

How Community Empowerment through Intellectual Property Protection of Traditional Knowledge Fosters Sustainable Innovation

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Abstract: Intellectual Property (IP) protection is presently the most common method of protection for Traditional Knowledge (TK) in mostly all countries. When any product, process, plant variety, biological resource etc. is accorded IP protection for e.g. under Geographical Indications or under Plant Varieties etc., not only one single creator but an entire community benefits from the protection. Community empowerment refers to the process of enabling communities to increase control over their lives whereby they alone can take life impacting decisions. Looking at communities who are rich in TK, the paper will attempt in drawing the link between how enabling IP protection for their TK can empower communities and make these groups more economically secure. Only laws in India have been used in this paper.

A question then arises whether this entire process fosters innovation? IP has a definitive link with innovation. Works which seek IP protection often have to go through the initial test of novelty, originality or innovation. Looking at the difficulty of passing the test of novelty in the case of TK, talking about innovation in its case seems to be a farfetched idea. However, on the other hand a holistic approach to understand TK entails that any kind of protection of TK, whether it be through IP protection or legal protection or economically-benefitting schemes introduced by the government etc., is not exclusive from empowerment and community strength-building. And when the community flourishes, they will naturally create new methods to express themselves. This is likely to bring in innovation. Without innovation, a culture/community/tradition will eventually fade and die. This paper will argue that there is a mutual relationship between community empowerment through IP protection of TK and innovation.

Keywords: Traditional Knowledge, Intellectual Property, Community empowerment, innovation, India.

1. INTRODUCTION

Research on Traditional Knowledge (hereinafter referred to as TK) has been on trend after the TRIPS has impacted the legal framework of the nations, especially developing and least developed countries. The last few decades have witnessed literature discourse discussing the need and importance of protection of TK and various methods of protecting the same. The World Intellectual Property Organisation (hereinafter referred to as WIPO) has contributed in this literature pool too by characterizing TK into its various sub sets and highlighting sets taken by various countries to protect their TK and identify best practices. There is also a plethora of case studies on various jurisdiction's take on misuse of TK. In this paper the term TK will be regarded to The article answers two research questions in a composite manner which are: How does the IP protection of TK contribute to the empowerment of Indigenous and local communities in India? Secondly, does community empowerment through IP protection of TK foster sustainable innovation within these communities? Thereafter the paper will discuss few case studies which will further support the answers made by the paper and then proceed with a conclusion.

1.1. Attempts to Define

Traditional Knowledge is one of the oldest forms of knowledge which is held by traditional groups and communities all over the world. The people holding this knowledge are called indigenous peoples and therefore traditional knowledge also comes with the name of indigenous knowledge. While trying to understand what traditional knowledge is, the first thing to admit and recognize is the absence of a single definition for traditional knowledge in international debates. The Secretariat of the Convention on Biological Diversity 1992 states that traditional knowledge refers to "a knowledge system, innovations and practices of indigenous and local communities around the world, developed from experience gained over centuries and adapted to the local culture and environment. Traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned. It takes the form of stories, songs, folklore, proverbs, culture values, beliefs, rituals, community laws, local language and agricultural practices. It includes the development of plant species and animal species...It is of practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, forestry and environmental management in general"¹.

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¹More information about the definition can be found here <https://www.un.org/>

The World Intellectual Property Organisation (WIPO) defines traditional knowledge as 'a living body of knowledge that is developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity'. It includes 'knowledge, know-how, skills, innovations or practises that are passed between generations in a traditional context; and that form part of the traditional lifestyle of indigenous and local communities who act as their guardian or custodian. In addition, traditional knowledge also includes but is not limited to "art, dance and music, medicines and folk remedies, folk culture, biodiversity, knowledge and protection of plant varieties, handicrafts, designs, and literature"².

Thus, to analyze the above definitions, it can be concluded that traditional knowledge is basically the knowledge held by indigenous people or a community or a tribe or is held by people in general in a given area, who have collected or acquired this information by observation and practical experiences or learning it from elders and peers in their group. There is no formal format in which traditional knowledge is published or made available. It is a living body of knowledge which grows and wanes with time and circumstances. One interesting characteristic of traditional knowledge is that it is held by the entire community on one hand and the community identifies with the traditional knowledge on the other. Thus, there is an inter-dependent relationship between the knowledge and the people holding the knowledge. However, there is an absence of singular or absolute ownership among its members. The community as a whole identifies with the knowledge irrespective of who among them originally created the knowledge. There is no law in India or in the global context which covers the subject of traditional knowledge specifically. The subject of traditional knowledge lacks inherent legal protection and thus leans on other regimes for protection. Presently Intellectual Property law regime is the area where most traditional knowledge is protected.

1.2. Traditional Knowledge and Innovation

Traditional Knowledge and Innovation is more often used opposite to each other than together. Innovation is usually sided with the constant advances made by the scientific world and is a subject matter of patent;

from the realm of which, TK is expressly excluded³. In spite of this, there is evidence that TK involves innovation of its own subject matter⁴. In the above segment of the article, the word 'innovation' has been found to be a part of TK in the definition of the same given by CBD, 1992. The word 'dynamic' used by the WIPO definition also indicates constant newness and growth in the practice and use of TK by the concerned communities. Traditional Knowledge, like most categories of knowledge is, dynamic and such has been constantly reiterated by too many scholars.⁵ The knowledge which are passed on to newer generations of indigenous and local communities around the globe include knowledge, innovations and practices⁶. Modern governments are also incentivizing innovation among traditional holders by declaring rewards and recognitions, such in the case of the plant variety and farmers rights protection in India where innovation in the area of agricultural TK is recognized⁷. Constant improvisation of existing knowledge is inherent in keeping any knowledge system valuable to the current generations. In the cases of handicrafts in GI for example, the producers of traditional sarees keep in mind the trending fashion choices and market efficiencies while attempting new designs but at the same time balancing with their inherent qualities⁸. Therefore, even when TK has its roots from time immemorial, its constant growth and present-day relevance⁹ does indicate innovation of the same all along.

2. IP PROTECTION OF TK – NATURE BEING COMMUNITY BASED

Traditional Knowledge in India is protected under three legislations of India namely, the Geographical Indications of Goods (Registration and Protection) Act, 1999, Protection of Plant Varieties and Farmers' Rights Act, 2001 and the Biological Diversity Act, 2002. The

³Section 3 (p) of the Patents Act, 1970

⁴See definition of Tradition Knowledge given by CBD 1992 and earlier discussed in the article. See also Srividhya Ragavan, 'Protection of traditional knowledge (2001) Minnesota Intellectual Property Review, Vol 2 No. 1 page 10

⁵See generally, Vandana Shiva, *The Plunder of Nature and Knowledge* (North Atlantic Books, 1999)

⁶Factsheet issued by the Secretariat CBD, available at <https://leap.unep.org/sites/default/files/2020-09/undb-factsheet-tk-en.pdf> last viewed on 31. 07. 2024

⁷The Protection of Plant Variety and Farmers Right Act, 2001 (PPVFR Act) provides for The Plant Genome Savior Community Award and Plant Genome Savior Farmer Reward & Recognition

⁸Nirmal Sengupta, *Traditional Knowledge in Modern India- Preservation, Promotion, Ethical Access and Benefit Sharing Mechanisms* (Springer, 2018) p 35

⁹Graham Dufield, 'From Traditional Medicines to Modern Drugs', in Tania Bubela & E. Richard Gold (eds), *Genetic Resources and Traditional Knowledge- Case Studies and Conflicting Interests* (Edward Elgar, 2012) p 93-107

first two legislations are characterized as IP Protection while the third legislation can be termed as general protection of traditional knowledge. In my opinion, the first can be termed to be IP protection, second can be termed as a *sui generis* protection, unique to India; and the third one can be called general protection. Many scholars, however, include the Biological Diversity Act, 2002 within the umbrella of IP protection as the Act does come within the study of IP laws due to the concepts and concerns the Act deals with¹⁰.

2.1. Geographical Indications and TK

The term 'traditional knowledge' is not defined in any statute in India. Also, there is no specific legislation which protects traditional knowledge. Under the Geographical Indications of Goods (Registration and Protection) Act, 1999 there is no separate provision for protecting traditional knowledge. That is because the entire subject matter of protection which the Geographical Indications of Goods (Registration and Protection) Act, 1999 gives is for traditional knowledge. Section 2 (e) of the above act or Article 22, Section 3 of Part II TRIPS defines geographical indications. Consider the definition 'indications which can identify a good as originating in the territory of a member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin' in the TRIPS Agreement 1994¹¹. TRIPS, through an IPR, is just creating a mark which will work as an identification of certain products. The product or good they are aiming to protect is, however, not any newly discovered product which is manufactured in bulk in a factory. It is something which is only available in that particular identified area, thus indicating an indigenous and territorial specific aspect. The definition also indicates that such products cannot be taken out of their habitat area and created elsewhere by non-indigenous people, which is usually possible in factory made or machine-made goods. Thus, the existing relationship between the product and the makers or growers of the product cannot be denied. GI protected goods also have 'reputation' and 'quality'- characteristics which are gradually evolved and attained through years of practice and use. 'Quality' assurances in such products are uniform due to the absence of adulterated substances as more than the collection of profits,

traditional communities give importance to the successful practice of their age-old knowledge which may not be even known outside the geographical area of their production. Therefore, the subject matter of protection of GIs are geographically-specific products or agricultural goods which are created and grown with traditional knowledge. The area specific characteristic is not only attributable to the people living in that area who are crafting or tilling the land but also attributable to the raw materials which are easily available or the climate, type of soil, rainfall and the physiographical structure of that area. The IP protection when conferred in geographical indication for e.g. in the case of geographical indication of *Benarasi Sarees*, is not given to one single producer weavers or *karigaar* but to all the nine applicants who applied together for the GI under the name 'Benaras Bunker Samity'¹². As a result, the GI registry awarded the GI status in 2009, after being satisfied with the merits of the case¹³.

2.2. TK Protection under the Protection of Plant Varieties and Farmer's Right's Act 2001

Under the Protection of Plant Varieties and Farmer's Right's Act 2001 (PPVFR), traditional knowledge related to agriculture is protected. The Act was enacted in compliance with Article 27 (3) (b) of the TRIPs Agreement¹⁴ which obligated Member countries to protect plants varieties by patents or by an effective *sui generis* system or by any combination thereof. Among the three objectives of the Act¹⁵ the third objective reflects the protection of TK of farmers in connection to new plant varieties¹⁶. The bulk of these rights is centered around their traditional rights to save, use, sow, resow, exchange, share or sell their farm produce¹⁷. Section 40 lays down that if any applicant has used any genetic material which has been conserved by tribal or rural families, in order to develop or breed any variety then such information has to be disclosed in the application, failing which will lead to the

¹⁰Sreenivasulu N.S., *Law Relating to Intellectual Property* (Lexis Nexis Publications, 3rd Edition, 2023) page 110

¹¹Article 22, Section 3 of Part II

¹²Nirmal Sengupta, *Traditional Knowledge in Modern India- Preservation, Promotion, Ethical Access and Benefit Sharing Mechanisms* (Springer, 2019) page 129

¹³Details of the GI registration can be found here <https://search.ipindia.gov.in/GIRPublic/Application/Details/237> last accessed on 20.04.2022

¹⁴V. K. Ahuja, *Intellectual Property Rights in India*, (Vol 1, Lexis Nexis Butterworths Wadhwa, 2009) page 587

¹⁵Refer to Objectives of the Protection of Plant Varieties & Farmers' Rights Act, 2001

¹⁶The objective reads, "to recognise and protect the rights of the farmers in respect of their contribution made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties."

¹⁷Section 39 of the Protection of Plant Varieties & Farmers' Rights Act, 2001; V. K. Ahuja, *Intellectual Property Rights in India*, (Vol 1, Lexis Nexis Butterworths Wadhwa, 2009) page 589

cancellation of the same application. This section directly protects traditional knowledge held tribal and rural communities and has the nature of negative protection. Section 41 is where community-based protection of traditional knowledge is reflected. Traditional knowledge is also protected where the farmers who save and conserve seeds are benefitted by recognizing their efforts and also rewarded with cash prizes¹⁸. The award is a unique feature of the PPVFR Act, 2001 which has been introduced in the lines of conservation of ecology and preserving the environment at the same time of incentivizing the simple farmer communities to carry out the conventional act of breeding and saving seeds. The award aims to recognize that this is an important contribution to farming communities and the entire profession and sector of farming as a whole. It values their research done and encourages them to carry on this activity in greater vigor henceforth. It also aims make the contributors set an example for their fellow villagers, farmers and contemporaries to become aware of this need of the hour and carry out research in their own unit¹⁹. Such research and preservation materials should however be eligible for registration under the PPV & FR Act 2001 and it is given to entire communities²⁰. Other than this, in Section 41 of the Act, the rights of the communities to file for protection under this Act has been dealt with.

2.3. TK and the Biological Diversity Act, 2002

In the case of the Biological Diversity Act 2002 (BDA), the sections which deal with access and benefit sharing highlight the community rights. These rights protect the traditional knowledge associated with biological resources in India from being misappropriated by Indian or International entities. The Act lays down detailed sections and corresponding rules²¹ which involve the local and grass root level population to firstly, bring together in the People's Biodiversity Register²², details of all biological resources and associated traditional knowledge. Secondly the Act required the government to constitute the Biodiversity Management Committee²³ which will

consist of the local persons, indigenous people and the elected representative etc. of that area. The main function of the BMCs are to engage in case any request for access is received by the National Biodiversity Authority or the State Biodiversity Authority. Both the abovementioned authorities also have a duty to involve and take the opinion of the BMCs while drafting or deciding the terms of access and benefit sharing whenever a biological resource or associated traditional knowledge is shared. The main idea for doing this is to make sure the local communities or groups who are actually possessing the knowledge get benefitted in the entire process²⁴.

2.4. The Traditional Knowledge Digital Library

India's *sui generis* method of protecting traditional knowledge is the creation and maintenance of the Traditional Knowledge Digital Library²⁵. It is an online repository of the various traditional knowledge available in India especially related to medicine. Established in 2001, it is a pioneering effort of the Indian government to prevent the misappropriation of Indian medicinal knowledge at International Patent Offices. Scholars have categorized this kind of protection to be negative protection²⁶. Till present date more than 3.6 lakh formulations or practices has been documented in the TKDL database²⁷. As per the approval of Cabinet Committee on Economic Affairs, access of TKDL is currently available to thirteen Patent Offices²⁸. The idea behind the working of TKDL is that, making the bulk material of TK available in an online portal will work as a prior art database in case of the novelty criterion required to be proved in case of patent applications. While granting patents, if the patent offices situated at any part of the world refers to the TKDL for searching prior art, they will be able to ascertain whether there is any possible linkages or use of TK already existing in public domain, in the patent application at hand and decide the merits of the same.

¹⁸Section 45 of the Protection of Plant Varieties & Farmers' Rights Act, 2001 read with Rule 70 (2) (a) of the PPV&FR Rules, 2003; Chapter 6 of the Act

¹⁹The official website of the PPFR Authority <https://plantaauthority.gov.in/introduction-plant-genome-saviour-community-awards> last accessed on 20.04.2022

²⁰Refer to Chapter 6 of the Protection of Plant Varieties & Farmers' Rights Act, 2001

²¹The Biological Diversity Rules, 2004

²²Rule 22 of the Biological Diversity Rules, 2004, For more information see <http://nbaindia.org/content/105/30/1/pbr.html> last accessed on 21. 04. 2022

²³Rule 22 of the Biological Diversity Rules, 2004

²⁴People's Biodiversity Register- Technical and Administrative Manual by the Madhya Pradesh government <http://www.mpsbb.nic.in/pbr/PBR%20Manual%20and%20Format%20-%20English.pdf> last accessed on 21.04.2022

²⁵The official website of Traditional Knowledge Digital Library (TKDL) can be reached at <http://www.tkdil.res.in/tkdil/langdefault/common/Home.asp?GL=Eng> last accessed on 13. 04. 2022

²⁶Srividhya Ragavan, 'Protection of traditional knowledge' 2001) Minnesota Intellectual Property Review, Vol 2 No. 1 page 9; Sreenivasulu N.S., Intellectual Property Rights (Regal Publications, 2011, 2nd Rev. Ed) page 140

²⁷The official website of Traditional Knowledge Digital Library (TKDL) can be reached at <http://www.tkdil.res.in/tkdil/langdefault/common/Home.asp?GL=Eng> last accessed on 13. 04. 2022

²⁸The official website of Traditional Knowledge Digital Library (TKDL) can be reached at <http://www.tkdil.res.in/tkdil/langdefault/common/Home.asp?GL=Eng> last accessed on 13. 04. 2022

If we analyze the above avenues of protection, it can be concluded that protection of traditional knowledge is not the center scheme of any of the legislations, but only a small part of them. Only the TKDL is fully committed to the cause of protecting traditional knowledge. All the above mechanisms of protection however only offer negative protection which aims at curbing non-authorized use of traditional knowledge and its misappropriation. This is the primary aim of most of the laws which protect traditional knowledge²⁹.

3. USING COMMUNITY EMPOWERMENT TO DEVELOP COMMUNITIES PRACTISING TRADITIONAL KNOWLEDGE

If a closer look is taken at the communities which practise traditional knowledge or traditional knowledge holders in general, it is visible that the traditional knowledge is the livelihood of the holder. It is not a side business or a hobby which is practised at free time³⁰. It has already been discussed in the introduction that the subject of traditional knowledge is inseparable from the community which holds the knowledge. Therefore, the question of utility and significance arises if the existing law protecting traditional knowledge is not benefitting the holders of the traditional knowledge. The law at hand is made specifically to protect traditional knowledge but the holders are not being developed in any manner.

Questions on policy and development is usually decided by the government of any given country. Community development is often said to be a product of community empowerment and participation³¹. In the current global context, scholars do believe that these terms have become vital and yet problematic as the traditional 'trickle down' effects of most the development plans of western countries are ineffective to alleviate poverty. Also, many economic plans which benefit the first world countries do not have the same impact in developing or under developed countries, but on the other hand damage the existing local economic structures of such countries³². Scholars argue that

historically, development does not start from below. Even in regions where economic development has taken place, the poor are generally the last category which indicate any impact at all. This is due to the reason that they usually lack the resources, land, skills, knowledge etc. to avail the opportunities which the economic development plan is positioned to give. Due to this reason, many social scientists have recommended alternative development practices which are opposite to the western ideas of development or 'delinked' from the same.³³ Such ideas of development are based on inclusiveness, social participation and grass-root empowerment³⁴. Traditional Knowledge is possessed and practiced by indigenous communities or groups which obviously do not form the rich, industrialized and affluent population of any country. In India, where a humungous number of groups practice traditional knowledge as a part of their livelihood, ideas on social inclusion, participatory development and empowerment require to be imbibed within the economic planning so that development of the country, both socially and economically can be achieved in a sustainable manner.

4. ROLE OF IP PROTECTION OF TK IN THE PROCESS OF EMPOWERING COMMUNITIES

The compulsory mandate of TRIPS brought in a revolution in trade nationally and internationally, especially if these businesses were using any kind of industrial IPRs, e.g. Patents, Trademarks, Designs, Semiconductors and even to some extent Copyright. Investing in research and development were proving to be as much beneficial or even more, in case of production itself. Companies understood that a good IP like Patent, or more than one IP could prove to be their competitive advantage and keep them forward in their respective business. Thus, IP Portfolios of companies started growing and IP experts came to the conclusion that companies like Novartis, IBM, Monsanto presently have more valuable IP assets than even their physical assets. Thus the competitive advantage that modern companies are having these days is their IP Portfolio³⁵.

²⁹Srividhya Ragavan, 'Protection of traditional knowledge'2001) Minnesota Intellectual Property Review, Vol 2 No. 1 page 11

³⁰The Official website of The official website of Traditional Knowledge Digital Library (TKDL) can be reached at <http://www.tkdil.res.in/tkdil/langdefault/common/Home.asp?GL=Eng> last accessed on 13. 04. 2022

³¹Marjorie Mayo and Gary Craig, 'Community Participation and Empowerment: The Human Face of Structural Adjustment or Tools for Democratic Transformation' in Gary Craig & Marjorie Mayo (Eds), *Community Empowerment- A Reader in Participation and Development*, (Zed Books, 1995) page 1

³²Muhammad Anisur Rahman, 'Participatory Development: Toward Liberation

or Co-optation' in Gary Craig & Marjorie Mayo (Eds), *Community Empowerment- A Reader in Participation and Development*, (Zed Books, 1995) page 24

³³Nerfin M. (Ed), *Another Development- Approaches and Strategies* (Dag Hammarskjöld Foundation, Uppsala, 1977)

³⁴Benno Galjart, 'Counter-development: Possibilities and Constraints' in Gary Craig & Marjorie Mayo (Eds), *Community Empowerment- A Reader in Participation and Development*, (Zed Books, 1995) page 12

³⁵Sreenivasulu N.S., *Intellectual Property Rights- Dynamic Interfaces* (Lexis Nexis, 2017) page 307

If the same trend is applied in the case of traditional knowledge holders and indigenous communities, IP can give them the leverage to compete in the global market³⁶. Traditional knowledge holders for e.g. those who have a GI or have the potential to file for a GI will fall within this category. If the example of geographical indications is taken, the tag of GI on Benarasi Sarees³⁷ and Darjeeling Teas³⁸ will identify the selected goods from all other similar goods in the market. Thus an interested buyer will be easily connected with the genuine product and the actual traditional knowledge holder who is connected with the product will be connected to the buyer who is willing to pay the legitimate cost of the valuable product. Here too, like the larger companies mentioned in the other paragraph, an IPR is giving a competitive advantage to its holders. The major difference between industrial IPRs and GI is that, the former is individualistic in nature while the latter is community based in nature. Conferring of one GI means that an entire community, which is holding the traditional knowledge, will be able to use this tool just like an asset. Traditional knowledge holders with a GI will be thus better placed. For getting the GI, they would not have to possess or acquire physical assets first and the cost of applying for GI will also be shared by the entire community as all of them will be benefitting.

However, there is another consideration here. Markets are usually governed by factors of demand and supply and there will always be businessmen who will become a middleman while offering to transport the traditional goods to a wider market. Thus the traditional knowledge holders, in spite of having a standard law to protect them, will fall prey to the prevailing and emerging market structures³⁹. This is why the researcher advocates the importance of community entrepreneurship to effectively utilize the community-based GIs. Much cannot be done to alter the market situations where middlemen are posed to making more money which the actual *karigars* are earning in terms of

mere labour. Laws and policies must refrain from being too ambitious and prescriptive. Thus, accepting the market conditions to favour businessman, the community members must be empowered so that they themselves are able to market their products at the same time creating them.

5. COMMUNITY EMPOWERMENT THROUGH IP PROTECTION OF TK AND INNOVATION

5.1. Traditional Knowledge and Innovation

The reason why innovation is relevant here is that, social and cultural innovation has the potential to bridge the indigenous and non-indigenous cultures and unveil a better future for all⁴⁰. Social innovation is integrally about rethinking our way of live, as we live in the world together⁴¹.

Innovation always doesn't mean creating new items which had absolutely no existence before. It can also mean looking back at old methods and bringing them back into new situations⁴². Scholars who deal with Traditional Knowledge will unanimously agree that Traditional Knowledge is a dynamic body of knowledge⁴³. The interdependent nature of TK makes the pool of knowledge grow with the people it is connected and associated with. Therefore, innovation and TK go hand in hand. There can be a question here about the nomenclature of 'traditional knowledge' which indicates something that has been passed on for centuries, thus negating any indication towards innovation or newness. Here, it can be argued that any knowledge, story, art, technique, medicinal knowledge cannot stand the test of time unless it is inherently innovative and absolutely new, whenever it was discovered or created and during the whole time the knowledge remains relevant. In fact, many authors have used the phrase 'informal innovation system' to mean traditional knowledge held by indigenous communities⁴⁴.

³⁶Valerie Rawlson Wilson, 'Intellectual Property as an essential 21st century business asset' in Lateef Mtima (Ed), Intellectual Property, Entrepreneurship and Social Justice- From Swords to Ploughshares (Edward Elgar, 2015) P 67

³⁷Benarasi Sarees and Brocades is a famous type of weaving with golden and silver threads on bright coloured silk sarees and smaller silk clothes. It is sourced from an ancient city of India called Benarasi, presently known as Varanasi. The silk is extremely durable and usually lives through generations if preserved properly. This kind of saree is worn by brides during their weddings due to its intricate work and rich and bright colours.

³⁸Details of the GI status can be found here <https://search.ipindia.gov.in/GIRPublic/Application/Details/2> last accessed on 20.04.2022

³⁹Nirmal Sengupta, *Traditional Knowledge in Modern India- Preservation, Promotion, Ethical Access and Benefit Sharing Mechanisms* (Springer, 2019) page 130

⁴⁰Melissa Herman, 'The Critical Role of Traditional Knowledge in Social Innovation', *Stanford Social Innovation Review*, available at https://ssir.org/articles/entry/the_critical_role_of_traditional_knowledge_in_social_innovation last accessed on 11.04.2022

⁴¹Ibid

⁴²Justice Murray Sinclair, in a speech given at the Indigenous Innovation Summit 2015, available at <https://mccconnellfoundation.ca/wp-content/uploads/2017/08/Indigenous-Innovation-Summit-Report-2015-EN.pdf> last accessed on 12.04.2022

⁴³Nirmal Sengupta, *Traditional Knowledge in Modern India- Preservation, Promotion, Ethical Access and Benefit Sharing Mechanisms* (Springer, 2019) page 24

⁴⁴Justice Murray Sinclair, in a speech given at the Indigenous Innovation Summit 2015, available at <https://mccconnellfoundation.ca/wp-content/uploads/2017/08/Indigenous-Innovation-Summit-Report-2015-EN.pdf> last accessed on 12.04.2022

5.2. IP Protection of TK and Innovation: Ideas on Marketing the TK Goods

When communities are empowered to produce and market their own goods and products, they will have channelized the money flow towards their communities and this will eliminate middlemen and other businessmen who do not have linkages with the concerned traditional knowledge. In the case of Benarasi sarees for example, with higher money inflow, the craftsmen will be allowed to grow their physical assets and invest in equipment and raw materials and other assets required to enhance their work, thus ushering in chances of betterment in their previous works. Also with better marketing strategies the community entrepreneurs⁴⁵ will be able to create a wider web of supply where newer and better avenues of interested parties can be reached out to. Thus the wider the scale of interested parties, the lesser chances are of fall in demand of these items. Taking the example of luxury items like Benarasi Sarees and brocades where consumers are not likely to purchase too often, a larger radius of interested customers will ensure the demand is stable over a period of time. Diversification in geographical area would require certain changes of designs and art forms in order to get consumers interested. Thus, here innovation will work as a motivation as well as an end result to continue and expand business⁴⁶.

All these market strategies already exist in reality. There is a wide spectrum of businessmen who are already working earnestly to gain profits, and there is absolutely nothing morally or ethically wrong in that as the traditional knowledge holders themselves are selling their products at rates which are obviously cheaper than what the end user is eventually paying. However, the problem the researcher is trying to identify is that, a law like the GI, which is made to benefit the traditional law holders, is being used as a valuable asset by businessmen who are not the traditional knowledge holders. What the article is arguing is that, let there be policies and initiatives from the government or by NGOs to empower, mobilize and educate these traditional knowledge holders to strategize their own business and become community entrepreneurs so that the actual purpose of recognizing

GI and giving them an identification mark and legal protection, is served.

6. SOME CASE STUDIES

6.1. Case Study 1: The Turmeric and Neem Biopiracy Case and the Advent of TKDL

Biopiracy cases stand as a testimony to the vulnerability of undocumented TK and the case of neem and turmeric in India can be witnessed as stark examples of the same. Together, they catalyzed the creation of India's most significant administrative defensive protection for TK, which is the TKDL. This fact also highlights that TK communities require direct, positive legal empowerment to protect what is rightfully theirs.

In 1995, the United States Patent and Trademark Office (USPTO) granted Patent No. 5401504 to two Indian-Origin scientists at the University of Mississippi for the use of turmeric (*Curcuma longa*) in healing wounds⁴⁷. The medicinal properties of turmeric have been consistently and since long used in Indian households and its documentation can be somewhat identified in Ayurveda and various ancient Sanskrit and Urdu texts⁴⁸.

India fought back against the grant of Patent, which was expensive, time-consuming and most alarmingly required India to bear the burden of proof. The patent was later revoked by the USPTO which, for the first time in history, recognized ancient documented knowledge constituted prior art under the international patent law⁴⁹. This case directly exposed the systemic gap which highlighted that without systematic documentation of TK, any knowledge held by the indigenous communities, in the public domain, could be freely appropriable by the third parties and thus historically became a strong motivation for establishment of the TKDL in 2001⁵⁰.

A similar case happened with neem too where the W.R. Grace company in 1994 was granted European Patent No: 436, 257 for a methods of fungal control

⁴⁵John R. Whitman, 'An Entrepreneurship approach to achieving IP Social Justice' in Lateef Mtima (Ed), *Intellectual Property, Entrepreneurship and Social Justice- From Swords to Ploughshares* (Edward Elgar, 2015) P 35

⁴⁶Valerie Rawlson Wilson, 'Intellectual Property as an essential 21st century business asset' in Lateef Mtima (Ed), *Intellectual Property, Entrepreneurship and Social Justice- From Swords to Ploughshares* (Edward Elgar, 2015) P 69

⁴⁷The US Patent No 5,401,504 available at the USPTO website available online at <https://patentimages.storage.googleapis.com/c5/4a/0f/bd0d3ab5478eaa/US5401504.pdf> last accessed on 13. 05. 2026

⁴⁸Jordana R. Goodman, 'Patently Inequitable' *Boston University Law Review* (Vol 105:987) p 991

⁴⁹Shahnaz Kaushar, 'Bio-Piracy In India: A Practice Of Patenting Traditional Knowledge For Profit', *IPR Journal of Maharashtra National Law University, Nagpur* (Vol 1, Issue 1, June 2023) p 60

⁵⁰Ibid, p 62

using hydrophobic neem oil extracts⁵¹. A joint effort along with Dr. Vandana Shiva challenged the patent on the ground of prior art, submitting evidence of millennia-long traditional use in India⁵². The European Office revoked the patent in 2000 acknowledging the challenge⁵³. Unlike the turmeric case, the neem challenge was driven by civil society and environmental activists thus demonstrating the role of community and NGO mobilizing⁵⁴. This shows the importance of non-governmental actors in protecting TK in a society⁵⁵. These cases also emboldened India to build the TKDL as a proactive shield⁵⁶.

6.2. Case Study 2: Darjeeling Tea- India's First GI and the Promise and Limits of Community Benefit

Darjeeling Tea is the showpiece of Indian GI Law. It was the first product to receive the GI status in India and one of the earliest in the world. It is also compared to Champagne for its terroir-driven quality⁵⁷. Darjeeling Tea which is grown in the Darjeeling district of West Bengal, India in the slopes of the hills above 2,000 meters above sea level owes its 'Muscutel' taste and aroma to the combination of altitude, soil, rainfall and the traditional processing practices by plantation workers who mainly belong to the marginalized tribal communities⁵⁸. Darjeeling Tea first received IP protection by way of a Certification Trade Mark in 1983 and thereafter when the GI Act came into force, the Tea Board of India immediately applied for GI status and the same was granted in October 2004.

The Tea Board has spent over USD 200,000 for four years fighting unauthorized use over multiple jurisdiction- including Japanese companies- Mitsui Norin KK's 'Divine Darjeeling' and securing opposition in Europe and the USA⁵⁹. Since 1988 the Tea Board engaged Compumark, a global watch agency to monitor infringements worldwide.

Darjeeling Tea production employs a huge number of labourers for planting, plucking and manufacturing⁶⁰. GI status raised the premium price for authentic Darjeeling Tea and enabled brand identification and differentiation in the global market. Tea tourism in estates has also diversified income for local communities.

Despite the GI status, studies show that wages in many Darjeeling tea estates remain low, healthcare and living conditions are poor. GI profits usually flow to largely to plantation owners and intermediaries and not to the plantation workers who are the tribal communities who actually hold and practice the knowledge. The GI label did not automatically translate into community empowerment which illustrates the point of this paper that we do need a legal framework without community mobilization and entrepreneurship falls short⁶¹.

In the area of innovation, the Darjeeling Tea case study also has something to offer. The estate owners and local communities have innovated identifiably by developing tea tourism, which includes estate heritage bungalows, guided plantation tours and experiential tea-tasting. This method has strengthened brand identity and enabled premium pricing⁶². This is an example of TK based innovation driven by market forces once a GI provides the legal foundation.

⁵¹Tarun Kharana & Tanya Saraswat, 'The Neem Patent Case' available in the website <https://www.mondaq.com/account/register> last accessed on 13. 05. 2026

⁵²Utkarsh Singh Kachhawaha, Kashika Sharma, 'An Examination Of The Problem Of Biopiracy: Through The Lens Of The Neem Controversy Case', Panjab University Law Magazine (MAGLAW) (ISBN: 2582-3507, Volume III Issue II) pp 20

⁵³Putrans Associates, 'Combating Biopiracy: How India's TKDL Protects Traditional Knowledge' available at <https://www.putrans.com/combating-biopiracy-how-indias-tkdl-protects-traditional-knowledge/> last accessed on 13. 05. 2026

⁵⁴S. C. Srivastava, 'Bio-Piracy in India: A Practice of Patenting Traditional Knowledge for Profit', IPR Journal of Maharashtra National Law University, Nagpur (Vol 1, Issue 1, June 2023) p 62

⁵⁵Ibid, p 62

⁵⁶Gaurav Tiwari, 'Traditional Knowledge Digital Library (TKDL): India's Biopiracy Shield, Explained' available at <https://anantamias.com/traditional-knowledge-digital-library-tkdl-the-biopiracy-shield/> last accessed on 13. 05. 2026

⁵⁷Ibid

⁵⁸S. C. Srivastava, 'Protecting the Geographical Indication for Darjeeling Tea' in *Managing the Challenges of WTO Participation: 45 Case Studies* (Cambridge University Press, 2005, ISBN 0-521- 67754-8) also available at https://www.wto.org/english/res_e/booksp_e/casestudies_e/case16_e.htm last accessed on 13. 05. 2026

⁵⁹Shahid Jamal, Aakash Upadhyay and Khusro Moin, 'Impact of Geographical Indications on Revitalisation of Local Economy: A Case Study of Darjeeling Tea', *Journal of Intellectual Property Rights* (Vol 29 September 2024) pp 443

⁵⁹Shahnaz Kaushar, 'Bio-Piracy in India: A Practice of Patenting Traditional Knowledge for Profit', IPR Journal of Maharashtra National Law University, Nagpur (Vol 1, Issue 1, June 2023) p 62

⁶⁰Ibid, p 64

⁶¹S. C. Srivastava, 'Protecting the Geographical Indication for Darjeeling Tea' in *Managing the Challenges of WTO Participation: 45 Case Studies* (Cambridge University Press, 2005, ISBN 0-521- 67754-8) also available at https://www.wto.org/english/res_e/booksp_e/casestudies_e/case16_e.htm last accessed on 13. 05. 2026

⁶²Chattopadhyay, Avinandan, Working on Geographical Indications Act: A Case Study on Darjeeling Tea (April 19, 2012). Available at SSRN: <https://ssrn.com/abstract=2123048> or <http://dx.doi.org/10.2139/ssrn.2123048> last visited on 14 05. 2026

⁶²Sivanshu Sachan +4, 'Agro-Heritage Tourism and Sustainable Community Development: The Role of Tea Tourism in the Darjeeling Himalayan Cultural Landscape' available at <https://assets-eu.researchsquare.com/files/rs-9049134/v1/0fbf5c7d-2bfa-4167-8eb0-77655a928a48.pdf?c=1777022051> last visited on 14/05/2026

6.3. Case Study 3- Benarasi Sarees

Benarasi Sarees are rich silk sarees woven with golden and silver threads (also known as zari), produced in Varanasi, Uttar Pradesh by a community of weavers (known as karigars) whose families have practiced this art for generations⁶³. The GI was granted in 2009 to the 'Benaras Bunkar Society' which was a group of nine applicants. Studies show that the high price which customers are willing to pay for a Benarasi Saree in larger cities like Delhi, Mumbai etc., do not make its way to these karigars⁶⁴. For e.g. say if the saree is sold at Rs 30,000, the karigar may only earn Rs. 5000-8000 for the same item. The bulk of the profit is pocketed by the middlemen being the traders, exporters and wholesalers⁶⁵. However, weavers rely on these intermediaries for raw materials like silk and gold/silver threads, market access and income security which creates a debt-like dependency that GI law alone does not address.

This case study is promising with respect to innovation. Karigars are constantly innovating by adapting traditional motifs to contemporary fashion trends. Traditional use of deep and bright colours are merging into newer colour palates, the fabric is becoming lighter, designs are fused to accommodate newer trends, etc. This this art and the artisans are balancing heritage quality with affordability and also developing new product lines, for e.g. stoles and furnishings, to broaden the market. This is dynamic way in which this GI is innovating as a response to the market yet rooted in traditional skill⁶⁶.

Benarasi Sarees as an importance textile sector has received various empowerment efforts from the government and NGOs, namely, the Weavers Service Centers, MUDRA loans for handloom micro-enterprises. These schemes have attempted the karigars to produce and sell directly eliminating the intermediaries⁶⁷. The e-commerce platform 'Craftsvilla' and the government's GeM portal have opened direct-

to-customer channels which may benefit the weavers to earn the entire market price for themselves and thus paving the way for weaver entrepreneurship.

This case study shows that GI law by itself is a necessary but insufficient condition for community empowerment. Without inducting the business sense, digital commerce and direct marketing lessons among the artisans, and ability to establish secure raw material supply chains, the weaver will not be able to make the most of the GI law.

6.4. Case Study 4: The Kani Tribe Protecting the 'Arogyapacha' Fruit

The Kani tribe case study stands as a world class example of a pioneering, celebrated and yet cautionary community benefit sharing experiment with respect to biological resources and associated traditional knowledge & IP protection⁶⁸. The Kani tribe is a largely nomadic indigenous community of approximately 18,000 members who reside in the Agasthyamalai hills, Western Ghats, Thiruvananthapuram district, Kerala. Within the community certain people practice medicinal knowledge, who are called Plathis or healers, and they practice their knowledge orally and strictly within their community⁶⁹. The entire community of Kanis however were long aware of the use of Arogyapacha fruit (scientific name: *Trichopus Zeylanicus*) for sustaining energy and revitalizing human bodies to enable to endure mountain climbing⁷⁰. This fruit however came into limelight when the Tropical Botanical Garden and Research Institute (TBGRI) conducted an ethnobotanical survey in these hills and the team noticed these tribes, who were their local guides in the tour, were eating these fruits to sustain their energy levels when the group of scientists were barely keeping up. The Kani tribes shared their knowledge about the fruit and in return the team headed by Dr. Puhpangadan promised that benefits would be shared if the plant is commercialized. After seven years of research the scientists of TBGRI isolated twelve active

⁶³GI Registry record (Application No. 237 available at <https://search.ipindia.gov.in/GIRPublicSearch/Application/Details/237> last visited on 14 05. 2026

⁶⁴Nirmal Sengupta, *Traditional Knowledge in Modern India: Preservation, Promotion, Ethical Access and Benefit Sharing Mechanisms* (Springer Nature, 2019) p 127

⁶⁵Ibid

⁶⁶Nirmal Sengupta, *Traditional Knowledge in Modern India: Preservation, Promotion, Ethical Access and Benefit Sharing Mechanisms* (Springer Nature, 2019) p 130

⁶⁷The development of Benarasi sarees is actively supported through the National Handloom Development Programme (NHDP) and the Raw Material Supply Scheme (RMSS)- Official website of Ministry of Textiles, Government of India available at <https://handlooms.nic.in/> last visited on 14 05. 2026

⁶⁸Official website of WIPO under the title 'Using Traditional Knowledge to Revive the Body and a Community' available at <https://www.wipo.int/en/web/ip-advantage/w/stories/using-traditional-knowledge-to-revive-the-body-and-a-community> last visited on 14 05. 2026

⁶⁹Equator Initiative, 'Kerala Kani Community Welfare Trust, India', Equator Initiative Case Studies Local Sustainable Development Solutions for People, Nature, and Resilient Communities available at https://www.equatorinitiative.org/wp-content/uploads/2017/05/case_1348161670.pdf last visited on 14 05. 2026

⁷⁰M Suchitra, 'The Kani Learning- How benefit-sharing between a research institute and the Kani tribe went awry' available at <https://www.downtoearth.org.in/environment/the-kani-learning-39208> last visited on 14 05. 2026

compounds from the leaves of the plant and developed the drug 'Jeevani' which was advertised for a ployherbal anti-fatigue, immunostimulant supplement and TGBRI obtained a process patent for the same in 1994 and licensed the sale to Arya Vaidya Pharmacy in Coimbatore.

After rigorous negotiations, the TGBRI agreed to share 50% of the license fee (roughly 5 lakh) and 50 % of the ongoing 2% royalty from sales with the Kani tribe. This Access & Benefit Sharing (ABS) agreement was one of the world's first agreement which is cited as a best practice in the area of Mutually Agreed Terms (MAT) and ABS agreements related to biological diversity. In November 1997 the Kerala Kani Samudaya Kshema Trust (KKSK) was formed, with two Kani- knowledge holders as president and vice president, to receive and manage these funds. The trust received around 12,500 USD as its first payment in 1999 which was used for education, healthcare and a telephone booth, which were firsts for the entire community⁷¹.

This case study has an interesting innovation factor- while the Kani tribe held on to the fruits for the anti-fatigue properties, the TGBRI's research found the leaves more rich in medicinal factors. The Jeevani drug mixed these components with ashwagandha and other plants thus innovating by combining TK along with modern pharmaceutical research⁷². This is a good example of TK functioning as the foundation for new scientific research.

However a drawback of this case is that Jeevani failed commercially due to a variety of legal factors. As the forest laws did not list Arogyapacha as a Minor Forest Produce which debarred the Kanis, who were the custodians of the plant, to cultivate it commercially. Thus raw materials became scarce and production volumes remained low, around only 80,965 bottles from 1996 to 2009. Thus, the benefits took time to reach the Kani tribe and later the trust faced various bureaucratic challenges⁷³.

Despite the difficulties, the KKSK was recognized by the United National Development Programme's Equator initiatives as one of the only examples in the world for an indigenous tribe receiving tangible benefits from the commercialization of their TK and biological resources⁷⁴.

6.5. Case Study 5: The Plant Genome Savior Awards under the PPVFR Act, 2001

This feature of the PPVFR Act, 2001 is a championing case for protection of traditional knowledge, community empowerment and innovation in area of plant variety protection and farmers rights. Section 45 of the PPVFR Act, 2001 and read with Rule 70(2) (a) of the PPVFR Rules, 2003 and chapter 6 of the said Act, provides for the Plant Genome Savior Community Award (PGSCA). It is a cash prize that is awarded to communities that have conserved, improved or contributed plant genetic resources used in the development of new varieties⁷⁵. The award focusses on communities that have saved and conserved seeds across generations, actively practiced traditional breeding, maintained genetic diversity of crop varieties and continually pass the knowledge to younger generations. The recipient of the award is usually communities and not individuals and thus it recognizes the collective, community held nature of agricultural TK. It also recognizes the activities of the community as genuine research and innovation. This case is an example of community-based IP protection under Indian law. It is also a formal legislative recognition of informal innovation systems⁷⁶.

Several tribal and farming communities in states including Odisha, Chattisgarh and Andhra Pradesh have received recognition for conserving rare and indigenous rice varieties, millets and other crops that are the genetic foundation of modern agricultural research.

The award does not only preserve the past but also attempts to incentivize the future innovation⁷⁷. It

⁷¹The Thanal Trust, 'Commodification of Nature and Knowledge The TBGRI – Kani Deal in Kerala' available at <https://thanaltrust.org/commodification-of-nature-and-knowledge-the-tbgri-kani-deal-in-kerala/> last visited on 14 05. 2026

⁷²Official website of WIPO under the title 'Using Traditional Knowledge to Revive the Body and a Community' available at <https://www.wipo.int/en/web/ip-advantage/w/stories/using-traditional-knowledge-to-revive-the-body-and-a-community> last visited on 14 05. 2026

⁷³K A Shaji, 'Elixir lost in the forest: Here is why Kerala must revive Arogyapacha and Jeevani', available at <https://www.downtoearth.org.in/wildlife-biodiversity/elixir-lost-in-the-forest-here-is-why-kerala-must-revive-arogyapacha-and-jeevani> last visited on 14 05. 2026

⁷⁴Equator Initiative, 'Kerala Kani Community Welfare Trust, India', Equator Initiative Case Studies Local Sustainable Development Solutions for People, Nature, and Resilient Communities available at https://www.equatorinitiative.org/wp-content/uploads/2017/05/case_1348161670.pdf last visited on 14 05. 2026

⁷⁵The Official Website of the Protection of Plant Variety and Farmers Rights Authority, Department of Agriculture and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India available at <https://plantauthority.gov.in/search/node/awards> last visited on 14 05. 2026

⁷⁶Ibid

⁷⁷Justice Murray Sinclair speech at the Indigenous Innovation Summit 2015 available at <https://mccconnellfoundation.ca/wp-content/uploads/2017/08/Indigenous-Innovation-Summit-Report-2015-EN.pdf>

motivates communities to continue and expand seed saving practices, engage in in-situ experimentation and share knowledge which in turn sustains the living, dynamic quality of agricultural TK. Apart from having an innovation link, the award also has an empowerment dimension. The financial reward (which can reach lakhs of rupees) and the public recognition serve as both economic support and social validation. If advertising and showcasing about the awardees can be done, they will stand as examples of neighbouring communities the Act aims as an outcome⁷⁸. This effort may create ripples of awareness and participation and create community empowerment through the IP legislation.

However, there are serious drawbacks to this law as well. The award process requires registration under the PPVFR Act, 2001 which demands documentation and bureaucratic engagement that many grass root communities lack the capacity to navigate independently. Thus, the alone the law is not sufficient. There is a need for NGOs and government outreach workers enablers to bridge the gap between the fruits of the IP legal system and the possible beneficiaries.

7. CONCLUSION

Traditional Knowledge and Intellectual Property have been researched and spoken about a lot in the past decades and many scholars think that there is nothing new to add in this spectrum. The importance of protecting traditional knowledge has widely been accepted and a large number of laws have been made. Yet, what makes the researcher in the current paper rethink is how much does the traditional knowledge holders benefit from these protectionist measures? Since the very nature of traditional knowledge is such that, it depends on its holders, and vice-versa, it is just not enough to protect the knowledge from misappropriation from third parties. If the holders themselves are empowered, they can not only be able to enforce the legal IP rights in their favour, but also be able to build a decent livelihood out of their practice, thereby creating a sustainable economy which will go a long way for countries like India where capital is scarce in case of middle and small sector economies and yet population of traditional knowledge holders is high.

There are four main findings of the paper. *First*, the laws protecting traditional knowledge in India at the

present date are slightly insufficient as they do not protect the traditional knowledge holders or enable them to benefit them from traditional knowledge they possess, garner and protect. *Secondly*, the best method of amending the situation or in other words helping the traditional knowledge holders is to empower them. Thus, policies can be made to imbibe community empowerment so that they may come to a position where they can use the existing laws to help themselves. These methods are aimed to give the traditional knowledge holders a good livelihood. *Thirdly*, occurrence of innovation due to community empowerment is visible more in the cases of geographical indications than in other forms as discussed under the paper. *Fourthly*, if the communities are able to have a good livelihood and save their knowledge or art or folklore or whatever they are protecting from dying away; innovation- be it social or cultural, in a sustainable manner, is inevitable.

Community empowerment however stays a topic which is subjective and a social change which, unlike a scientific experiment, cannot be guaranteed even when the all the necessary ingredients are used and environment is controlled. Therefore, bringing about such a change is tough and would require positive focus by a large number of players in different level, like the Government to start with by making policies; NGOs and companies have also played an important role in the past to bring about social changes and innovation. There is also a requirement of social and community volunteers who would not only be able to visualize the benefits of empowerment but would be able to encourage their communities to start thinking in this process. This paper still has aspects which are presently being worked on and thus there is scope for updates.

A healthy form of human parenting is known to be teaching children how to think other than what to think. By giving basic amenities to children and teaching them to do the rest, children are able to become independent at one point. However, again unlike science, the results would never be same for all. There would be some groups of children who would require more hand-holding than others. Traditional knowledge holders and indigenous people are often those people who may require orientation and empowerment to some extent before they are able to compete in global markets. With immense belief in their knowledge, resilience, power of adaptability, the researcher feels that they can be their own heroes.

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⁷⁸Nirmal Sengupta, *Traditional Knowledge in Modern India: Preservation, Promotion, Ethical Access and Benefit Sharing Mechanisms* (Springer Nature, 2019) p 350

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