won this battle at EPO against a patent granted on an antifungal product derived from Neem tree.

Intellectual Property Rights (IPR) for Medicinal Plants: Agriculture has become central focus of IPR only after the creation of World Trade Organization (WTO) as a result of the General Agreement on Tariffs and Trade (GATT) Uruguay Round agreement. Agreement on Trade-Related Intellectual Property Rights (TRIPs) is the outcome of WTO which has direct impact on farmers’ livelihood, food security and economic development of the country. TRIPs provides mechanism for common protection and enforcement of IPR such as copyrights, trademarks and patents and also to make rules intended to limit international trade

Major forms of IPR that are important for their potential impact on the traditional knowledge protection are as follows:

- **Patent:** A Patent is a form of IP that gives its owner the legal right to exclude others making using, selling and importing an invention for a limited period of time. Plant Patent Act 1930 provides patent protection of all asexually reproduced plants except tuber propagating plants and plants found in uncultivated state. Plant Patent last for a term of 20 years issued from the date of filing. According to Patent Act, 1970 an invention which, in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components” is not an invention and, hence, not patentable.
- **Biological Diversity Act, 2002:** The main goal of this Act mainly comprises regulation of free access to Biological resources of the country. Conservation

and sustainable use of biological resources alongwith fair and equitable sharing of benefits arising from the use of these resources are its major implications. For a person who has applied for Patent for his invention based on Biological resources or associated traditional knowledge, is required to furnish the permission from NBA. Thus this Act proves to have important role in Indian system of Medicine as such innovations require frequent access to Biological Resources.

- **Protection of Plant varieties and Farmer's Right Act (2001):** The protection of Plant Varieties and Farmer's Right Act (PPVFR Act) seeks to address the rights of plant breeders and farmers who have developed any new or extant plant varieties on equal footing. This Act also recognised farmers engaged in the 'conservation of genetic resources of land races and wild relatives of economic plants and their improvement through selection and preservation.
- **Geographical Indication of Goods (Registration and Protection) Act (1999):** Under the Geographical Indications of Goods (Registration and Protection) Act, 1999, the scope of 'geographical indication' includes such goods as agricultural goods, natural goods or manufactured goods as originating, or manufactured in the territory of a country, or a region or locality in that territory, where a given quality, reputation or other characteristic of such goods is essentially attributable to its geographical origin such as Basmati Rice. By registering an item which is the product of TK as GI, it can be continued to be protected indefinitely by renewing the registration when it expires after a period of ten years.
- **Traditional Knowledge Digital Library (TKDL):** It is an Indian digital knowledge documentation of the traditional knowledge, especially about the medicinal plants. TKDL was set up in 2001 is a collaboration between the CSIR and Ministry Of Ayush. The main objective of the TKDL is to protect the ancient knowledge of the country from exploitation through bio piracy and unethical patents, by documenting it electronically and classifying it as per as International patent classification system. But still there are many who had applied for such patents which is evident from the fact that TKDL present many cases of rejected and withdrawn applications being a traditional knowledge.

Important Medicinal Plants:

- **Ashwagandha (*Withania somnifera*):** Ashwagandha (*Withania somnifera*), a member of Solanaceae is distributed throughout India. It is annual to perennial, branched under-shrub to herb of about 30 cm to 120 cm height. Root is the major medicinally important part apart from leaves and seeds. Alkaloids (mainly withanoloids and withanins) present in the roots are believed to be used for the treatment of stress induced disorders, fatigue, dropsy, male impotency, neurosis, etc. It is commonly used as a general tonic and an important ingredient of Ayurvedic preparations.
- **Guggal (*Commiphora wightii*):** Guggal is one of the important medicinal plants belongs to family Burseraceae. It is a perennial shrub or small sized tree of about 5 m. Guggulosterol and guggulosterone are the important active ingredients of the gum

resin. The oleo- gum-resin of guggal is highly effective in the treatment of obesity, arthritis and several other diseases in Indian System of Medicine.

- **Tinospora (*Tinospora cordifolia*):** It is a deciduous perennial climber belongs to the family Menispermaceae. In India, it is distributed almost throughout the country. Tinospora stem is a common constituent of a number of ayurvedic vital tonics for the treatment of general debility, dyspepsia, fevers and urinary diseases.
- **Satavary (*Asparagus racemosus*):** Satavary is a perennial spiny climber belongs to the family Liliaceae. Cladodes are in tufts of 2-6 and leaves are reduced to spines. It contains saponins and is used for the treatment of dysentery, tumours, rheumatism and kidney and liver disorders.
- **Asoka (*Saraca asoca*):** It is a medium sized; evergreen tree belongs to family Caesalpiniaceae. The tree is distributed throughout India. Flowers are also used for the treatment of bleeding piles and skin disorders. Asoka bark is widely used in Indian medicine for the treatment of uterine disorders.
- **Isabgol (*Plantago ovate*).** Isabgol belongs to family Plantagianacea is an annual herb grown during the rabi season. The swelling property of the husk after absorption of water is the cause of its use as a famous medicine against constipation and gastrointestinal irritations.
- **Aloe (*Aloe barbadensis*):** Aloe is a member of family Liliaceae. The plant is perennial herb with fleshy leaves and condensed stem. Leaves contain gel (polysaccharides) and leaf exudates contain aloins, which are commercially useful. Gel has a cooling and moisturizing action and hence used in cosmetic industries.

Conclusion: The importance of the medicinal plants sector can be gauged from the fact that herbal medicines serve the healthcare needs of about 80 per cent of the world's population. But the lack of national legislation or effective international agreements on conservation of biodiversity has resulted in 'slaughter harvesting' of medicinal plants and massive depletion of biodiversity. The IPR system and the misappropriation of TK without prior knowledge and consent of the indigenous tribal community are bound to evoke the feelings of helplessness of knowing nothing about IPR and TK piracy.

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