



**Research Article**

**TRADITIONAL KNOWLEDGE AND PATENT ISSUE RELATING TO AND IN REFERENCE WITH BASMATI, GOLDEN RICE, NEEM AND TURMERIC**

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**ABSTRACT**

Intellectual property is the creation of human mind, human intellect and hence called “intellectual property”. This paper emphasis on the traditional knowledge and patent issue relating to and in reference with Basmati, Neem, Turmeric and Golden Rice. Traditional knowledge is a living body of knowledge that is developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. As such it is not easily protected by the current intellectual property system, which typically grants protection for a limited period to inventions and original works by named individuals or companies. Its living nature also means that traditional knowledge which is not easy to define. Various local communities possess knowledge, innovations and peculiar practices developed from experience gained over centuries and adapted to the local culture and environment. For the purpose of recognition such knowledge is categorized as traditional knowledge. Traditional knowledge could be understood as knowledge which has been gathered or accumulated by a community through years of experience. Thus intellectual property law protects a content- creator’s interest in their ideas by assigning and enforcing legal rights to produce and control physical instantiations of those ideas. This paper also covers patent issues with reference to Basmati, Neem, Turmeric and Golden Rice. A patent is a set of exclusive rights granted by a sovereign state to an inventor or assignee for a limited period of time in exchange for detailed public disclosure of an invention. An invention is a solution to a specific technological problem and is a product or a process. Patents are a form of intellectual property. It also implies that a grant of a monopoly to an inventor who has used his knowledge and skills to produce a product or process which is new involves an inventive step and is capable of industrial applications.

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**INTRODUCTION**

Intellectual property is generally characterized as non-physical property that is the product of original thought. Legal protection of intellectual property has a rich history that stretches back to ancient Greece and before. A different legal system matured in protecting intellectual works, there was a refinement of what was being protected within different areas. Thus there have been numerous critics of intellectual property and system of intellectual property protection. Intellectual property is a term sometimes used to refer to the legal protection afforded to owners of intellectual capital. In the beginning, everything belonged to everyone. Gradually people started associating themselves with some or the other things and became their owners. But with this possession came the threat of it being stolen or taken away. The need to develop laws to protect what had already been developed was felt here. For a long time laws were only for the protection of tangible property as understood in the historic sense.

Industrialization however saw the advent of several landmark inventions and it was a matter of time before concepts and ideas of the mind became the subject of protection under law. Intellectual property rights also include copyrights, patents, trademarks and trade secrets. These rights may be enforced by a court through lawsuits. The reasoning for intellectual property is to encourage innovation without fear that a competitor will steal the idea or take the credit for it. Traditional knowledge is defines as tradition based literally, artistic, or scientific works; performances; scientific discoveries; designs; marks, names and symbols; undisclosed information and all other tradition based innovations and creation resulting from intellectual activity in the industrial, scientific, literary or artistic fields. From this it can be inferred that traditional knowledge is vast enough to encompass indigenous knowledge, medical knowledge, biodiversity related knowledge, and expression of folklore in the form of music, dance, song, handicraft, designs, stories and artwork. Traditional knowledge is deep rooted across the globe. Such kind of system is vital for their wellbeing and for their sustainable development. The traditional knowledge system has been developed by the communities to conserve and

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utilize the biological diversity of their surroundings. Thus the new technological developments, particularly in biotechnology, clearly demonstrate the significance and usefulness of traditional knowledge for the development of new product of commercial importance.

### **Patents**

First and foremost one should have a sound knowledge about what is a patent and how it is governed which is explained hereunder<sup>1</sup>.

A Patent is an exclusive statutory right granted by the State for an invention that is new, involves an inventive step and is capable of industrial application. A Patent owner is given an exclusive right to prevent others from making, using, selling, offering for sale or importing a process or product (s) in respect of which the patent has been granted.

A Patent in India is granted for a period of twenty years. In India Patent filing and prosecution is governed by:

1. The Patent Act, 1970
2. The Patent Rules, 2003.

India signed the Agreement on TRIPs of the World Trade Organization i.e. the WTO in the year 1995 along with other developing countries with a hope that TRIPs regime will result in free flow of trade, investment and technical know-how among the member countries by removing barriers that exists in the form of differences in the standards of intellectual property.

The unaltered Indian patent regime under 111970 Indian Patents Act restricted the rights of patent holders in fields linked to basic needs. The adoption of the Patents Act, 1970 was based on a lengthy legislative process and careful consideration of the socio-economic impacts of the patents in sensitive fields such as health and food. Therefore India had to considerably alter its patent law.

In order to fully comply with the TRIPs provisions India amended the Patents Act 1970, three times during the year 1999, 2002 and 2005,

### **Traditional Knowledge**

Protections of the Traditional Knowledge of the local and indigenous communities seem to be one of the most contentious and complicated issue. The World Intellectual Property Organization (WIPO) defines traditional knowledge as – indigenous cultural and intellectual property, indigenous heritage, and customary heritage rights. The historical development of the protection of intellectual property in the wake of individual private property rights, pushed, the traditional knowledge and the innovative practice based on the outside the purview of the formal intellectual property protection regime. Traditional Knowledge was treated as Knowledge in the public domain for free exploitation without showing any respect or concern for the effort taken by the communities to preserve and promote the same. The need to protect the traditional knowledge captured the attention of the international community only recently by the standard setting was left in the national governments. The absence of the international standards, that causes serious negligence for the protection of the traditional knowledge and the benefits of

new technology<sup>2</sup>. Traditional Knowledge is nothing but information that is transmitted from generation to generation generally within the community or within families within the community in an oral form without any adequate documentation. This has caused traditional knowledge to be undervalued and marginalized. In fact, one of the fears in these communities is that if the knowledge were to be documented it would have been lost to the community by expropriation. Thus in India, provisions of the Biological Diversity Act and Forest Rights Act of 2006 both provide a shield for tribal traditional knowledge and on the one hand respecting and protecting the knowledge of the local communities related to biodiversity and on the other hand declaring that the intellectual property rights. In such knowledge belongs primarily to members of the community collectively.

### **Basmati Rice Case**

In July 1994 a Texas- based company; rice Tec, submitted twenty claims to the USPTO for utility patents for its hybridized basmati rice. Of the twenty claims, most were related to the rice plant, while the others were related to the grains, seed, and farming methods. The company claimed to have spent a huge amount of time and money to devise a way to breed a rice plant that bore the same or similar qualities of traditional Indian basmati rice and would grow in North America calling the patent “basmati rice lines and grains.” Prior to this filing, rice Tec had been selling rice that is developed in the United States under the name texmati which it described as American style basmati rice for almost two decades. This 1994 patent was for a superior variety that rice Tec eventually sold under the name basmati described by the company as “Indian style basmati rice”. In September 1997, the USPTO granted exclusive rights under a patent for all of riceTecs twenty claims and subsequently published the patent. The patent allowed rice Tec to grow its hybridized forms of basmati rice and to keep the name basmati rice lines and grains. The patent issuance drew attention internationally and incited outrage from governments and NGOs.

In the march 1998, the research foundation of sciences, technology and ecology (RFSTE) an Indian NGO that works with traditional farming communities, initiated litigation in the Supreme Court of India. The goal was to place pressure on the Indian government to challenge riceTecs patent in the USPTO. India said that it would fight the patent, calling it a threat to survival of thousands of farmers. Rice Tec defended its activities as a harmless and non- exploitative part of its routine R&D and marketing, the kind in which it had been engaging for years. The company asserted that its activities simply created a comparable rice variety to basmati and that its patent did not directly prevent Indian basmati farmers from exporting their rice to the united stated.

The government filed petition for re-examination with the USPTO in April 2000 after compiling research on prior art. The Indian team, consisting of scientists working for various research groups and government agencies, honed in on three of riceTecs twenty claims for ice grains. The scientists provided evidence that these three claims were prior art. Essentially, the research asserted that riceTecs claims to inventiveness were nothing that did not already exist in India,

<sup>1</sup>www.patentindia.org ACCESSED ON 10<sup>TH</sup> SEPTEMBER,2017

<sup>2</sup>www.wipo.int accessed on 10<sup>th</sup> september,2017

where most of the world's basmati rice grows. The scrutiny of the Indian petition did have an impact on riceTecs original claims of inventiveness. The USPTO began a full re-examination of each one of riceTecs claims. The re-examination led to a preliminary decision by the USPTO in March 2001 to reject of most riceTecs claims and gave the company until May 2001 to file response. By April 2001, rice Tec withdrew not only the three claims directly challenged by the Indian government, but also an additional eleven claims and amended another one. RiceTecs left only five of its original twenty claims before the USPTO. It even changed the name of its patent from basmati rice lines and grains to the more neutral rice lines bas 867, RT 1117, and RT 1121. The USPTO came to its final decision in August 2001 to narrow riceTecs patent.

### **Golden Rice**

The name golden rice itself suggests that there is some sort of uniqueness in the quality of the rice. This golden rice is a kind of rice which is grown in some of the test plots in Philippines and there is no such rice ever grown before. In fact, this rice was genetically engineered by two European Scientists in the year 2000. They genetically engineered yellow-colored rice enriched with Vitamin – A, The Golden Rice has been genetically modified so that it contains beta-carotene, the source of Vitamin – A. This technology is now held by multinational agro-company Syngenta and United Nations – backed International Rice Research Institute (IRRI) in Manila, Actually the Indian Crop Scientists have for a long time past seeking “freedom to operate” and commercialize the Vitamin -A rich rice as the Indian Council of Agricultural Research (ICAR) would not be able to breed and release its own of this yellow-colored rice that could be a rich source of Vitamin – A. As all are aware that patents are nothing but tools to protect commercial Interest and Investments, but as far as Golden Rice is concerned it is very clear that it is a close knit impediment to the use and dissemination of technology among poor people. Number of patented technologies was involved in the production of golden rice. Ssyngenta seeds AG was able to negotiate access for humanitarian use and also to provide the Golden Rice Humanitarian Board with the right to sublicense the technology to breeding institutions in developing countries, free of charge and some of the companies of course, provided access to the required technologies free of charge, for humanitarian purposes. Actually the developers of the rice, IRRI and Ssyngenta, had mutually agreed that the company would not charge any royalty if rice lines are transferred to poor and developing nations. But a few years later, the company began dictating terms by specifying the background rice – line. It also offered to carry out bio-dafety studies on behalf of the nation's willing to adopt golden rich which did not go-well with the organizations of developing countries.

### **NEEM**

Neem is a tree which is legendary in India and it is well renowned for its medicinal properties. It is used in India till date as a bio pesticide and medicine for centuries<sup>3</sup>. The Ancient Indian Ayurvedic text has also described the Neem tree and its medicinal healing properties as far as 5000 BC. Presently the United States and India are involved in a bio

piracy dispute over the rights to a tree indigenous to the Indian subcontinent, i.e. the Neem tree. In India this tree was also used for the purpose of brushing teeth also other than pesticides, spermicidal etc. Neem extracts can be used against hundreds of pests and fungal diseases that attack food crops, the oil extracted from its seeds can be used to cure cold and flu, and mixed in soap; it provides relief from malaria, skin diseases and even meningitis. A US based company has been suing the Indian Companies for producing the emulsion because they have a patent on the process. The dispute is over the rights of companies to conduct research and development by using patents against the interest of the people who live at the source of the resource. To what extent can multinational companies claim and patent resource from the developing countries, like India. The movement around the issue of the Neem tree and trade – related aspects of intellectual property rights (TRIPS) represents a challenge for the developing countries. In 1994, European Patent Office (EPO) granted a patent to the US Corporation W. R. Grace Company and US Department of Agriculture for a method for controlling fungi on plants by the aid of hydrophobic extracted Neem oil. In 1995, a group of International NGOs and representatives of Indian farmers filed legal opposition against the patent. They submitted evidence that the fungicidal effect of extracts of Neem seeds had been known and used for centuries in Indian agriculture to protect crops, and therefore, were patentable. In the year 1999, the EPO determined that according to the evidence of features of the present claim were disclosed to the public prior to the patent application and the patent was not considered to involve an inventive step. The patent granted on Neem was revoked by the EPO in May 2000, EPO, in March 2006, rejected the challenge made in 2001 by the USDA and the chemicals multinational, W. R. Grace to the EPO's previous decision to cancel their patent on the fungicidal properties of the seeds extracted from the Neem tree.

### **Turmeric**

The turmeric is a perennial plant, which is native to the tropical regions of Southern Asia. It is a plant that is frequently used in regional cooking as well as having a central place in Ayurvedic and Chinese medicine to treat various ailments. Its use within the medicinal field has been found to help against among other things inflammations, digestive disorders, liver diseases and cancer. Turmeric is also believed to be a tropical herb grown in East India, and the powdered product made from the rhizomes of its flowers has several popular uses worldwide. Turmeric powder, which has a distinctive deep yellow colour and bitter taste, is used as a dye, a cooking ingredient and litmus in a chemical test, and has medicinal uses as well. In the year 1993, the US PTO granted the University of Mississippi Medical Centre Patent rights over a – healing a wound by administering turmeric to a patient afflicted with a wound. But again, Turmeric has been used for centuries in India. Indians grow up with a constant awareness of turmeric the tuber and when it is dried it is kept practically forever. The patent was actually revoked in the year 1997. But for two years the patent on turmeric had stood, although the process was non-novel and had in fact been traditionally practiced in India for thousands of years, as was eventually proven by ancient Sanskrit writings that documented turmeric's extensive and varied use throughout India's history. The patent was eventually cancelled in 1998

<sup>3</sup>www.ncbi.nlm.nih.gov accessed on 10<sup>th</sup> September, 2017

after re-examination proceedings. But it was later revealed to India and to indigenous societies around the world, again, how easy it was to falsely patent centuries-old traditional knowledge. Many developing countries are concerned that the globalization of Intellectual Property Rights under the WTO's TRIPs agreement, and the negative consequences it has for traditional indigenous knowledge and biodiversity.

## **CONCLUSION**

The era of globalization has allowed the blatant misuse of Traditional Knowledge and the granting of monopolistic rights to a few in spite of the fact that the Traditional Knowledge has been known and used for centuries by indigenous groups.

Documentation activities undertaken by developing countries like India are worth recognition. However, useless there is awareness and strict measures about respecting and valuing Traditional Knowledge, Corporation can always find a way to commercially exploit the Traditional Knowledge to their advantage. The main concern of protecting Traditional Knowledge should include equitable distribution of benefits, conservation concerns, preservation of traditional practices and culture, the prevention of misuse by unauthorized parties of Traditional Knowledge and promotion of its use and its importance in development.

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