

Patenting Traditional Knowledge: Legal Challenges

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Abstract — Information about the past has always been simple to get, which means it has been stolen. Intellectual property rights are one place where old and new scientific facts can come together. It's important to know that TRIPS don't accept or support traditional knowledge. There is a "sui generis" scheme phrase in the TRIPS text. This is the case because their views are based on very different culture and social norms. To keep indigenous information safe, a method should be used that is both unique and tailored to the needs of the area. The one-of-a-kind model has some good points, but it doesn't have a good way to share those points and include common information, just like the IP tools in TRIPS. Having something is the main reason to protect your IPR. It's the point of this paper to show that Traditional information can't be protected by IPR laws since it's general information that wasn't created by a single person but by many. People in the developing world are very worried about patents being given for ideas that aren't really new and are based on things that people there already know. It also says that the main problem with Patent by Traditional Knowledge is that there aren't enough complete records that all patent offices can use. Researchers have found that it's not always clear who owns knowledge systems that are passed down from one generation to the next or that come from group work. This is one of the main issues with putting traditional information under patent. People often tell each other traditional stories, so the information isn't always new or clear. Over time, it changes to fit new needs and goals. This is why Patents haven't worked well for societies that have been around for a long time. This paper talks about more than just biopiracy and biomedicines. It also talks about what the Indian government has done to make things better.

Keywords: TRIPS: Trade-Related Aspects of Intellectual Property Rights, IPR: Intellectual Property Rights, CBD: Convention on Biological Diversity, TK: Traditional knowledge, IDRC: Integrated Development Research Centre, WTO: World Trade Organization, TKDL: Traditional knowledge digital libraries, WIPO: World Intellectual Property Organization, USA: United States of America, MEP: Member of the European Parliament, RFSTE: Research Foundation for Science, Technology and Ecology, IFOAM: International Federation of Organic Agriculture Movements, EU: Europe Union, APEDA: Agricultural and Processed Food Exports Development Authority, PBR: Patents and plant breeder's rights, ICRISAT: International Crops Research Institute for the Semi-Arid Tropics

I. INTRODUCTION

The preserved 'living knowledge', an art crafted by the forefathers and passed onto their generations is called as 'traditional'. The concept of knowledge should be understood; the information which is traditionally developed by the indigenous people due to their survival instinct and/ or spiritual awakening, this knowledge is in the form of

medicine, folklore, survival, conservation, spiritual etc.; is passed onto by the indigenous people to their next generation and may be developed by them. It is considered to be sacred by them, is known as traditional knowledge. Traditional knowledge is also freely available in the public; such knowledge may be traditional from the indigenous people or the knowledge through other non-indigenous methods. Since it is in the public domain, thus the non-indigenous people do not value it as the indigenous people. But due to the usage of the traditional knowledge it is utilized by the corporates for their commercial purpose; without any acknowledgment. All this causes the rift in the flow of the traditional knowledge; thus, leading to more secrecy of the knowledge amongst the indigenous people. For example: turmeric is used for wound healing and skin treatment; is ancient and traditional knowledge of India. It is used in many medicinal and cosmetic products. Previously the Traditional Knowledge or the knowledge related to the traditional communities i.e. the indigenous people was known by the name of the Folklore Traditional knowledge system held by indigenous communities is related to their surrounding natural environment, thus developing agricultural knowledge, ecological knowledge, medicinal knowledge, conservation of environment, spiritual knowledge, ecological knowledge and scientific knowledge, music, dance, songs, handicraft, designs, stories/ fables, artwork, biodiversity conservation, food techniques, and healing knowledge. Folklore is a group oriented and tradition-based creation reflecting the expectation of the community as an adequate expression of its cultural and social identity, its knowledge is passed orally or by imitation or by other means. Humans before the scientific approach have found various ways to survive themselves. They hunted when they were hungry; They found medicines to cure diseases when they were ill; made cloths according to their needs; not only these as humans are social animal they found various activities for themselves, when they invented various ways to entertain themselves, like they produced songs, chorus songs, group dance and music, various instruments of the music, folk stories etc. All these forms are the natural process which the communities have discovered and studied since ages, would help them to live their life process. The traditional knowledge is an intellectual way which was invented according to their environment and was passed on by the communities to their generation and the next generations. The traditional knowledge is kept secret or the knowledge which is passed on to only amongst its generation by the indigenous people, to save the knowledge from being misused. As from the above discussion, we come to know that it is difficult to define Traditional Knowledge due to its vastness and the diversity it includes. Traditional knowledge is not limited to the terrestrial environments, but many traditional societies depend on the sea for their survival. For example: Pacific islanders draw on vast reservoir of knowledge of the behavior and movements of the marine

animals they observe and catch, much of that knowledge is new to the science.

II. CONCEPT OF TRADITIONAL KNOWLEDGE

Knowledge is prosperity in the hands of an individual. Knowledge is the broad and general concept that is subject to commercial and public interest. We are living into the world dominated by power of knowledge. It is true that the present generation has better opportunities and facilities to acquire knowledge and transform it into creation of wealth but generations over generations, a great treasure of knowledge and wisdom has been created by the people who might not have been formerly educated in class rooms but they have had robust commonsense, great understanding of nature, rich experience and selfless attitude. The indigenous people, local communities, folklore, sages and seers are great reservoir of traditional knowledge. Origin of knowledge can be found in cord of wisdom; "advanced over genesis towards a homogenous presence of mankind with key elements such as natural assets and environment comprehensive traditional scientific usage of the lands playing an essential role in the existence and subsistence of this knowledge base. Such knowledge is identified as traditional knowledge. It is equally true that in this competitive global era, only those nations will survive and flourish who have the potential to convert the knowledge into wealth. People at large do not have the capacity to transform their knowledge into formal specification and consequently into wealth.

Some people who are hampered because of their poverty, illiteracy, isolative habitat, lack of information and technological gadgets are unable to convert their knowledge into wealth. On the other hand, some are able, strong and potent to use traditional knowledge for profiteering. Some commonly noticed examples can be given like:

- 1) The big business houses, hoteliers, film industries and music tycoons are using cultural expression of nomadic, tribal and village community.
- 2) Rich traditional knowledge heritage is widely used by pharmaceutical industry. Traditional knowledge is used in allopathic and ayurvedic medicine.
- 3) Village communities, tribal and indigenous people have traditional knowledge of biodiversity.

They are conserving knowledge of biodiversity which serve largest genetic resources for breeding activities but gene giant or seed giant like MNCs through Intellectual Property Rights regime may earn huge amount of profit. Human communities have always generated, refined and passed on knowledge from generation to generation. Such "traditional" knowledge" is often an important part of their cultural identities. Traditional knowledge has played, and still plays, a vital role in the daily lives of the vast majority of people. Traditional knowledge is essential to the food security and health of millions of people in the developing world. In many countries, traditional medicines provide the only affordable treatment available to poor people. In developing countries, up to 80% of the population depends on traditional medicines to help meet their healthcare needs. In addition, knowledge of the healing properties of plants has been the source of many modern medicines. The use and continuous development by local farmers of plant varieties and the

sharing and diffusion of these varieties and the knowledge associated with them play an essential role in agricultural systems in developing countries. Traditional knowledge (TK) is originally cultured oriented and it is essential to the cultural identity of the society in which it is regulated and secured. Traditional Knowledge is used from ancient times by tribal people and by indigenous local communities under the local laws, customs and culture. It has been transferred and expanded from generation to generation. The role of traditional knowledge is very important in making a country more developed.

It gives a chance for traditional based literary, artistic or scientific works, performances, inventions, scientific discoveries, designs, marks, names and symbols, undisclosed information, and all other traditional based inventions and creations resulting from intellectual activity. The term Traditional Knowledge means "the knowledge possessed by the indigenous people and communities, in one or more societies and in one or more pattern, with, but not reserved to art, dance and music, medicines and folk remedies, folk culture, biodiversity, knowledge and protection of plant varieties, handicrafts, designs, literature. There is no proper definition of indigenous people but they are people who formed with different communities and tribes or their ancient past. In addition to this, indigenous people and local tribes are essentially indicated to the group who exists under somewhat in disadvantages conditions. For indigenous people and tribal communities, the main focus is to protect their traditional knowledge and the focal point on fundamental justice and the propensity to protect and safeguard their traditions. In the globalized world, traditional knowledge somehow gained special importance in the past few years which have seen an outburst in the demand for herbal medicines.

These herbal and the traditional method for making these medicine is taking an important part of human health. For pharmaceutical industries, the research of such herbal plants and trees has given a very vast scope of development. With the phenomenal growth, in the use of medicinal knowledge all over the world, the value for herbal plants and IPR has been accepted and debated so far. The main central point of this research is on protection of traditional knowledge in India. The Indian Patent law is not helpful for the protection of traditional knowledge in herbal plants and trees. This protection has always given support to the pharmaceutical industry with huge multinationals by calling them with the patents, which is derived from traditional herbal medicinal knowledge on the ground of novelty and utility. Traditional Knowledge has been oppressed without any benefit or compensation to the protector of this knowledge. Thus, there is requirement for establishment of a strong and firm regulation and proper law which can be specially deal with traditional knowledge and those guidelines will help in research and development in India and in other countries before organizing any research and pertaining to traditional knowledge in India.

The current guidelines in the patent law do not give the protection clause for the traditional knowledge. The conflict in this situation is that traditional knowledge comes under public domain and Intellectual Property system does not stop accessing the public domain knowledge and

information Traditional Knowledge is being misused by various multinational industries by taking benefits of the fact that traditional knowledge comes under public domain. It should be noticed that, there is Intellectual property regime but there is nothing has to be done for the protection of indigenous communities despite the fact that they have valuable knowledge. The law should be such, which could relieve the wrong and exploitation factors from the traditional medicinal knowledge. India follows culture and there is so much diversity in religion, landform, and customs, there are so many different languages, flora and fauna and so on. And till today, India is following this ancient tradition. India is a country which is united despite the fact that there is language barrier. It is believed that divine spirit leaves in village i.e. rural area. The large number of villagers depends upon agriculture.

Agriculture is the income source for them That is the reason why India is known as agriculture country About seventy percent of the total population depends upon agriculture. Thus, the progress of agriculture in India has much to do with the economic interest of India. India serves natural and herbal medication. In India, people using traditional method for making medicine and they believe in treating any type of disease with natural plants and trees. This is called as Ayurvedic treatment. And this treatment can be found in any part of India. In India, a large number of populations follow natural method/old method for their treatment which takes them back from the recent period to the age-old period and India supports this fact. It shows the importance and value which is given to the herbal plants and treating methods, which in a way relate this to the knowledge holders. The knowledge holders who by examining the distinct types of using herbal plants for treating any special kind of disease, have gain the important information and knowledge which have been passed on from generation to generation.

Glancing at the improvement part of India, it has gained a lot till date on economic side, as well as on technology side and etc. for the development in more areas the law of India helps in preserving and protecting these developments and gives more opportunity. Distinct laws help India to control good trade relations with other countries. At the international level also, India needs to develop That zone is traditional knowledge which is achieving a speedy strength now days. It is a diversified sector which relates to art, music, folk, medicines, etc. Indian Intellectual Property system which gives award to the creativity of a person to person by giving him to rule that appropriate creation for a given time period has helped in the development of the nation. But such a development is incomplete in absence of the traditional knowledge sector and is being misused and exploited by inside and outside nation's Pharmaceutical and other industries. It is important to find out some solutions to protect and preserve traditional knowledge of India.

III. TRADITIONAL KNOWLEDGE AND ITS RELATED TERMS

There is no universal definition of the Indigenous Traditional Knowledge. According to WIPO Traditional Knowledge is defined as the "tradition based on literary, artistic or scientific works, performance, inventions, scientific discoveries,

designs, marks, names and symbols, undisclosed information and all other tradition based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields. Another definition by WIPO 'all tradition-based intellectual creations and innovations in the very broadest sense, which are constantly evolving in response to a changing environment and are generally with regard to the particular people or territory According to Wang 'Indigenous traditional knowledge as sum total knowledge practices which are based on people's accumulative experiences in dealing with situations and problems in various aspects of life and such practices are special to a particular culture.' According to the Farrington and Martin 'Indigenous Traditional Knowledge can be defined as the basis for knowledge, beliefs and customs which are internally consistent and logical to those holding them, but at odd with the objectively deuced finding of formal science, it has comparatively more influence on people than that of modern substitute.' According to the Integrated Development Research Centre (IDRC) reporting 1993 ' it is complex concept that reflects on even more complex set of empirical, intellectual, social and spiritual factors that constitute human culture.

It refers to the integrated expressions of collective values and customs that guide interaction among peoples and between people and nature. Throughout the centuries, societies evolved by learning from experience and transmitting knowledge to younger generations. According to the anthropologist 'traditional knowledge is the body of the knowledge built by a group of people living in close contact with nature.' Traditional knowledge is the concept that encompasses tangible and intangible creations, cultural manifestations, technologies, sciences, agricultural knowledge, designs, literatures, and visual and performance arts derived from oral and written traditions. It is also related to the indigenous territories, lands, naturals, and genetic resources and is transmitted from generation to generation.

IV. CONCERNS OF PROTECTION OF THE TRADITIONAL KNOWLEDGE

The need to protect the traditional knowledge is due to its commercialization The traditional knowledge relating to medicine, cultural designs and methods are exploited commercially of the indigenous people. The indigenous people may not even know that their knowledge relating to medicines, cultural activities and other activities are protected under the Intellectual property and their rights and benefits are utilized by other people. Thus, leading to the exploitation of the indigenous people and their traditional knowledge Industrialization and the commercialization have increased the international market of the traditional knowledge. The industrialization has actually elevated the importance of the intellectual property for the protection of the intangible products formed by the intellectual of the inventor/s. The industrial and the manufacturing industries are exploiting the traditional knowledge completely thus leading the threat to the traditional knowledge. As the traditional knowledge is protected under the patent due to which they acquire an exclusive right on it, which was the actual domain of the indigenous people. When the industrialist acquires the

protection on the traditional knowledge under patent, they don't share the benefits with the indigenous people to whom it actually belong.

V. TRADITIONAL KNOWLEDGE AND PATENT ISSUES IN INDIA

The traditional knowledge can be said as the knowledge of practice and the skills which have been developed or sustained and that which passed from generation to generation within a community which forms a part of its cultural or spiritual identity often. The innovations that are based on the traditional knowledge may be benefited by the trade mark, the geographical indication, the patent or it is being protected as a confidential information or even a trade secret. Though all these are prevalent nowadays, the problem is regarding the successful documentation of a traditional knowledge under Indian patent Act the Indian patent Act Protects the rights of indigenous people in the form of known traditional knowledge. After the enactment of new legislations in India regarding the traditional knowledge and protection of other indigenous products. Throughout the recent years there are certain issues in documentation of indigenous products and the traditional knowledge of Indian products are being patented in other countries and this finally leads to bio piracy of Indian traditional knowledge by other countries. Innovations based on TK may benefit from patent, trademark, and geographical indication protection, or be protected as a trade secret or confidential information. This paper aims to study about the protection given for traditional knowledge and to study the importance of traditional knowledge digital library and to study the cases regarding the misappropriation of traditional knowledge.

VI. INTELLECTUAL PROPERTY RIGHTS ASPECTS OF TRADITIONAL KNOWLEDGE AND ITS PROTECTION ISSUES AND CHALLENGES

The term Intellectual Property reflects the idea that its subject matter is the product of the mind or the intellect. These could be in the form of Patents, Trademarks, Copyrights, Geographical Indications, Industrial Designs, Layout-Designs (Topographies) of Integrated Circuits, Plant Variety Protection. Intellectual Property comes under international legal protection. Intellectual property rights can be defined as the rights given to people over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creations for a certain period of time. These rights are governed worldwide by Trade Related aspects of Intellectual Property Rights (TRIPS) agreement. One of such Intellectual Properties is Traditional Knowledge. The role of Traditional Knowledge with its spiritual, cultural and economic value is being increasingly recognized today. Such knowledge has been used for centuries by indigenous and local communities under local laws, customs, and traditions. Such knowledge economy passes the totality of all knowledge and practices, whether explicit or implicit, used in diverse facet of life.

This knowledge which is the result of community's cooperative efforts is built on the foundation of past experiences and observations The Products based on traditional knowledge are important sources of income, food

and healthcare for large parts of the population in developing countries in particular and, in turn for their sustainable socio-economic development. Traditional Knowledge evolves over a period of time by contributions of members of a particular society. Modified, enlarged and enriched, it becomes a valuable knowledge for the particular society since it is tasted through use over a period of time. It is generally an attribute of a community intimately linked to a particular socio-economic context through various economic, cultural and spiritual activities. What makes traditional knowledge traditional is not its antiquity, but the way it is acquired and used. In other words, the social process of learning and sharing knowledge, which is unique to each culture, lies at the very heart of its traditionality.¹ Traditional Knowledge is not static. It is inherently dynamic, as it evolves in response to challenges posed by the environment. The changing social environment alters its form and content; thus it is subject to a continuous process of verification, adaption and creation. Traditional Knowledge encompasses the entire field of human endeavor.

It includes a broad range of subject matter such as agriculture, scientific, technical, ecological, medicinal and biodiversity related knowledge; expression of folklore in the form of music, dance, song, handicrafts, designs, stories and artwork, element of languages, such as names, geographical indications and symbols; and movable cultural properties The main issue and challenge is the protection of Traditional Knowledge as Intellectual Property. The primary beneficiaries of this kind of protection are indigenous people and the community groups. However, the state as guardian of its people's culture and heritage also has an interest in the preservation of the Traditional Knowledge, which exists within it. The protection of Traditional Knowledge has been advocated in many national, regional and international levels. The provision contained in Article 8 (j) of the convention on Biological Diversity (CBD) as adopted in 1992, triggered a number of proposals to deal with this issue at the national and international level.

Most notably, in 2000, an Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore was established under the auspices of WIPO. A corollary to the assumption of the necessity to protect Traditional Knowledge is the assertion of the right of indigenous peoples and traditional communities "to determine the appropriateness of the use being made of their culture". It is recognized that each indigenous community must retain permanent control over all elements of its own heritage. It may share the right to enjoy and use certain elements of its heritage under its own laws and procedures, but always reserves a perpetual right to determine how shared knowledge is used.⁴ The main Objective of protection would be to obtain recognition and some compensation for the commercial use of Traditional Knowledge outside the community of the society, which generated it, either by excluding the unauthorized use by third parties, or by ensuring a right to remuneration or benefit sharing for such use. This is most important in the context that more than 80% of medical plants are collected from forests or uncultivated source.

VII. CONCEPTUAL SOCIO-LEGAL IMPORTANCE OF TRADITIONAL KNOWLEDGE

The diversified lives and / resources of earth has provided growth and development of humans and all living creatures civilization. There are 1.8 million species known and documented by scientist in the world. However, scientists have estimated that the number of species of plants and animals on Earth could vary from 1.5 to 2.0 billion, which need to be discovered. Countries with higher bio diversities are South America, Brazil, South East Asian countries like Malaysia and Indonesia, India. The Earths great wealth of naturals resources have always been utilized for the human betterment through health care, medicinal products, better crops and huge raw material for the growth of the industries. The gradual developments of humans have made them learn to extract the resources from Mother Earth for their betterment, which they have provided to their generations. Indigenous Knowledge have not only helped communities and indigenous people in their day-to-day life and their generations to grow but also helped them to form their different identity from other communities. The indigenous knowledge has made a social bonding amongst its people to represent themselves; as traditional knowledge includes folklore which includes dance, culture, songs, various traditions, rituals, food, religious beliefs, traditional dress, traditional stories, traditional dance and various methods to survive and grow their communities. As it is well known that usually indigenous knowledge is shared only in their communities it has helped to secure the traditional knowledge in its pure form. Traditional knowledge has helped to preserve the environment and the natural resources to a larger extent. Sharing of the traditional knowledge can be seen in two forms, firstly the knowledge is shared only with their tribe of indigenous people and nobody else and secondly the traditional knowledge is shared and known to the local people also due to the various traditions and/ or geographical condition of the place or area or country. Traditional knowledge has not only socially helped the communities to bond but also economically to grow. It has helped such remote communities to conduit their economy on their scale. The impact of the traditional knowledge can be divided into three parts The commercial value of the traditional knowledge was not acceptable in the beginning but today the value has increased to such an extent that the traditional knowledge is patented by the industries but the exclusive right under IPR rather than helping the traditional people to protect their rights, infringes their right The sociological impact of the traditional knowledge can be seen that the traditional knowledge is diluted to such an extent with the people that it has formed an integral part of the local people of that place and/or country, which can be called as the Indigenous Local Knowledge. Example: turmeric has antiseptic properties, neem has antiseptic properties, Tulsi plant or sapling can be seen mostly outside every house in India as it has high medicinal value.etc. Sociological impact of the traditional knowledge is of great importance as the indigenous people have helped to preserve the environment of the place untainted. Various traditions and beliefs of the tribes or indigenous people or the aborigines help to conserve and preserve the environment, landscape etc. of that area/

place in its pure form. Traditional knowledge is the knowledge which is gathered by the wisdom, experience and capability of certain group of people who survived with the help of this knowledge.

Traditional knowledge is basically due to the natural environment where the aboriginals survived with the help of such knowledge which they have discovered and passed on to their generations which inculcates in them and it forms their culture, songs, rituals, dressing styles, dances, food, medicinal knowledge and all other activities. Thus, helps to form different types of tribe's or indigenous people or aboriginals with their traditional knowledge. Traditional knowledge is the cultural pride of every country which is basically formed due to the geographical condition of the country or that particular place and thus makes it a special domain of that particular area in that particular country. Thus, the traditional knowledge of any country always acts as a blessing due to the geographical condition of that country. The crux to understand here is that whatever the geography of the area is the aborigines/ indigenous people have created the way of living by discovering the knowledge; and the traditional knowledge has helped them to survive. Traditional Knowledge basically shows the aboriginal of the country.

Geographical indication helps to have a landscape which in return helps the indigenous people to form a particular culture, thus helping them to have various rituals, their food habits, traditional dances and songs, medicinal knowledge, and thus they help themselves to survive in such environment, which in turn the traditional knowledge helps them to survive with their own development. It is a circle that plays the geography of the place made the indigenous people to discover the traditional knowledge and it in turn helps to survive. This makes them to develop their clan. Some traditional knowledge is kept secret form the society for examples some families they practice rituals or alternative medicines from generations and do not disclose it with the public. But some traditional knowledge is already in known to the society due to its antiquity, usage and availability.

VIII. SOCIAL IMPACT

Traditional knowledge not only helped the indigenous people to survive but also helped to grow. The evolution of the indigenous people created the social activities of their communities. The social activities are mostly based on knowledge gathered traditionally and also the geographical conditions of the place. In other words, social behavior and activities are interlinked with geographical conditions and based on which the traditional knowledge is formed. The social life of the indigenous people is motivated by the traditional knowledge. Thus, the social impact of the traditional knowledge plays an important role in the overall growth of human life and nature. It's very simple that the knowledge of the nature is received and utilized for the betterment of the nature through the medium of indigenous people. The social impact of traditional knowledge plays a beneficial indigenous people traditional knowledge social activism of the indigenous people causes the absorption of the traditional knowledge in the society as indigenous people uses the land and nature, they consider it sacred. Thus this quality of theirs helps to secure the environment in its natural

form In other words helps the geography of the land to be maintained. geography of the place role to conserve the environment, climatic conditions and landscape in their natural forms. Therefore, the social impact assessment not only helps us to understand their social activities, traditional methods but also the overall benefits. Indigenous people believe their traditional knowledge very sacred; mostly they keep their knowledge within their community. As the society grows many developmental changes and acceptance in their social behavior can be seen whereas when the indigenous knowledge of the indigenous people is diffused in the society between the local people is diffused further. Such knowledge may be documented or not, it is widely accepted and publicized, for example turmeric, neem, ginger, tulsi etc. have great importance in India here the geography of the place plays a huge role.

IX. INTERNATIONAL CONVENTIONS, LOCAL PROTOCOLS OF VARIOUS COMMUNITIES IN OTHER COUNTRIES

Traditional knowledge is possessed by the indigenous people. They have immense knowledge based on centuries by considering sacred and living in the nature The indigenous knowledge is the knowledge which helps them to survive the environment. The ancient ones in the human history are Asian, African, Latin American civilization consisting of thousands of traditional communities and even now they have been evolving. The traditional knowledge is mainly associated with their customs, culture, heritage and the way of their daily living. It is also used for commercial purpose. Until recently, the knowledge of indigenous peoples and traditional communities was known by the name of folklore. As studied in chapter 2, traditional knowledge helps the indigenous people to grow socially and economically, not only that this relation causes to conserve the environment and protect it. The commercial exploitation of traditional knowledge was restricted and not wide as today. But it has immense commercial potential which has been recognized and utilized in recent years. The traditional knowledge and its creators/ developers and primary beneficiaries should be protected. Here the State is the guardian of all the people general, conservative groups and their cultural heritage. The cultural heritage is a significant feature of the Nation/ particular Country.

Thus the State has the responsibility to protect the indigenous people and their traditional knowledge and traditional cultural expressions. Traditional knowledge has immense potential of the commercial exploitation which has been recognized by the convention countries, it resulted in the protection of the traditional knowledge under the Patents of the intellectual property rights.

The proper assertion for the protection to be provided for traditional knowledge and its indigenous people is because it is associated with the cultural identity of the Nation, the rights and benefits of creator and beneficiaries, the close association with the environment conservation, human rights and to avoid many cultural and knowledge fights between indigenous and non- indigenous people. Though the above stakes are to be considered but almost all international conventions and national legislations are enacted with the motive of commercial exploitation of the

traditional knowledge, thus it is protected under Patents Act of intellectual property laws. The study of the legislations and conventions enacted shows its great inefficiency to protect; as the main part to understand is the indigenous communities should have all the rights over the traditional knowledge and its associated knowledge along with the commercial exploitation but it is made exactly opposite. In simple words only the commercial exploitation is considered to favor the industrial lobby by the developed countries by ignoring the rights of the indigenous community/ people and cultural identity of the nation.

As a result the legislations are formed or the provisions are made under the Conventions to maximize the exploitation of the traditional knowledge. Under Intellectual Property Rights laws, various provisions and legislations are made to protect traditional and its associated knowledge. Traditional knowledge's maximum commercial exploitation is made by pharmaceutical, agricultural and cosmetic industry which is in turn protected under the Patents Act of IPR. The main legislations to protect IPRs are Patent, Copyright, Trademark, Design, Geographical Indications etc. Types of IPR used to protect traditional knowledge and its associated forms are discussed as under in brief. Patents are the most used types under the IPR. Under the patent the invention are covered and it gives a monopoly right to the patent holder the exclusive right to commercialize the patented work. Patentee has the right to exclude anyone from selling, making and using the patented subject.

Trademarks are distinctive signs such as words, logos, shapes, slogans, provided to identify goods and services of a person from another. Example Tata Tea, Godrej soaps etc. Copyrights identify the creator of artistic, literary works, dramatic, computer programme, musical work, cinematographic works and sound recording. Under copyright it is not mandatory to register the work once you publish it under your name it would be artist copyright to use it exclusively for commercial purpose it is always advisable to get it registered. Geographical indications, in this good are naturally found, agriculturally, cultivated or manufactured in a particular territory of a country or a regions or locality have specific characteristics with regard to taste aroma or quality. They are based on appellation of origin or geographical indication. Industrial Designs protect the artistic aspects of an object such as shape, texture and pattern, instead of technical features such as the design of jewellery, the particular shape of a car, the designs on a wallpaper or carpet, the shape of a watch etc. Trade secrets are another form of intellectual property laws; they are enforced to protect the undisclosed information.

Since 1980's the international community has been trying to create respect and recognition of the traditional knowledge with the help of various organizations. As traditional knowledge is passed orally, it is mostly not written with any mention of author, due to this the corporates take undue advantage use this knowledge for commercial purpose. The traditional knowledge is free thus susceptible to abuse and bio piracy. The undue advantage taken from this knowledge and biological resources is that it is utilized for the commercial purpose by the bio-medical research and pharmaceutical products without any authorization of the indigenous people who are the true holders/ owners/

caretakers of this knowledge. The issue needs to be discussed that why the consent is required as some traditional knowledge has already been in the public and some are confined to the indigenous people/ individual/ family. The IPR is the coercive unilateral trade measures and negotiation dynamics at the WTO, TRIPs embody a narrow commercial view to global IP protection that paid insufficient attention to the complex interplay between intellectual property and the provision of complementary goods. TRIPs do provide a broadly shared consensus amongst knowledge producers, owners, users and policy makers, nationally to globally, about how knowledge goods should be best produced.

The traditional knowledge along with geographical indication protection, into multilateral trade negotiations was discussed in the Doha Ministerial Declaration, adopted in 14 November, 2001. The traditional knowledge after concluding to have immense commercial potential is presently protected under the intellectual property rights under the branch of Patents. The researcher answers that the traditional knowledge can be protected under the intellectual property such as design e.g.; batik design, traditional bandini designs, can be considered as intellectual property. Every knowledge acquired/ developed by the indigenous people after ages of their survival in that condition make them the true owner to that precious indigenous / traditional knowledge. It has the intellectual property but it cannot be considered under the Patents Act, because in order to be considered under the It can be protected under the intellectual property but not under patents. Even though we have already made the provision to protect traditional knowledge under the Patent Act and made various legislations under the law to protect the forms but they all have resulted as inefficient/ insufficient The main objective of protection would be to obtain recognition and some compensation for the commercial use of traditional knowledge outside the community or the society, which generated it, either by excluding the unauthorized use by the by third parties, or by ensuring a right to remuneration for such use .

X. JUDICIAL TRENDS IN INDIA

Bio piracy is the socio- economic problem. It cannot be viewed or study only with technical aspect but other aspects like empathy, human rights and mistrust, fraud, is caused. Here the study has proved time and again that bio piracy is caused due to many problems faced by the indigenous people and there cannot be a proper arrangement of legal solutions to the threat caused to the traditional knowledge. The extensive study of problems of traditional knowledge can be understood through various case studies at regional, national, and international levels. Intellectual property rights are highly inefficient to protect the traditional knowledge under any branch of it's, not only that but does not give any priority to the rights of indigenous people. The basic principle is that traditional knowledge exist due to the indigenous people, therefore their rights have to be protected which will in turn would protect the traditional knowledge.

Many case studies through judicial approach have highlighted the underlying issues causing threat to traditional knowledge and rights of indigenous people. It also concludes that intellectual property laws are inefficient and requires sui

generis laws to protect traditional knowledge. Various case studies show that constitutional and human rights approach is required to protect the traditional knowledge and rights of the indigenous people. Traditional knowledge being open in the public makes the corporates to utilize the knowledge for free. Bio piracy actually is theft of traditional knowledge and it threatens the cultural identity of the indigenous people and the country. Rampant bio piracy deprives the holders of traditional knowledge of any benefits, loss of biodiversity and associated traditional knowledge will not only deprive the world of a unique knowledge base, but also threaten the very survival of local communities. Bio prospecting has made the biotechnology industry a multimillion industry. Globally as the corporates are engaged in building cross border value chains on an unprecedented scale in a bid to discover and develop new active ingredients from traditional medicine several cases have occurred in India, which has threatened the country's cultural image. India has been on of the victims of bio piracy, it has been a long and tough fight that India has played. Many cases have been registered threatening the traditional knowledge of the country. Indian has played and crucial role of initiating more strategies to protect the traditional knowledge. Thus India has introduced the traditional knowledge digital libraries (TKDL), in order to prevent the bio piracy by pharmaceutical companies

XI. INDIAN CASES

Traditional Knowledge and Patent

1) *Neem: (Biological name: Azadirachta indica). In India the neem tree is known as sarva-rōga nīvarini" or "curer of all ailments," and more recently in English as the "wonder tree." i.e. after its medicinal properties were discovered by the West. It is an ancient traditional knowledge of India, and every Indian knows its ayurvedic and medicinal properties. Ancient Indian Ayurvedic texts have described the Neem tree and it's medicinal healing properties as far back as 5000BC. W.R. Grace and the Department of Agriculture, first filed the patent for Neem, USA in European Patent Office and it was granted with patent no. patent number 436257. The claim in the said patent is a method of controlling fungi on plants with a Neem oil formulation. New Delhi, Indian based Research Foundation for Science, Technology and Ecology (RFSTE), in co-operation with the International Federation of Organic Agriculture Movements (IFOAM) and Magda Aelvoet, former green Member of the European Parliament (MEP), filed a legal opposition against the legal opposition. And submitted the evidence the opponents submitted evidence of ancient Indian ayurvedic texts that have described the hydrophobic extracts of neem seeds were known and used for centuries in India, for curing dermatological diseases in humans and agricultural plants form fungal infections. 80The EPO identified the lack of novelty, inventive step, and possibly form a relevant prior art and revoked the patent.*

2) *Turmeric In 1993, the US PTO granted the University of Mississippi Medical Center patent rights over a healing a wound by administering turmeric to a patient afflicted with a wound. Turmeric has been used for centuries in India. In India tuber is dried forever. The patent was eventually cancelled in 1998 after reexamination proceedings.*

3) *Maca* traditionally known as to enhance fertility and sexual function. It was patented by the US companies patented the extracts of the Andean plant *Maca*, in 2001. It got the popularity due to the *Viagra* craze in USA. The patents were granted on the basis of unlocking *maca's* chemical secrets through advanced processes. It has become clear, though narrating these few cases that IP laws cannot or are not being effectively applied to prevent the bio piracy of traditional knowledge. Traditional Knowledge is free and thus prone to be commercialized without any consent. When patents are falsely granted, equitable benefit sharing is not taking place either, while indigenous peoples remain subject to bio piracy and become ever more marginalized in the process. The Indian patent law also contains provisions for mandatory disclosure of source and geographical origin of the biological material used in the invention, while applying for patents in India. It also incorporates non-disclosure or wrongful disclosure of the same as grounds for opposition and for revocation of the patents, if granted. The provisions where the anticipation of invention from the existing and accessible local knowledge including the oral knowledge, it is also considered as the grounds for opposition for revocation of patent

Thus to prohibit the misappropriation of traditional knowledge it excludes the innovations which are basically traditional or aggregation or duplication of known properties of traditionally known component/s from being patented.

4) *Basmati Rice Case*: Rice is chief grains and is a principal food crops in southeast and other parts of Asia. For centuries, it has been the cornerstone of the regions food and culture. The farming communities throughout the region, over the years, have developed, nurtured, and conserved over thousand distinct varieties of rice. There are different strains of rice; *Basmati Rice* is known as queen of fragrance. *Basmati* is aromatic long-grain rice which originated in Punjab. It has been best grown in the foothills of the Himalayas for thousands of years. For many generations *basmati* is grown in Punjab, India and Pakistan. Its nut-like flavor and aroma can be attributed to the peculiar geology where it grows - the deep and fertile soils as well as the exceptional climate. *Basmati* is the costliest rice in the world has been favored by emperors and praised by poets for hundreds of years. *Basmati* was thus viewed as a cultural and biological heritage. India grows 650,000 tons of *Basmati* rice annually. *Basmati* covers 10-15 per cent of the total land area under rice cultivation in India. *Basmati* rice is one of the major export items from India. Indian farmers exported \$250 million *Basmati* every year. The main importers of Indian *Basmati* are the Middle East (65 per cent), Europe (20 per cent) and USA (10-15 per cent). Indian *Basmati* is the most expensive rice imported by the EU compared to Pakistani *Basmati* and Thai fragrant rice. On September 2, 1997, an American company Rice Tec Inc. was granted a patent (No: 5663484) on *Basmati* rice lines and grains by the USPTO. USA Company developed crossbred rice lines and grains. The *Basmati* variety, on which Rice Tec claimed a patent, has been derived from Indian *Basmati* crossed with semi-dwarf varieties, including *indica* varieties.

Rice Tec gained patent rights on *Basmati* rice and grains while already trading in its brand names such as *Kasmati*, *Texmati* and *Jasmati*. This patent allowed Rice Tec to sell a

'new' variety of *Basmati*, which it claims to have developed under the name of *Basmati*, in the US and abroad. The company made 20 claimed in the patent application. On India's protest Rice Tec withdrew these claims. Rice Tec had got patent mainly for three categories: growing rice plants with certain characteristics identical to *Basmati*, the grain produced by such plants, and the method of selecting the rice plant based on a starch index (SI) test devised by Rice Tec Inc. Out of these three categories, India challenged only the claim on 'grain quality' and left the claims on 'variety of the rice' and 'its method of production' unchallenged. The government of India has challenged the patent through Agricultural and Processed Food Exports Development Authority (APEDA). The patent was challenged on technical grounds of novelty, usefulness and non-obviousness. An application for patent reexamination was filed before the U.S. Patent and Trademark Office (USPTO). Subsequently, Rice Tec withdrew all the claims except those related to the specific rice lines developed by it and not to any varieties or lines grown in India. During the course of the appeal filed by India in the U.S., Rice Tec dropped 15 out of the 20 claims that it had made in the original patent application. Rice Tec has been finally granted varietal patents for three strains of superfine rice developed by the company, but it could not obtain patent for the generic and pseudo generic strains of *basmati*. In the ruling, the USPTO said that Rice Tec's grain is equal or superior to good quality *Basmati*. This would help the company to label its strains as superior *Basmati* rice. The international community treated this as a blatant case of bio piracy that threatens the genetic material, biological resources and indigenous innovation of farmers around the world. As per Research foundation for Science and Technology, the *Basmati* patent is a clear case of bio piracy and represents a theft in three ways: (i) theft of collective intellectual biodiversity heritage of Indian farmers who have evolved and bred *Basmati* varieties, (ii) theft from Indian traders and exporters whose markets are being stolen by the theft of Indian aromatic rice varieties, and (iii) theft of the name "*Basmati*" which describes the aromatic characteristics of the rice.

5) *Asian Chickpea Case*: *Chickpea* (*Cicer arietinum*), one of the earliest cultivated vegetables, is the most important cool season food legume crop grown mainly by small farmers in the semi-arid tropics of West Asia and North Africa. Farmers from Indian subcontinent grew them massively all year round. India is the highest in production of chickpea followed by Pakistan and Turkey. Chickpeas are high in protein, dietary fiber, and zinc. Hence it is a healthy source of carbohydrates for persons with insulin sensitivity or diabetes. Two Australian government agencies collected samples of Asian chick pea from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). ICRISAT is an internationally funded public research center based in Hyderabad. In April 1997, the agencies representing Australian seed industry applied for patents and plant breeder's rights (PBR) on two strains of these chick pea varieties.

These varieties are not new to the farmers rather, it was claimed to be from India and Iran. On much of protest and opposition, the patent applications in January 1998 were withdrawn by the Australian agencies.

6) *Wapishana Tribe: Wapishana Indigenous tribe of the Amazon jungles. The traditional knowledge of use of cunani (Clibadium Sylvester) which is used by the tribe for reversible heart blocking agent or neuromuscular active or used as a mycobactericide and another traditional knowledge of 'Tipir', nut of the Gren Heart Tree, which they used for stopping hemorrhages, prevent infection and as a contraceptive. Cunani leaves are thrown into river water to stun the fish allowing for a quick harvest of edible fish without adversely affecting the quality of water. The above information of the tribe was shared by the tribe members with prof. Gorinsky during his series of visit as researcher. Whereas Prof. Gorinsky gave away this information to pharmaceutical companies and this British scientist used the above Traditional Knowledge and patented it under the U.S patent No. 5,786,385 and patent No. 6,048,867 Due to the betrayal of the British scientist, the tribes which were politically divided due to the international boundaries of Brazil and Guyana. The chiefs of the tribes joined hands in order to ban any researcher from visiting their village for knowledge. Issues need to be discussed under this case: The traditional knowledge which is patented by Prof. Gorinsky was already known. Information of the tribe and he patented it without their prior informed consent. Here researcher Prof. Gornisky and the corporates are bio pirates and take advantage of it to get the monetary benefits, they gather the knowledge of such tribes and utilized it for their own purpose, and it is nothing but Bio piracy. Whereas non- recognition of the knowledge which belongs to the originator that the tribe, Here the action of Prof. Gornisky is nothing but an offence caused by breach of trust. These actions have caused the serious conflicts between the Indigenous and Non- indigenous communities causing the future related offences and problems under Traditional Knowledge.*

XII. COPYRIGHT AND TRADITIONAL KNOWLEDGE

A. YOGA:

Bikram Choudhary's book yoga asana named 'Bikram's Beginning Yoga Class' He filed for the copyright of the said book in copyright office in 2012. He filed for 'supplemental registration', as a correction as the original registration is incorrect and incomplete. According to it, he was claiming rights in the book and the sequence of the 26-asana tough in the book. An organization 'Open-Source Yoga Unity' according to its website, it stated that development of Yoga is for all to enjoy. They opposed the said 'supplementary registration', to the US District Court of California to issue a declaratory judgment that the patentee has no exclusive right over the sequence of this 26-yoga asana. The Court rejected the argument of the organization, that it is impossible in theory for a sequence of yoga asana to be protected, but it can be protectable as 'compilation' 'but only to the extent of the originality of its creation. Though the court did not states that the patentee's sequence of 26 asana as, were protectable as a compilation. The court agreed that the application of law for compilations of yoga postures, would violate the spirits of yoga. The Open-Source Yoga Unit, the defendant argued that the court should not let the matter go to trial, otherwise he would come with some reason to verify his claim of sequence, as it is impossible under the law. As the court was convinced

they left the decision up to the jury to determine, whether the Yoga asana are protectable or not. The case never reached a decision as the matter was settled. Copyright office writes a Policy statement in July 2012, based on the opinion on the matter asked by someone; in that a sequence of movements of yoga asana, or nay sequence of exercises or movements, excluding choreography could not be protected as compilations, as they are not compilation of literary works, musical works or any other kinds of works protected by copyright law. The Policy statement under Copyright Office, stated the under the Copyright Act, 1976, the following kinds of works are eligible for protection: (1) literary works; (2) musical works, including any accompanying words; (3) dramatic works, including any accompanying music; (4) pantomimes and choreographic works; (5) pictorial, graphic, and sculptural works; (6) motion pictures and other audiovisual works; (7) sound recordings; and (8) architectural works. The Copyright Office accepted that it had been error on their part to allow Choudhary to file his supplementary registration.

They further added that the agency will not allow registrations of this type any more. Such policy statement cannot be considered as law, though if it is given by Copyright Office, then it may have been given some weightage in the court. Thus it was held that Court agrees that the Choudhary sequence cannot be protected. There was a dispute between two yoga instructor in Buffalo New York, were authorized to teach Bikram Basic Yoga System. They formed their own educational enterprise name as 'Evolution Yoga LLC' after the certification course from Bikram Basic Yoga System. Bikram Yoga College of India LL.P sued Evolution enterprise, alleging copyright infringement. The court here rejected the argument of sequence could be protected as a pantomime or choreographic work, as they are 'more that something significantly more than' a series of poses, and they are created to perform for an audience. The court granted summary judgment for Evolution enterprise, stating that the yoga asana cannot be copyrighted, agreeing with the Copyright Office's Policy Statement.

XIII. TRADEMARK AND TRADITIONAL KNOWLEDGE

A. VEDA GmbH v/s Mr. Nicholas Silverstone

The name VEDA which symbolizes knowledge, heritage and much more to Indian's has been appropriated by a German Firm which has obtained trademark rights over it. The firm, VEDA GmbH of Germany, involved in development of computer software has obtained exclusive rights over the name, albeit for its computer products and registered it in many countries. Barely few months later another German firm patented 'VAASTU', the art of aesthetic architecture of ancient India. This development means one more loss for the Country of its own priced possessions. The matter came to light following a dispute before the World Intellectual Property Organization over a web address 'www.veda.com', registered by a UK national, Nicholas Silverstone. The Claim succeeded but not before the administrative panel, which decided the case, reminded Veda GmbH that "almost a billion of Hindus would dispute that the name of their sacred scripture (Veda or Vedas) has been created by a German company". The observation came on the firm's contention

that Veda was a self-created word. Veda GmbH had approached the WIPO Arbitration and Mediation Centre in November 2004, claiming to be owner of the trademark VEDA, registered in several countries for computer-related services. The claim was confirmed by an arbitration panel. Observing that the domain name had been registered in bad faith, the WIPO ordered that veda.com be transferred to Veda GmbH. In this case words 'Veda' and 'Vaastu' have been used by foreigner company and it is infringed by another foreigner company, but the Indian Government have not taken action to stop the usage of this indigenous knowledge that has immense valuable in India. Here the issue is that Indian government should have taken action in the above case as the term 'Veda' and 'Vaastu' both are traditional terms and has immense value in India. The inaction by the Government of India, such terms would be registered by the foreigner in their countries and thus Indians will be prevented from using the names in our Vedas and Puranas.

B. Khadi

The word 'KHADI' has been trademarked by a German Company named 'Naturprodukte', which sells products such as shampoos, soaps and oils made from natural ingredients 'KHADI' as a trademark in the office of Harmonization of Internal markets which is responsible for trademarks and design registration in the European Union. The main issue in this case was; in order to register as an international trademark under WIPO Madrid's protocol. It is necessary that it should not be registered elsewhere. Thus India cannot register it and the said German Company is beating India to it. Here in this case the issue to be discussed is that the IPR infringement has occurred at international level and that the German Company products are similar to KVIC's except for fabrics. They are even packed and marketed in an identical design. But KVIC's has not therefore sought cancellation of the trademark held by German Company.

XIV. IMPORTANCE OF TRADITIONAL KNOWLEDGE

Traditional knowledge has great importance in the country. As the traditional knowledge has been evolved from the natural environment It protects conserves and preserves the environment. Traditional Knowledge plays a huge role in the sustainable development of the environment. Traditional knowledge not only covers the knowledge related to medicines, agriculture, forest, aquatic, plants, animals, spirituality and landscape; this helps to keep the atmosphere and environment clean and withstand it. It also covers the traditional artistic, dance forms, songs and other cultural activities etc. these forms helps to grow socially and economically.

The ethnic and aboriginality of the knowledge has esteemed the importance of the Traditional Knowledge. All these fields have been utilized and commercially exploited by the corporates. Traditional knowledge and folklore are important because it helps to keep the sustainability of the environment. The folklore helps to grow them socially; these tradition forms the identity and culture of the country.

XV. CONCLUSION

The importance of traditional knowledge is boundless and extends to economic and social life. Basically the traditional knowledge is developed due to the geography of the location where the people were able to survive themselves. The development of traditional knowledge is upgraded with human development his basic instinct of survival which is highly associated with the environment they were living in. Indigenous people has developed the traditional knowledge through immense research without any provision of technology, they have developed and followed it as the custom and survived through it, which ultimately made it a part of their social, cultural and economic life. Any Traditional Knowledge or all associated knowledge is basically of great value because it forms its culture interpreting the community and country. Any traditional knowledge preached, protected used as social and economic importance by the indigenous people / communities are all forming the Country's environment. As the age of the traditional knowledge is very primordial but some of the knowledge are not as ancient as we think, but only some decades ago or may be recent, the crucial characteristic that plays in the traditionalist of the knowledge; is that the knowledge is passed from generation to generation and the successors keep the knowledge as sacred and also exploit it for their daily or for commercial and/or social purpose. Traditional knowledge is all reserved and utilized by the indigenous people/ community; it becomes an integral part of the community which ultimately helps to form the diverse cultural identity of the country. As it shows the culture and helps to grow socio-economic strength of the country. Thus the onus to secure and protect the traditional knowledge is more on the country. Thus the protection of Traditional Knowledge can be made by the respective countries by forming a good legislation giving priority to the indigenous people and communities. However it is very crucial for the respective country to protect the traditional knowledge and its related terms with the regards to the technology; as the world is progressing technology wise.

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