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TRADITIONAL KNOWLEDGE AND INTELLECTUAL PROPERTY ASSETS

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ABSTRACT

Traditional knowledge is that which has passed from one generation to another generation. The conservator of theses knowledge did not considered it as public good and not worthy of commercialisation. However, after 19th century, traditional knowledge also fall within the domain of intellectual property eligible enough to be exploited for monetary gain. The bigger industries of western countries tried to commercially exploit the traditional knowledge of indigenous communities of Asian countries without prior informed consent because most of the indigenous knowledge are centred in these countries. This has happened more particularly in pharmaceutical industries, which has been properly explained in this article. Though, some cases of bio-piracy of traditional knowledge has been successfully redeemed but several measures have to be taken to conserve it. Thus, the author has tried in this article to explore the concept of traditional knowledge, concept of bio-piracy, various national and international instruments regarding protection of traditional knowledge and also suggested the possible measures that can be taken to protect traditional knowledge.

Keywords: Indigenous Community, Traditional Knowledge, Bio-Piracy, Informed Consent.

Introduction: Traditional Knowledge

Traditional knowledge is defined as understanding that has been acquired over time by members of an indigenous community in one or more societies through perception and acclimatization to the local culture and environment. It has historically been a gem that is simple to get to, making it vulnerable to theft. An intangible aspect of biological resources is the traditional knowledge connected to them. It is typically passed on orally from generation to generation. This knowledge has been influenced over time by innovations and practices from

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previous generations. Traditional knowledge is extremely broad and includes insight about a variety of topics, including experience and understanding of animal and plant species and their characteristics, comprehension of mineral resources and soils and their characteristics, permutations of anthropocentric sources, knowledge of medicines, and manifestations of folk tales mostly in the forms of music, dance, song, craftsmanship, stories, and art. The term "old knowledge" refers to all intellectual creations in the sectors of science, technology, biology, healthcare, agribusiness, biodiversity, as well as art and literature that have been created by progenitors and steadily refined by successive generations of a particular community. Traditional knowledge is utilised to preserve the community, its customs, and the hereditary resources needed for the community's continuous survival. The psychological and social context, of which indigenous knowledge is an essential component, must be preserved. Traditional knowledge is progressive, responsive, and culture- and context-specific. It provides useful leads that cut down on the amount of money and effort invested in research and advancement. Thus, multinational corporations make use of natural resources and the corresponding knowledge. Indigenous people develop these commodities and traditional knowledge, yet often get little credit or payment from said transnational corporations.

An Introduction to Intellectual Property Rights and Assets

These days, the terminology underlying intellectual property rights scarcely needs to be expanded. Anyone who matters in the scientific community is discussing intellectual property rights and how crucial it is to safeguard scientific breakthroughs that have the capacity to be commercially successful in a complex web of patents. The legitimacy of the international system of intellectual property rights is in doubt since it is unable to create equal opportunity for traditional knowledge holders and pioneers in the formal sector. The treatment of traditional knowledge and tradition raises serious ethical, judicial, cultural, and political issues. Such understanding is not restricted to clearly defined or articulated collections of components that can be known.

To prosper today, a country needs more than simply land, labour, and money. The new engines of the global economy are creativity and ingenuity. The concept that its source material is a creation of the mind or intellect is reflected in the expression intellectual property (IP). The provision of intellectual property rights (IPRs) serves to reward and protect innovators whose inventiveness might otherwise be freely used by others. The makers are expected by society to put their creations on the economy so that people can buy and sell them. Although society wants to support inventiveness, it is unwilling to assist in the development of unfavourable market power.

However, there is an issue that arises—biopiracy and it leads to numerous instances of unwarranted difficulties in both India and other nations. Traditional knowledge has been protected through both offensive and defensive measures using a variety of tactics. Traditional knowledge has benefited from the Government of India's Council for Scientific and Industrial Research's effective attempt to record it in the TKDL (Traditional Knowledge Digital Library). Because of some flaws in the IPR system, biopirates employ intellectual property rights (IPR) as a tool to pilfer traditional knowledge and plunder biodiversity. Therefore it is required to introduce some sui-generis elements in the existing IPR system. India is listed among the 12[2] countries with the highest biodiversity levels. India is renowned for its high biological diversity, with over 91,200 animal species and 45,500 plant species having been identified so far in its 10 bio-geographic regions.[3] India is a recognised hub for agricultural diversity and is home to numerous wild cultivars of crop cousins. India has a large agro diversification and ranks among the twelve main origins of cultivars. India has a wealth of traditional knowledge about the qualities and applications of its natural capital due to its distinctive biodiversity and plentiful natural resources. The foundation of cultural heritage is customary wisdom (traditional knowledge). The majority of indigenous and local groups are found in regions with a wide range of ecological diversity. Traditional knowledge on preservation and long-term sustainable use is stored in indigenous communities.[4] To achieve sustainable development, traditional wisdom is a crucial component.

Human Rights Conservation with respect to Traditional Knowledge

In India, perspectives of science and its application have undergone a significant change as a result of liberalisation and globalisation. In the West, the blatant desire to monopolize and protect any imaginable technological advancement, no matter how small, has now reached an absurd level. American and international corporations, who are not known for their restraint and consideration when it comes to business interests, have set out to fence off major portions of academia under the pretence of preserving intellectual assets. Setting the new IP agenda for the twenty-first century will be difficult given the explosive increase of scientific knowledge, the rising demand for new forms of IP protection and access to IP-related information, the growing dominance of the emerging knowledge economy over the old "brick and mortar" economy, and the complexity of the links between IP and traditional knowledge, community

[2] NBA, http://www.nbaindia.org/faq.htm (last visited on Dec. 12, 2022)
[3] MINISTRY OF ENVIORNMENT AND HEALTH, http://moef.nic.in/downloads/public-information/in-nr-04.pdf (last visited on Dec. 11, 2022)
[4] AMIT JHA, TRADITIONAL KNOWLEDGE SYSTEM IN INDIA 12-44(Atlantic 2022)

knowledge, and living things. Trade Related Aspects of the Intellectual Property Rights (TRIPS) and the Convention on Biodiversity (CBD), which are associated to trade and business, respectively, called for the development of new economic rights and obligations to supplement the IPR system under the World Intellectual Property Organization (WIPO).

Matters concerning traditional knowledge, hitherto pursued only in the form of cultural rights or heritage issues at the UN, UNESCO and WIPO are regarded relevant also for development rights for which the United Nations Conference on Trade and Development (UNCTAD) was created and economic rights for which earlier UN-ECOSOC and more recently, WTO have been mandated. Additionally, the Traditional Medicine Strategy for 2002–2005 of the WHO includes several subcategories of traditional knowledge, such as traditional medicine, that continue to support public health targets. Additionally, traditional knowledge is treasured not merely because it is ancient but rather because a greater portion of it is passed down orally, making it a vital component of the information required to maintain livelihoods and means of subsistence. It also has a fluctuating economic value.

Approaches for the Protection of Traditional Knowledge

Traditional knowledge may be maintained in two ways under the current Intellectual Property Rights (IPR) system: positive protection and defensive protection. There are certain gaps in the boundaries between defensive and proactive intellectual property regulations. Therefore, both methods should indeed be employed to effectively conserve traditional knowledge.[5]

Defensive Protection and Positive Protection

Leveraging intellectual property techniques, two precautionary paradigms have been applied to safeguard cultural heritage. The first preventive perspective (or defensive protection) is designed to prevent others from making use of traditional knowledge or obtaining rights of intellectual property over it. For instance, in order to demonstrate their indigenous practices as previous art and stop alleged abuses like biopiracy, several people have built traditional knowledge archives. Databases do expose such conventional knowledge to the public, even though they may prevent individuals from obtaining rights to such information. Since many societies would like to preserve such cultural heritage within their individual communities, this poses a difficulty. Several cultures adhere to their own customary or historical rules that govern the application of traditional knowledge; these laws may be somewhat different from their

[5] MONDAQ, https://www.mondaq.com/india/patent/743482/ipr-vis--%C3%A0--vis-traditional-knowledge :~:text=Positive%20protection%20means%20protecting%20TK,property%20rights%20over%20traditional%20knowledge (last visited on Dec. 14, 2022)

country's or the world's legal framework for intellectual property rights. These conventions may be broken by disclosures.

The second preventive paradigm, commonly referred to as "positive protection," aims to provide legal protections for traditional knowledge. Either current laws are used to do this, or novel sui generis laws are enacted through legislative procedures.

Several have claimed that allowing such groups eternal liberties may cause constitutional issues in certain nations, such as the United States. Additionally, they present pragmatic objections towards the idea of giving traditional knowledge constitutional protection. For example, certain traditional knowledge (like medical remedies) may very well be exploited to benefit individuals, while some proprietary rights may be retained. The equal distribution of advantages and assets is the subject of many other worries.

Local and indigenous cultures often asserted that they don't typically employ any incentives for development. Their usage of information is influenced by both spirituality and culture. Customary rules that are fundamental to their communal and ethnic history may be broken if this information is misappropriated or used inappropriately. Several legal clauses and statutory regulations presently safeguard these views, and the UN is gradually recognising them as unique human rights.

Prior Informed Consent (PIC)

PIC refers to the authorization obtained from the original owners of natural resource and accompanying traditional knowledge in order to acquire and utilise these assets and wisdom for commercial gain. PIC might be useful in addressing the issue of managing biological resources. Before directly gaining possession of a resource, a corporation or person must first get the prior informed consent of any and all communities as well as all members within each community who've already utilised and helped collaboratively towards the breakthrough in biodiversity-related knowledge. PIC will promote fair profit distribution and stop the exploitation of conventional knowledge.[6]

Benefit Sharing

Benefit sharing is the commitment to divide with a traditional community any financial and non-financial gains from the commercialization of its biological resources and related expertise. The establishment of an initiative like a trust fund for a particular demographic of

[6] FOOD AND AGRICULTURAL ORGANISATION OF THE UNITED NATIONS, https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/ (last visited on Dec. 14, 2022)

beneficiaries, the transference of information, the creation of work opportunities, the improvement of infrastructure, the development of competence, and intellectual cooperation are a few of the monetary and non-monetary advantages.[7] Benefit-sharing arrangements might exist among: • A bio prospector and the local community; • A bio prospector and a collaborator who is not a member of the community, such as a university or a government agency; • The National Gene Fund trustees and bio prospector.

Equitable benefit-sharing arrangements have the potential to fully recognise and safeguard the entitlements of indigenous and local people to their genetic assets and knowledge. Effective PIC and fair reimbursement contracts should be implemented to stop bio-piracy and safeguard indigenous people's rights.

Protection of Traditional Knowledge through Documentation & Database

Concerning biodiversity and associated traditional knowledge, several patents have been awarded. This is due to the absence of traditional knowledge recordkeeping, particularly in India. For many decades, traditional wisdom has been handed down verbally from one person to another. There is a necessity of a practical record for precedent art to demonstrate that a patent is indeed not innovative and completely novel. The correct documenting of traditional knowledge is necessary to protect it from dishonest influences. Such records would act as a dataset for information searches prior to patent award. Tracking of indigenous tribes with whom sharing of the advantages of commercialising such products and expertise would be much easier, thanks to this. The Indian government has undertaken a number of attempts to record traditional knowledge. Some examples of the before mentioned attempts are:

People's Biodiversity Register: Comprehensive data on the accessibility and understanding of regional natural capital, along with any indigenous knowledge systems related to them, is recorded in the Register.[8]

The creation of such registers involves steps including targeting specific resource user groups, going on field trips, charting the area, and having conversations with locals on ecological sustainability. Locals create biodiversity registers at the block, district, and state levels with the aid of specialists or academic NGO institutions. These registries are recognised under the Biodiversity Act of 2002 as a legitimate and genuine method of establishing material evidence and as a foundation for assessing IPR applications.

[7] KASHISH, Traditional Knowledge And Access-Benefit Sharing, (Dec. 14, 2022, 1:22 AM), KASHISH WORLDBLOG https://www.kashishworld.com/blog/traditional-knowledge-and-access-benefit-sharing-abs/

[8] NBA, http://nbaindia.org/uploaded/pdf/PPT_PBRs_Guidelines.pdf (last visited on Dec. 22, 2022)

The Beej Bachao Movement (Save the Seeds Movement) was started in 1995 by the NGO Kalpavriksh in association with the locals of Jardhar in the Teri Garhwal region of Uttar Pradesh. The movement's goal was to catalogue the variety of regional seedlings plus local populations' conservation methods.

Utilization of IPR to defend traditional knowledge

Notwithstanding many restrictions in the current IPR framework, certain components can be employed in either a positive or defensive approach to safeguard traditional knowledge.

Biological Diversity Act, 2002

India, a signatory to the CBD, felt it was important to implement the aforementioned agreement. In order to encourage the preservation of species diversity, India approved the Biological Diversity Act in 2002.

Section 36 of said Act dictates what actions must be made to conserve the ancient knowledge of land. The law calls for the creation of the National Biodiversity Authority (NBA) in accordance with Section 8 of the Act, the State Biodiversity Board (SBB) in accordance with Section 22 of the Act, and Biodiversity Management Committees (BMCs) at the level of the local community. The law also calls for the monitoring of ecology using biodiversity registers and the advocacy of biodiversity conservation and sustainable usage. Without the NBA's consent, data and information derived from studies cannot be disseminated. The NBA will examine any petitions for allegations of intellectual property rights as well as keep track of biodiversity preservation.

Shortcomings of the Biological Diversity Act, 2002:

There are certain gaps in the Act's IPR provisions since NBA, which was created under the Biological Diversity Act of 2002, possesses extraterritorial jurisdiction and is unable to keep track of requests for rights to intellectual property outside of India. The Act is primarily concerned with state rights and IPRs like patents. The Act doesn't really empower current right holders, such as local farmers or local communities, to secure their rights in the exact same manner as it does for the state to combat biopiracy.

Protection of traditional knowledge through Patent Act 1970

IP rights are founded on the idea of private property ownership, while a traditional society has joint ownership over traditional knowledge. That knowledge belongs to the group as a whole. Due to its very distinct character from contemporary science, defending traditional knowledge

under the current IPR framework is difficult. A defence mechanism against the improper usage traditional knowledge is the patent system. The primary benefit of a defensive system of protection is the fact that it stops commercial entities from completely monopolizing natural resources and associated traditional knowledge. This method views traditional knowledge connected to biodiversity as a shared human legacy that shouldn't be subject to private entities. Provisions under Sections 25[1(k), 2(k)] and 64[1(q)] of the Act were integrated to include expectation of innovation through readily available local expertise, such as oral knowledge, as a primary basis for both pre-grant opposition[9] and post-grant opposition[10] in addition to patent revocation.

Shortcomings of the Patent Act 1970:

Due to the collaborative character of traditional knowledge, it is hard to pinpoint a specific creator or group of inventors. The traditional communities' knowledge system is based on the development of a product by the community in its entirety with community rights in such productions rather than the total monopoly of a single identified person or group of individuals. Their ancestors and succeeding generations have been creating and perfecting this art for aeons. As a result, no single individual can be credited as being the only originator of the property rights produced.

Protection of traditional knowledge through Copyright

Copyright only safeguards the manner of speech, not the ideas themselves. Any of the acts listed in Section 14 of the Copyright Act, 1957, may be performed by the copyright holder. Traditional knowledge bearers can utilise copyright to safeguard their artistic expressions from unlawful duplication and commercialization, notably if those creators are from indigenous or aboriginal cultures. The link between the authors, artists, as well as other creators and their works is addressed under moral rights. Those very same rights may be a powerful tool for defending the rights of indigenous peoples in work that draw upon their knowledge.

Shortcomings of the Copyrights Act 1957:

Most likely, traditional knowledge pertaining to natural commodities can hardly be protected by copyright.

Protection of traditional knowledge through Trade Secret

A list of clients, a machine or device blueprint, a chemical compound formulation, an industrial production, treatment, or preservation procedure, or a method can all be considered trade

[9] GLOBALJURIX, https://www.globaljurix.com/patent-opposition/ (last visited on Dec. 12, 2022)
[10] GLOBALJURIX, https://www.globaljurix.com/patent-opposition/ (last visited on Dec. 12, 2022)

secrets. It is knowledge that is economically valuable while not being widely recognised or easily discernible. There is no explicit law in India that guard sensitive information and business secrets. In India, trade secrets are safeguarded by contract law or the equitable theory of confidentiality violation.

Shortcomings of Trade Secret:

Traditional knowledge may be protected as a trade secret if it is used by a small group of people within a traditional society. However, it cannot be used in situations when conventional knowledge is old. In the case of TM, it can be impossible to keep the fact that specific plants, animals, or minerals provide therapeutic effect as a secret.

Protection of traditional knowledge through the Protection of Plant Varieties and Farmer's Rights Act, 2001

In September 2001, the Protection of Plant Varieties and Farmer's Rights Act went into effect. The unique legislation was developed to comply with the TRIPS requirements set out by the WTO. Original, already-existing, fundamentally sourced, and farmer varieties of plants are all entitled to protection under the Act.

Limitations of the 2001 PPV&FR Act:

It is challenging to identify the ownership of a traditional variety because historical varieties were created and utilised by communities over a long period of time jointly. The Act makes no provision for how to handle such divergent assertions of ownership. It is the farmer's responsibility to officially safeguard their variety by registering it. This approach is less suited to a farming society since farm workers typically are not informed of said farmer's rights and plant variety protection laws.

Protection of traditional knowledge through Trademarks

Indigenous goods, including those in the agricultural and biological fields, can be protected under the Trademark Act of 1999. By means of trademarks and service marks,[11] all types of goods and services manufactured and provided by manufacturers, technicians artisans, as well as businessmen in native and indigenous societies, or by the organisations which symbolise them or within which individuals are aggregated (cooperatives, factions, etc.), can be differentiated from similar products or services supplied by others.

[11] INVESTOPEDIA, https://www.investopedia.com/terms/s/service-mark.asp (last visited on Dec. 30, 2022)

Shortcomings of Trademark Act of 1999:

Due to its restrictions on specific uses in connection to the category of products and services under which it is registered, trademark protection only extends to a small portion of indigenous peoples' cultural heritage.

Large enterprises have used trademark registrations as a way to profit commercially from indigenous peoples' cultural heritage. Because they cede ownership of their emblems and signs to a registered trademark owner, this may act against indigenous people and turn things south.

Protection of traditional knowledge through Geographical Indications of goods

The indigenous tribes are the sole custodians of traditional knowledge, and GI is the most effective method of protection for it. A local community is rewarded under the Geographical Indications of Goods (Regulation and Protection) Act. The duration of GI protection is 10 years, however it can be extended indefinitely by renewing it several times. To enhance production quality, manufacturing processes are evolving with time. The products have developed their legacy and trustworthiness over many decades or even centuries.

Shortcomings of the Geographical Indications of Goods Act of 1999:

Geographical indications aren't the best tools for protecting all types of items made from traditional knowledge since they do not cover certain of its intangible forms, such as dances, folk music, medicinal practices, and methods of treating illnesses. Traditional processes or technology are not protected; only traditional products are. So, without crediting the valuable contribution of the technology's rightful owners, anybody can exploit traditional technology and get IPRs on inventions founded upon it.

Traditional Knowledge Digital Library

As a result of these lawsuits, which served as a wake-up call, the Indian government established the Traditional Knowledge Digital Library (TKDL) and included indigenous practices to the International Patent Clarification System. India has launched the TKDL programme to digitalize and catalogue knowledge that is already in the public eye in order to speed up information organisation, distribution, and access. Authorities compare an idea to publicly available search criteria before awarding a patent. Knowledge preservation will enable them to identify inventions in the public sphere and determine whether they qualify for patents, minimizing the theft of knowledge systems.

The preservation of nature and its active components depends heavily on traditional knowledge. The latest technical advancements unequivocally show how conventional wisdom may be applied to the creation of novel, commercially significant products. Millions of

individuals in underdeveloped and economically developed nations depend on it for their food and nutritional security.

Health: The understanding of particular plants' qualities has led to the creation of several phytochemical-based treatments and aesthetics. The Indian medical systems of Ayurveda and Unani rely on a variety of organic sources and related traditional knowledge. Traditional medicine provides the only inexpensive treatment option in underdeveloped nations.

Traditional medicine (TM) is described by the World Health Organization (WHO) as the "totality of all knowledge and practises, whether describable or otherwise, used in diagnosis, prevention, and eradication of tangible, mental, or social discrepancy and having to depend strictly on workable observations and experience passed transmitted from generation to generation, regardless of whether verbally or in writing." Even in many affluent nations, 70% to 80% of the populace uses some alternate kind of treatment[12] (for example acupuncture).

The traditional medicine system is significant in that it offers therapeutic strategies for some age- and degenerative-related illnesses, including rheumatism, for which there are no other adequate treatments. Traditional medical knowledge is essential to the health care sector since the goods that result from it are environmentally friendly and have little to no adverse effects. The health care industry's economy benefits from this knowledge since clients like herbal products.

Agriculture: Plant variety creation, pest control techniques, selection techniques, breeding procedures used by farmers, and the domesticating of animals by rural farmers all play significant roles in agroecosystems of emerging nations. With their traditional traditions and agricultural methods, local populations enhanced and nourished variety in both flora and fauna.

Case Studies on IPR and Traditional Medicine

The Neem Case

The issuance of a patent to the corporation W.R. Grace sparked controversy, which may be regarded as a landmark for India and cast questions on the strictness of the patent regime. The business was awarded a patent in the USA and the EU for a formula that contained azadirachtin, the active element in the neem plant, and was intended to be repurposed for its pesticidal characteristics. The applicant acknowledged that he was aware of neem's pesticidal properties and emphasised that it is challenging to store azadirachtin for a prolonged period of time without neem.

[12] WHO FACT SHEET N° 134 DECEMBER 2008, https://www.who.int/mediacentre/factsheets/fs134/en/ (last visited on Dec. 15, 2022)

'Jeevani' and the 'Kani' tribes

The use of benefit-sharing frameworks for indigenous entrepreneurship is starting to see new tests. It is worthwhile citing an illustration from India. It has to do with a medication that was created from and is centered on the active components of a plant called Trichopus zeylanicus (Arogyapaacha), which is located in South-Western India. Researchers from Kerala's Tropical Botanic Garden and Research Institute (TBGRI) learned about the plant that is believed to strengthen the immune system and provide additional energy.

The Kani Tribe uses the medication since it is conventional wisdom. These researchers separated, examined, and combined the component to create a substance they called "JEEVANI," the source of life. A significant Kerala-based Ayurvedic pharmaceutical firm is producing the restorative.

Turmeric Patent

On March 28, 1995, Suman K. Das and Harihar P. Cohli, two Indians living in the US, were issued US Patent No. 5, 40,504 concerning the use of turmeric in wound healing. The University of Mississippi Medical Centre in the United States received the patent. This patent made the unique discovery of administering an optimal dose of turmeric orally and topically to speed up the healing of wounds. Prior to being awarded, a patent must satisfy the fundamental criteria of invention, non-obviousness, and usefulness. As a result, the patent is rendered null and void if the assertions have indeed been addressed by the pertinent published information. 32 references, some of which were over a century old and written in Sanskrit, Urdu, and Hindi, were found by CSIR, demonstrating that this discovery was widely known in India previous to the granting of this patent. On October 28, 1996, CSIR formally requested a re-examination of said patent with the USPTO. The examiner once more dismissed all the allegations on November 20, 1997, citing their foreseeability and obviousness. The re-examination process was completed on this case on April 21, 1998, when the re-examination credential was issued.

Case Studies on Biopiracy in the Pharmaceutical Industry

Kwaokrua

The Thai plant Kwaokrua has been used for than a century, and Thai writings first noted its medical benefits in 1931. On the contrary hand, numerous hormones produced by plants have only lately been identified in plants. These hormones have been utilised in contemporary medicine to enhance male sex, enlarge and shape human breasts, and tighten the skin. A South Korean company has a patent in the US on an infusion from kwaokrua for a number of these

applications. The extraction methods disclosed in the patent are the same ones used for over a century by practitioners of traditional medicine, which has raised concerns among the Thai people. However, publications outlining this strategy were not taken into account for the US patent. Local Kwaokrua farmers have been hindered by legal threats, and the species has been quickly harvested for commercial use, allowing very little time for regrowth. The issuance of intellectual property protection in this historically used plant and its extract has altered indigenous peoples' traditions connected to the plant's normal cultivation and usage.

Hoodia

Since ancient times, the San people of the Kalahari Desert in South Africa have utilised hoodia, a local botanical, as a hunger suppressor. They became enabled to go on prolonged hunting expeditions with less supplies since Hoodia suppressed their appetites, increasing the effectiveness of the hunt. Under the auspices of a worldwide agreement called as the Convention on Biodiversity, the San people have earned royalties from multinational pharmaceutical firms marketing drugs incorporating hoodia (CBD). The integrity and legitimacy of these profit-sharing arrangements continue to be seriously questioned, though. Additionally, as the US is not a signatory to the CBD, the San people do not benefit in any manner from the money made from using US patents on Hoodia. As an outcome, several patents that include the indigenous Hoodia knowledge of the San people have been granted in both the US and Europe, with the San people earning little to no profit from the marketing of the items protected by those patents.

Madagascar Rosy Periwinkle

The marketing of the therapeutic properties of the Madagascar rose periwinkle is another instance of a pharma company benefiting from Eastern medicinal plants. Indigenous tribes in Madagascar and other places had long used the herb in traditional medicine. Vinblastine and vincristine were found to be the two substances that give this plant its medicinal powers by Eli Lilly & Company, who were motivated by the use of this plant in mainstream medicine. The corporation presently uses these extracts in cancer-treatment drugs that it sells. These therapies bring in about $100 million a year for the global pharmaceutical Eli Lilly, yet the indigenous populations of Madagascar receive no payment. Malagasy healers never used the pink periwinkle for the objectives that Eli Lilly suggests, despite the pink periwinkle being allegedly used against Malagasy tradition. The main purpose of it was to cure diabetes. Because Eli Lilly used the facility to produce innovative compounds for fresh medical applications, they could

be eligible for intellectual property protection under the America Invents Act. However, Eli Lilly's capacity to patent these kinds of discoveries would be impacted by the new Section 102's widened scope of previous art. Multinationals like Eli Lilly could be required to limit their patent claims to only encompass the new breakthrough as a result of the Malagasy usage. Because of this, even while prior art may not entirely exclude new inventions, its assessment may have an effect on the variety of modern patent claims.

Case Studies regarding Protection and Promotion of Traditional Knowledge

Re-examination of United States Patent on Basmati

Well before UK Trademark Registry, Rice Tec Inc. submitted an application for registration of the mark "TEXMATI." Agricultural and Processed Food Exports Authority successfully resisted it (APEDA). The US Patent No. 5,663,484 (hereinafter referenced to as the "484 patent"), issued to Rice Tec by the US Patent Office on September 2, 1997, was among the papers cited by Rice Tec as substantiation for the licensing of the aforementioned mark. This is how this patent came under dispute. The aforementioned patent included 20 claims that addressed new unique rice crops as well as different rice lineages, seedlings and grains that resulted, seed depositing claims, and a technique for choosing the rice varieties for breeding and multiplication.

After this incident, the Indian government formed a task force under leadership of the secretary of the ministry of industrial development to investigate the viability of challenging the aforementioned US patent through reconsideration. The Task Force then established a working group, mostly made up of ICAR and CSIR scientists, to thoroughly review the product specification and gather any relevant documentation in order to submit a petition for reassessment of the US patent. IARI Bulletin data was offered as testimony against Claim 1517.

On April 28, 2000, a complaint seeking re-examination of such a patent was finally submitted. The potential of illegality through the shipment of Basmati rice to the US was already avoided because to Rice Tec's decision to drop 15 allegations shortly after submitting the re-examination plea. Even the stated risk towards the shipment of grains of unresponsive rice genotypes from India has indeed been avoided as a result of the submission of all the additional wide claims.

Rulings relevant to Yoga

In this respect, the petitioner filed a supplementary registration—a clarification made when the initial certification is inaccurate or incomplete—with the Copyright Office in order to establish his intellectual ownership of the book describing the sequencing of yoga postures. The

applicant was claiming rights to the sequential manner of 26 postures presented inside the volume in addition to the ownership to the book itself, under the aforementioned additional registration. A group called Open Source Yoga Unity opposed this ancillary authorization and questioned the US District Court for said Northern District of California to publish a motion for summary judgment stating that the appellant was not entitled to unique privileges over the pattern of asana as described in the book. According to its website, this group is a non-profit confederation to ensure the ongoing instinctual unhindered growth of yoga. The Court, nevertheless, dismissed the aforementioned argument in 2005, finding that the sequence could be able to be protected as a composition. Later, in response to a request for the Copyright Office's conclusion on the subject, the agency released its Policy Statement in June 2012, concluding that because yoga asana patterns are not collections of works of literature, artistic recordings, or any other types of works covered by the copyright law, they cannot be shielded as compilations. This excludes choreography.

When the United States District Judicial for the Central District of California was presented with a new Bikram Yoga issue in December 2012, the Policy Statement served as the foundation for a further court ruling under six months.

Two yoga teachers in Buffalo, New York, who had finished the claimant's certification programme and had been given permission by his institution to teach the fundamentals of yoga stood at the centre of the conflict. They established a number of yoga schools under the banner of their personal instructional company, Evolution Yoga LLC. The applicant filed a lawsuit against Evolution Yoga LLC citing copyright infringement, but the court awarded Evolution summary judgement, ruling that a series of asana cannot legally be protected by copyright.

Aranmula Kannadi

Aranmula, a rural community in the Pathanamthitta District of Kerala State in India, is well-known for the unusual "Aranmula kannadi"- a kind of metal mirror. The superior mirror, which is composed of a tin and copper alloy, distinguishes it from regular mirrors. This metal mirror is only made by a small number of ancestral families. The family members keep this precise tin and copper combination, which is used to make mirrors, a household secret. The prestige of the commodity and the long-standing ownership of the business solely within certain family units are due to the long-standing practice of having the traditional expertise linked with the creation of unique mirrors as a heavily protected secret. In accordance with the Act, the Society "Parthasarathy HandiCraft Centre" has certified "Aranmula Kannadi" as a GI (geographical Indication). Cultural traditions are effectively protected thanks to makers' efforts to maintain

the traditional process a closely-kept mystery and the security of commodities under the GI Act.

Conclusion and Suggestive Measures

Many communities and countries have sought for a sui generis international legal instrument since the current international intellectual property system may not properly safeguard traditional knowledge and traditional cultural manifestations.

Traditional knowledge and cultural manifestations would be defined in an international legal document, together with the rights holders, the process to be used to settle conflicting community claims, and the appropriate rights and exceptions. There are conflicting opinions on the optimal strategies moving ahead, like whether intellectual property-type rights seem suitable for safeguarding traditional kinds of invention and originality. Figuring out the specifics is complicated.

Botanical Survey of India (BSI) and Zoological Survey of India should be utilised to verify the veracity of the animals and vegetation included in the People's Biodiversity Registers and used by the community (ZSI). The BMCs ought to have the legal authority to safeguard these Registers.

To maintain the credibility of GI items, quality assurance control procedures should be used. The monetary and cultural significance of ancient medical experience should be safeguarded, and robust defence strategies should be created to prevent others from getting protection for information over which they have no legal rights.

To encourage the expansion and evolution of both traditional and modern knowledge that is possessed by both people and organisations, incentives for the protection and sustainable utilization of biodiversity will need to be sufficiently stable and diversified while being malleable.

The optimal strategy to safeguard biodiversity and related information from the dangers posed by the conventional IPRs regime has not yet been universally agreed upon. A worldwide and national effort should be made to defend the wrongful seizure of local reserves and the interests of indigenous people.

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