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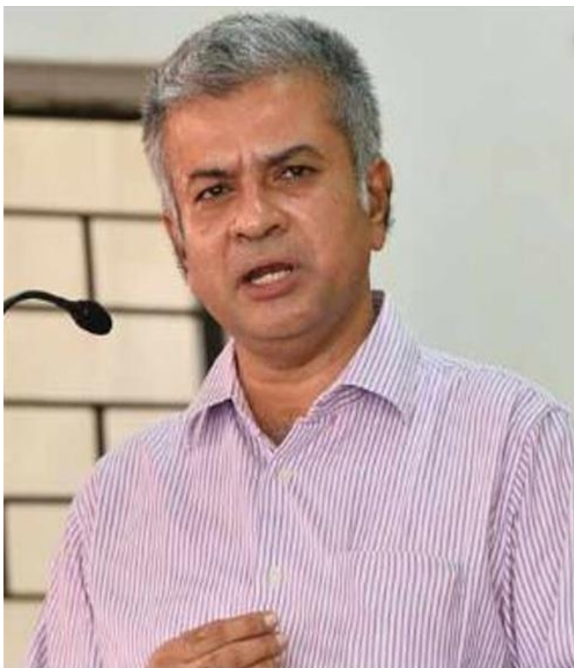

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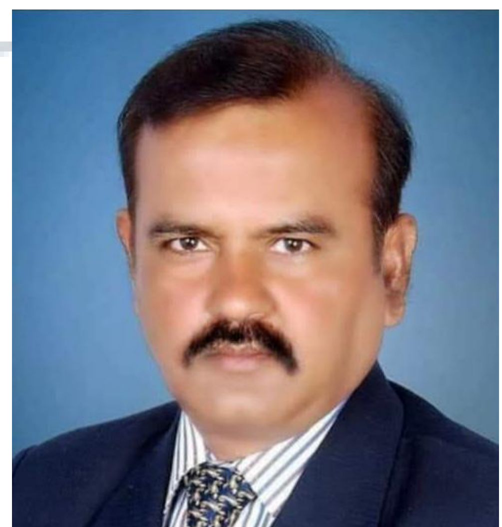

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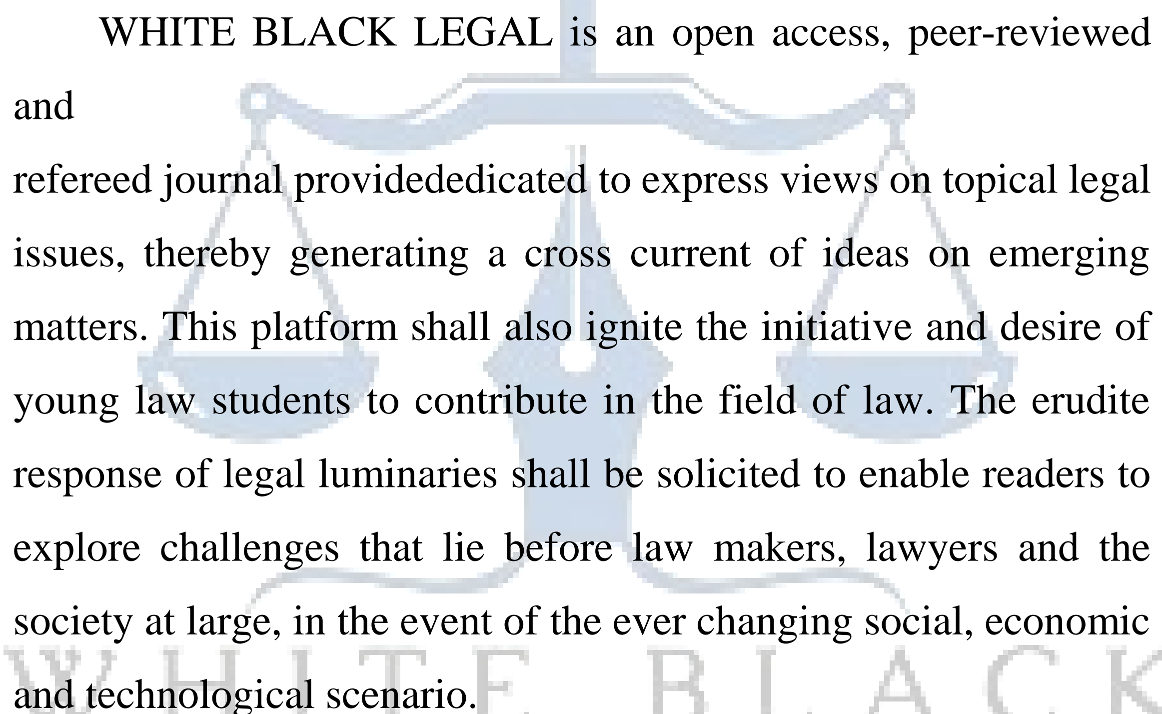

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With this thought, we hereby present to you

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TRADITIONAL KNOWLEDGE AND PATENT ISSUES WITH RESPECT TO BASMATI, NEEM, TURMERIC AND GOLDEN RICE

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1. Introduction

Intellectual property represents the idea that its object is a matter of mind and intellect.[1] Knowledge or intellect is one of basic requirement to get anything protected under Intellectual Property Right. Knowledge is the mentor of man. For the society it is a torch bearer on its way to posterity. The sum total of knowledge in a society is guided and supported by consists of three elements- traditional, modern and a combination of the two. If the knowledge is modern then it can be protected under Intellectual Property Rights. But if this knowledge is traditional, then it should be allowed to remain where it is i.e. in that public domain to which it belongs.[2]

But there may be a situation in which a 'traditional' knowledge which is in public domain in one part of the world may be novel in other parts of the world. Sometime this traditional knowledge in one place is converted into a modern knowledge at other place and get protected under Intellectual Property Rights. This is more than a possibility that the modern man may take some elements from traditional knowledge and mold it into a new idea or invention. This is kind of fraud committed upon the people who hold the traditional knowledge related to the use of thing which is now protected in form of modern knowledge. This is situation where the traditional knowledge needs to be protected.[3]

2. Concept of Traditional Knowledge

Traditional Knowledge is the knowledge which is maintained and passed from generation to generation forming part of its cultural or spiritual identity and is possessed by local communities who gained experience upon that particular knowledge through years of common

[1] Basmati- Pride Of India- A Case Comment available at: https://www.lawctopus.com/academike/basmatipride-india-case-comment (last visited on 7th July , 2021)
[2] JP Mishra ,An Introduction to Intellectual Property Rights,396 (Central Law Publication, 3rd Edn.)
[3] Ibid.

practice. Traditional knowledge is traditional because it is created, preserved and disseminated in the cultural traditions of indigenous communities. It is considered as a part of the identity of indigenous communities and inseparable from their ways of life and cultural values, spiritual beliefs and customs. Traditional knowledge is knowledge which is traditional only to the extent that its creation and use are part of the cultural traditions of a community. 'Traditional', therefore does not necessarily mean that knowledge is ancient or static. It is representative of the cultural values of people.[4] In General terms it is the knowledge possessed by indigenous communities and which related to their surrounding natural environment and continuous practice of which makes it custom.

World Intellectual Property Organization (WIPO) defines Traditional Knowledge as -

Traditional knowledge is knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. It further provides that –

- **Traditional Knowledge in a general sense** embraces the content of knowledge itself as well as traditional cultural expressions, including distinctive signs and symbols associated with TK.
- **Traditional Knowledge in the narrow sense** refers to knowledge as such, in particular the knowledge resulting from intellectual activity in a traditional context, and includes know-how, practices, skills, and innovations.[5]

Traditional cultural expressions (TCEs), also called "expressions of folklore" and includes music, dance, art, designs, names, signs and symbols, performances, ceremonies, architectural forms, handicrafts and narratives, or many other artistic or cultural expressions.[6]

It is very difficult to give a precise definition of traditional knowledge. Its subject matters may be listed inclusively or illustratively rather exhaustive. It may include folk songs, stories, epics, legends, folktales, poetry, riddles, dance forms, plays, rituals and other ceremonies and performances, drawings, designs, paintings, carvings, sculptures, pottery, mosaics, jewelry, carpets, and textiles. It may also cover medicines, health care, agriculture, bio-diversity, etc. Thus, it is clear that traditional knowledge is not confined to any particular field.[7]

[4] VK Ahuja, Law relating to Intellectual Property Rights, 664 (Lexis Nexis, 3rd edn.)
[5] Definition of Traditional Knowledge as available at: https://www.wipo.int/tk/en/tk (last visited of 7th July, 2021)
[6] available at: https://www.wipo.int/tk/en/folklore (last visited on 7th July,2021)
[7] VK Ahuja, Law Relating to Intellectual Property Rights, 665 (Lexis Nexis Publication, 3rd Edition)

3. What is Patent?

The term "patent" denotes a right granted to a person who invents or discovers a new and useful process, product, article or machine of manufacture, or composition of matter, or any new and useful improvement of any of those. It is not an affirmative right to practice or use the invention. It is a right to exclude others from making, using, importing, or selling patented invention, during its term usually for a term of 20 years. It is a property right, which the state grants to inventors in exchange with their covenant to share its details with the public. In consideration of the above rights, the person seeking protection is required to disclose his knowledge of the invention. This disclosure will allow the other people to use the patented subject once the patent term gets over. Thus, the main purpose of granting a patent is to give the patentee the right to use his invention for the service of the society.[8]

4. Problems with Patenting Traditional Knowledge

There are several problems which are faced by the person who hold the traditional knowledge at the time whenever they try to protect their traditional knowledge under a patent system as they fail to fulfill the different criteria for the patentability. Following are some problems in patenting the traditional knowledge –

- Patent is a right given to a person who has invented a particular subject in order to get the invented subject patented there are at least three parameters which are with the invented subject matter must fulfill they are – (i) Novelty (ii) Non-obviousness and (iii) Industrial application.

  If any of these elements is missing then that subject cannot be granted patent protection. In this regard inventiveness or novelty is treated as "isolated, individualized achievement of an identifiable inventor" as against 'traditional knowledge' which is commonly "possessed by the local communities in one or more societies." In other words, it is a very difficult problem that there is no universal or concurrent and determined answer to the basic issue like who possesses traditional knowledge. Thus, patent law does not provide effective legal framework to protect traditional knowledge because it is general in nature and its holder cannot be an individual.[9]
- Secondly there is a procedural problem in obtaining a patent. The procedure to get a

[8] VK Ahuja , Law Relating to Intellectual Property Rights, 480 (Lexis Nexis Publication , 3rd Edition)
[9] Traditional Knowledge and Patent Protection: Conflicting Views on International Patent Standards available at: http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S1727-37812010000400005 (last visited on 8th July 2021)

subject patented requires the applicant to mention the exact time when the subject matter, sought to be patented, emerged as invention. In case of traditional knowledge, it is very hard to find out a pinpoint the exact time as to when such knowledge emerged. Traditional knowledge is not something which is invented at a particular time but it is a long developing process and is developed through passage from generation to generation. In this way traditional knowledge do not satisfy the procedural requirement to get patented.[10]

5. Biopiracy

According to Merriam Webster 'Biopiracy' means the unethical or unlawful appropriation or commercial exploitation of biological materials (such as medicinal plant extracts) that are native to a particular country or territory without providing fair financial compensation to the people or government of that country or territory.[11] Biopiracy is said to be committed when the intellectual property protections or IP systems are used to legalize the theft caused to the traditional knowledge about biological resources or biological products , limited to a native people of country or to a local community, with the malafide intention to have wrongful gain by getting patent protection over that knowledge.[12]

6. Efforts Made for Protecting the Traditional Knowledge

6.1 In International Legal Regime – Under international legal regime mainly three such efforts are following -

(i) The World Intellectual Property Organisation(WIPO)

The WIPO has proved a better forum for dialogue among various stakeholders be they individuals, institutions, governments, intergovernmental organisations, indigenous people or others-on issues related to the protection, and exploitation of intellectual property rights, traditional knowledge and folklore etc; in an effort to evolve suitable mechanism for protecting the traditional knowledge. In 1982, the WIPO and the UNESCO adopted a model law on folk-lore etc wherein folklore has been described as a form of traditional cultural expressions. In October 2000, the WIPO general

[10] Ibid.
[11] Definition of Biopiracy available at: https://www.merriam-webster.com/dictionary/biopiracy (last visited on 9th July 2021)
[12] India: Traditional Knowledge and Patents available at : https://www.mondaq.com/india/patent/810280/traditional-knowledge-and-patents (last visited on 9th July 2021)

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assembly established the Inter Governmental Committee (IGC) "as an international forum for debate and dialogue concerning the interplay between intellectual property (IP), and traditional knowledge (TK), genetic resources, and traditional cultural expressions.

The IGC is working in collaboration with all the stake-holders to evolve a mechanism to ensurethat intellectual property rights are not given to parties other than the holders of traditional knowledge, folklore etc; it is granted to the custodians of traditional knowledge and cultural expression; and such custodians have an equitable benefit sharing in case their knowledge is commercially exploited.[13]

(ii) Convention on Biological Diversity

During the United Nations Conference on Human Environment in Brazilian capital Rio de Janeiro, the Convention on Biological Diversity (CBD) was signed in year 1992. CBD obligesthe signatories that, subject to their national legislation, they will respect, preserve and maintainknowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.[14]

(iii) WTO and TRIPS

The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) is an international legal agreement between all the member nations of the World Trade Organization.Article 27(b) in the agreement gives members of the WTO the right to establish a sui generis regime. This allows countries to shape their protection system which can assist them in protecting their traditional knowledge. Paragraph 19 of the 2001 Doha Declaration provides that the TRIPS Council should also maintain the relationship between the TRIPS Agreement and the UN Convention on Biological Diversity, the protection of traditional knowledge and folklore.[15]

6.2 Position in India:[16]

India does not have any specific law to protect tht traditionalknowledge but effort to protect the

[13] JP Mishra, An Introduction to Intellectual Property Rights, 407 (Central Law Publication, 3rd Edn.)
[14] Ibid.
[15] Article 27.3b available at : https://www.wto.org/english/tratop_e/trips_e/art27_3b_e.htm (visited on 9th July)
[16] VK Ahuja, Law Relating to Intellectual Property Rights, 669 (Lexis Nexis Publication , 3rd Edition)

same has been made through following legislations –

(i) Indian Patent Act, 1970

The Patents Act provides defensive protection to the traditional knowledge. Section 3(p) of theIndian Patents Act, 1970 provides that "an invention which in effect, is traditional knowledgeor which is an aggregation or duplication of known properties of traditionally known component or components" is not an invention under the Act**.**

(ii) Traditional Knowledge Digital Library

India has also done an excellent exercise by preparing a database called "traditional knowledge digital library" (TKDL), which is helping the patent offices of various countries to reject the patent application which are based on our traditional knowledge.

(iii) Protection of Plant Varieties and Farmers' Rights Act, 2001

It recognises and protects the rights of the farmers in respect of their contribution made at anytime in conserving, improving and making available plant genetic resources for the development of new plant varieties.

(iv) Biodiversity Act, 2002

India being a party to the United Nations Convention on Biological Diversity 1992, enacted the Biological Diversity Act, 2002 to give effect to its provisions. The Act provides for the conservation of biological diversity, sustainable utilization and equitable sharing of the benefitsarising out of utilization of genetic resources.

7. Traditional Knowledge and Biopiracy Cases

This assignment is exclusively aimed at following biopiracy cases–

- Basmati Rice Case
- Neem Case
- Turmeric Case
- Golden Rice Case

7.1 Basmati Rice Case [India-US Basmati Rice Dispute , 1997]

- **Facts of the Case**

Basmati means 'queen of fragrance or the perfumed one'.[17] Basmati rice is one of the principle food in almost the Asian region especially in India and Pakistan its flavour and Roma has been

[17] Basmati- Pride Of India- A Case Comment , available at: https://www.lawctopus.com/academike/basmatipride-india-case-comment-1998-case-493 (last visited on 9th July 2021)

developed through selective breeding for thousands of years various varieties of rice have been developed by the farmers with different tastes.[18]

In July 1994 a Texas- based company 'Rice Tec Inc.' filed a patent application before **United States Patent and Trademark Office (USPTO)** for registration of a mark under the name of 'Texmati'. Company acknowledged that the good quality of Basmati Rice is traditionally grown in India & Pakistan but it claimed that it had invented some original and novel variety of Basmati Rice and grains by having spent a huge amount of time and money to devise a way to breed which makes the production of high quality, higher yielding Basmati Rice possible worldwide.[19]

On September 2, 1997, Rice Tec Inc. was granted a patent by USPTO on basmati rice lines and grains. This gave them the rights to call the aromatic rice "Basmati" within United States , and they could also export it internationally. Two Indian NGO's, namely, **Centre for Food Safety**, an international NGO that campaigns against biopiracy, and the **Research Foundation for Science, Technology and Ecology**, an Indian environmental NGO, objected against the patent granted by USPTO and filed petitions in the USA.

They i.e. NGOs claimed that India has been one of the major exporters of Basmati to several countries and such a grant by the US patent office was likely to affect its trade. Since Basmati right is traditionally grown in India and Pakistan it was opined that granting patented to Rice Tec violated the geographical indications Act under the TRIPS Agreement.

The Indian government, after putting together the evidence, officially challenged the patent by filing petition for re-examination of order of granting patent in June 2000 through Agricultural and Processed Food Exports Development Authority.[20]

- **Issues Raised**

Several issues were raised on this Basmati Rice dispute before USPTO, which mainly were

[18] Traditional Knowledge and Patent Issues: Concerning Turmeric, Neem and Basmati Rice available at: https://www.ejusticeindia.com/traditional-knowledge-and-patent-issues-concerning-turmeric-neem-andbasmati-rice (last visited on 9th July 2021)
[19] Traditional Knowledge and Patent Issue Relating to and in Reference with Basmati, Golden Rice, Neem and Turmeric available at: http://www.journalijcar.org/sites/default/files/issue-files/2781-A-2017.pdf (last visited on 9th July 2021).
[20] JP Mishra, An Introduction to Intellectual Property Rights, 413 (Central Law Publication, 3rd Edn.)

concentrated towards the new emerging patents, biopiracy and geographical indication laws. The major issues raised were as follow -

i. Whether the name 'basmati' is a 'generic' term or specifically originates from the aromatic rice grown in India and various South-Asian countries?
ii. Whether the grain developed by Ricetec Inc. is a novel variety and strain?
iii. Is Rice Tec Inc. guilty of biopiracy and violation of traditional knowledge belonging to indigenous communities of Southern-Asian countries?[21]

Arguments

Regarding issue (i) - Rice Tec argued that the term 'Basmati' has become a generic term for a particular category of rice and hence cannot be protected. A generic name is a word used by a majority of the revenant public to name a class or category of product or service. Such word cannot be appropriated as a protectable mark as they belong to the public at large. But if the word has attended the distinctiveness as mark of a particular party then such distinctiveness is entitled to be protected as a mark.[22] India countered that 'Basmati' is not generic it has acquired many special distinctive quality due to complex combination of factors including inherited genetic character in environmental condition specific to the soil and climate in foothills of Himalayas.

Regarding issue (ii) – Company Rice Tec claimed that it had invented some original and novel variety of Basmati Rice and grains by having spent a huge amount of time and money to devise a way to breed which makes the production of high quality. The Indian team, consisting of scientists working for various research groups and government agencies provided evidence for the ground that the plant varieties and grains already existed in India and that the rice imported cannot be grown in the U.S. because of varied climatic conditions. The legal theory states that the patent was not novel at all because the rice has been in existence for very long time thus it could not be termed to be an invention. Research also stated that Rice Tec's only three claims were prior art out of twenty.[23]

[21] A Study of The Basmati Case available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1143209 (last visited on 10th July 2021)
[22] VK Ahuja , Law Relating to Intellectual Property Rights, 293 (Lexis Nexis Publication , 3rd Edition)
[23] Reaping What They Sow: The Basmati Rice Controversy and Strategies for Protecting Traditional Knowledge available : http://nationalaglawcenter.org/wp-content/uploads/assets/bibarticles/subbiah_reaping.pdf (last visited 10th July 2021)

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Regarding issue (iii) – India asserted in the that the alleged that Rice Tec has committed misappropriation of traditional knowledge about basmati rice sold in the United States and hence this act of company falls into category of Biopiracy. Company also acknowledged that its rice was of same or similar qualities of traditional Indian basmati rice but it had been grown in North America.[24]

- **HELD**

The Indian team put its attention on the crucial three of RiceTec's 20 claims (11 relating to the plant, five to the grain, three to breeding methods and one to the seed). India's challenge resulted into favourable effect: RiceTec withdrew these claims promptly. Meanwhile, with India's action, the process of re-examination of grant of patent began and the close scrutiny troubled the RiceTec. When USPTO wrote to the company and asked for its explanations, it withdrew an additional 11 claims, leaving it with only five core claims in the patent. These give it exclusive rights to the three strains. Raghunath Mashelkar, director, Council for Scientific and Industrial Research, clarifies that these five claims are similar to a claim that could be made by any plant biologist who introduces a new hybrid variety and in no way concerns the original Basmati rice of the Indian subcontinent. RiceTec has also been ordered to change the title of its patent from "Basmati Rice Lines and Grains" to "Rice Lines Bas 867, RT 1121 and RT 1117".[25]

7.2 Neem Patent Case

- **Fact Of The Case[26]**

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.

In 1994, European Patent Office (EPO) granted a patent to the US Corporation WR Grace Company and US Department of Agriculture for a method for controlling fungi on plants by the aid of hydrophobic extracted Neem oil.

[24] Ibid.
[25] Battle over Basmati Rice Renews Debate on India's Stand on Intellectual Property Rights available on: https://www.indiatoday.in/magazine/nation/story/20010903-battle-over-basmati-rice-renews-debate-on-indiasstand-on-intellectual-property-rights (Last visited on 10th July 2021)
[26] JP Mishra, An Introduction to Intellectual Property Rights, 413 (Central Law Publication, 3rd Edn.)

In 1995, a group of international non-govenrmental organizations (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 was a prior art un-patentable.

- **US Claimed**[27]

  That product i.e. a particular medicine is an example of American Discovery.

  (i) It satisfies the requirement of United States Code (USC) section 101 102 103 i.e. it is novel, of industrial usefulness and is non obvious.

  (ii) That what they are doing will help the Indian economy.

- **India Claimed**[28]

  (i) Neem's pesticidal properties have been known in India for years. The communities in India had already discovered storage stable mixtures of pesticides therefore Grace's patent is obvious.

  (ii) They are actually stealing the indigenous practices , knowledge of Indian people and causing harm to farmer's right to do business.

- **Held**

In 1999, the EPO determined that according to the evidence all 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.[29]

7.3 Turmeric Patent Case

The rhizomes of turmeric are used as a spice for flavouring Indian cooking. It also has properties that make it an effective 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.

[27] The Neem Tree Patent: International Conflict over the Commodification of Life available at: http://nationalaglawcenter.org/wp-content/uploads/assets/bibarticles/marden_neem.pdf (visited on 11th July 2021)
[28] Ibid.
[29] JP Mishra ,An Introduction to Intellectual Property Rights, 413 (Central Law Publication, 3rd Edn.)

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- **Fact of the Case and India's Challenge**[30]

In 1995, two Indians at the University of Mississippi Medical Centre (Suman K. Das and Hari Har P. Cohly) were granted a US Patent on use of turmeric on wound healing by administering turmeric to a patient afflicted with a wound.

The Council of Scientific and Industrial Research (CSIR) of India challenged the patent in 1996.CSIR claimed that the patent lacked novelty as the use of Turmeric as a method for healing wounds was age old in India and therefore a part of the prior art. CSIR presented 32 references, some of them over a hundred years old, to support that the claims of the patent were well known and part of the prior art. 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.

- **Held**[31]

  In 1998 April, the USPTO favoured the objections made by CSIR which was based on the argument that was proved with years old documentary evidence that Turmeric was being in use by Indian people since ancient period of time and cancelled the patent.

7.4 <u>Golden Rice Patent Dispute</u>

- 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 geneticallyengineered 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 betacarotene, 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. In addition, Novartis, a multinational, and Kirin Breweries of Japan also have patents on the genes

[30] Traditional Knowledge and Patent Issue Relating to and in Reference with Basmati, Golden Rice, Neem and Turmeric available at: http://www.journalijcar.org/sites/default/files/issue-files/2781-A-2017.pdf (visited on 11thJuly 2021)
[31] Traditional Knowledge and Patent Issues in India available at: https://acadpubl.eu/hub/2018-11917/2/105.pdf (visited on11th July 2021)

used as constructs for the vitamin A rice.[32]

- 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 this type of yellow-colored rice that could be a rich source of Vitamin – A. This also implies the risk that this Asian staple might just be reduced to an "intellectual property" meant for commercial exploitation by these corporate giants.[33]
- These giant companies are not going to give up their exclusive ownership over Golden Rice but they have agreed that they will be giving royalty free licences to the Indian farmers. But this arrangement of royalty free license a mere ruse for establishing monopoly over the rice production and reducing the Indian farmers to mere serfs. It is very effective strategy for these corporate takeovers of this Vitamin – A rich rice.[34]

8. Conclusion

Traditional knowledge is one of the important assets for our native community. Through the traditional knowledge, the farmers on any local community conserve and maintain the biodiversity and make sustainable agricultural practices. The documentation of traditional knowledge prevents the chances of bio-piracy whereby the native traditional knowledge is prevented against misuse and misappropriation of our products by third parties. Such a knowledge must be protected at any cost and effective steps must be taken to prevent any type of threat or biopiracy. For this purpose, the authorities must be well aware and trying to update Traditional Knowledge Digital Library. Now efforts are being made for necessity of stating source of origin in order to get anything patented. In such a scenario India must concentrate over preservation of traditional knowledge of country.

[32] Traditional Knowledge and Patent Issue Relating to and in Reference with Basmati, Golden Rice, Neem and Turmeric available at: http://www.journalijcar.org/sites/default/files/issue-files/2781-A-2017.pdf (visited on July 11, 2021)

[33] India: Traditional Knowledge and Patents in Light of Basmati Rice, Neem, Turmeric and Golden Rice available at: https://www.hg.org/legal-articles/india-traditional-knowledge-and-patents-in-light-of-basmati- riceneem-turmeric-and-golden-rice-57383 (visited on 11th July 2021)

[34] Special Report: Golden Rice and Neem: Biopatents and the Appropriation of Women's Environmental Knowledge available at : https://www.jstor.org/stable/40004606?read-now=1&refreqid=excelsior%3Af8b5281d47f1346ee431be39835a3f03&seq=7#page_scan_tab_contents (visited on 11th July 2021)

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