



Traditional Knowledge – Going Multidimensional

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Traditional knowledge (TK) is going multidimensional. On one side it is penetrating Intellectual Property Rights (IPR) marking its association, besides Patents, with Trade Marks, Copyrights, Geographical Indication. On the other hand, the debate as to the protection of TK at the international level is gaining whilst becoming complex. The said debate is, still, not mature enough to have a legal protection covering benefit sharing. The paper discusses the multidimensional nature of TK. It is desired that this would throw light on different aspects of TK whilst analyzing that TK is really a complex concept when it comes to securing an international protection regime. The paper may allow ways to secure protection after witnessing the multidimensional nature of TK.

Keywords: Traditional Knowledge, Traditional Knowledge Penetrating IPR, Convention on Biological Diversity, *Sui Generis*, Defensive and Offensive Protection, Multidimensional Nature of TK

The protection of TK has there been in debate for since long. The thrust of getting out from the hazard of biopiracy¹ has resulted in a discussion pertaining to the strong protection of TK at the international level.² Currently, the matter is being discussed, majorly, at four international platforms, World Intellectual Property Organisation (WIPO), World Trade Organisation (WTO), Conference of Parties (COP) to the Convention on Biological Diversity (CBD) and sister convention to CBD i.e., Nagoya Protocol (NP). The pace at which protection is sought has become slow due to the influence of the corporate sector and non-governmental organisations,² however, the reluctance from the global north is also significant but if the global south somehow reaches a consensus, then TK may witness a paradigm shift.

The Conceptual Paradigm

The negotiators and various stakeholders seem to have been lost in the concept of TK failing to secure a platform for the protection of TK. This has resulted in numerous opinions³ regarding the face and structure of the protection regime, means of the protection, and ways for protection. Unless there is no agreement over the text of TK, the protection at the international level cannot be acquired. Such lack of consensus is obstructing the protection and the debate on the reluctance of the global north seems to be of less

relevance since the global south is not reaching to any consensus. The dialogues like hegemony of global north not allowing global south reaching a consensus is not the scope of this work. Even if such hegemony prevails global south can secure consensus. Negotiators have not completely decoded the concept of traditional knowledge even after years of debate.⁴

Should TK be Really 'Traditional'?

One of the main issues is the scope and horizon of the definition of traditional knowledge. What should be the coverage of definition is not yet decided. The word 'traditional' gives the notion something that is 'traditional' being there, happening there for a long period of time. But this is not the case. TK has moved from one territory to another. It has mixed with other TK; it has become hybrid as well.

It may not be that whatever is 'traditional' becomes traditional. One point is that 'traditional knowledge' term seems to be the outcome of knowledge which is being used from time immemorial. The scope of TK in the domain of IPR is that Patents, so-called bad patents, occurred when this TK comes up as prior art. Secondly, because this knowledge is used associated with genetic resources (GR), it results in Bio-Piracy in absence of proper prior informed consent (PIC). What comes out is that: i) Knowledge held by people, ii) may be old or held in recent times, iii) having the potential to attract research and maybe valuable from the commercial point of view, iv) it may fall into

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cultural expression or not but held with people in a particular territory.

Now the question arises that if it is held with more than one community in a given territory. In such cases bodies like National Biodiversity Board and State Biodiversity Board, under the Indian Biodiversity Act 2002, may be developed, such bodies may act as bridge. If knowledge is kept transboundary then it should be settled either by Article 10 of NP or by nations themselves. It is very much clear that unless things are not streamlined, ease of doing business would not be there.

There are instances where biodiversity is being used, much in a commercial context, by Multi National Companies (MNC) and not much by local players. If things are being tried to be streamlined with the codification of TK and such codification being used by local players would strengthen the nation. The point of technology transfer, non-monetary benefit sharing is there, which is not being that successful, and can be strengthened through research and development either among like-minded nations or by a particular nation. Ease of doing business and strengthening business environment would help in attracting players and good bargaining power.

TK means different to different people but nations may see it through the lens as stated in the paper. It may be generally lacking a fixed source of origin⁵, or it may be originating from fix source.⁶ The notions of TK have made it clear that it could be invented.⁷ The technical study to understand TK done by WIPO IGC in 2010.⁸ This study focused on know-how, skills, and like. The study found that TK changes as it passes from one generation to another, it evolves with the passage of time. The report is silent as to the legal implications of TK.

Traditional v Modern

If traditional is kept directly opposite to modern then obviously it would create further complexities and is also against the scope of TK as mentioned earlier in the paper. Such interpretations may result in dissolving the anticipated consensus over TK, it would also alter the ownership, regulating access and so on.

Traditional is kept separate, opposite to modern.⁹ Traditional may result in modern if incorporated in modern or may change into modern diluting traditional notion. The opposite meaning of terms as traditional and modern has been very well articulated, by Prof. Graham Dutfield, as; i) 'Community' in

traditional societies has come to be 'Individual' as the modern counterpart, ii) term 'patron-client relationship' has come to be 'bureaucratic relationships' as its modern counterpart, iii) term 'Routine' has come to be 'innovation' as the modern counterpart, and iv) the term 'solidarity has come to be 'competition' as modern counterpart.

Traditional word has been portrayed as keeping things back, kind of status quo. Such depictions have been contrasted with modern i.e., to have economic development and growth. Not wrong to say that this has been done to contain the theories and thought processes.¹⁰ There have been cases where implementation of so-called a 'modern' system as opposed to so-called 'traditional' practice' have shown dramatic outcomes.¹¹ The case of Balinese farmers is pertinent to mention here. In the 1960s Balinese farmers were made to cultivate high-yielding varieties. Chemicals were purchased for such high-yielding varieties. This resulted in productivity going down, diseases damaging crops, and pest problems. Later on, when farmers land back on their earlier methods where they followed earlier irrigation patterns, pest management, etc., these activities resulted in higher sustainability and productivity.¹²

The concept of public domain¹³ is one of the cherished concepts but everything which comes in the public domain does not mean it is freely available especially when it affects spirituals and customary rules. Corporations usually claim that knowledge, if old, falls into the public domain. The concept of the common heritage of mankind has been reduced after the appropriation of resources from gene banks which revived the era of colonialism.¹⁴

The governments have been working in between corporations and communities since parties to CBD have sovereign rights over resources available within their territory. Such notions have resulted in nations claiming sovereign rights over TK. It may be pertinent that government may come in between to look after Access and Benefit Sharing (ABS) and use the benefit at the advantage of those communities or for public purposes. Indigenous and local people cannot directly deal with corporations. 'Modern' is using 'traditional' without acknowledging traditional (cultural associations and spiritual associations) and even denying the 'traditional'.

There are examples where instead of having, so-called, modern elements the technique or practice is called as traditional. One such example is Chinese

medicine.¹⁵ This system was known to be traditional, mainly, due to political reasons.² Experiments are not happening only in costly and state of art laboratories. Experiments are also happening in state of art natural facilities being done by farmers¹⁶ who typically do not possess scientific knowledge via degrees and are not writing scientific papers but possess knowledge by living with nature. This is something earned and nourished by them. Such activities cannot be said to be devoid of innovations and newness.

There are industries other than pharmaceuticals committing biopiracy¹⁷ but the pharma sector has earned a fortune from it. The advent of pharma was witnessed when alkaloids and molecules were isolated, when achieving the correct dose, procuring alkaloids which reduce fever.¹⁸ In contrast all these were in use by indigenous and local people in the global south. Modern pharma is re-investigating traditional herbal¹⁹ ways. Chinese medicinal system has elements of the western system like germ theory.²⁰ All this depicts the conceptual paradigm of 'modern' and 'traditional'.

Non-exhaustive Definition

The definition of TK as debated in WIPO-IGC consist of many brackets²¹ which keep on increasing and decreasing with the passage of time.

However, the point that a broad definition of TK would cover an ample amount of knowledge that is available publicly is well established. For example, the neem tree is used in countries like India, Pakistan² and patenting of neem product witnessed a biopiracy debate.²² It was contested that the information as to the use of neem is available publicly making it a piece of information in the public domain²³, hence, nothing is due to anybody. India cannot be a victim of neem-related inventions globally. Indeed, neem is not only available in India but the knowledge about the use and biological material is also available in India. If TK is to be considered broadly then it will have a cast coverage. In fact, if the usage of neem is learned from generation to generation, without going into 'modern' and 'traditional' dialogue, and it is something being exercised since time immemorial, the instance of disclosure of origin requirement becomes pertinent here. This requirement is there to ascertain from where TK and associated biological resources have been procured. Secondly, neem-related patents were also challenged on novelty issues putting them in the criteria of bad patents.²⁴ If TK being documented and synthetic biology being used, there would question of

novelty only. Indeed, people may use double-helix DNA, a fact of nature but if the concerned person is approached and his knowledge and/or associated resource is being used, every nation is free to insert ABS mechanism in its national legislation. A minimum consensus may allow nations to have a broad or narrow definition that is backed by bilateral or multilateral arrangements to prove which definition is proving to be of worth. Many TK is transboundary and endemic. The point of ease of doing business and attracting commercial players would be there. For such happenings as said, developed nations are required to make Article 10 of the Nagoya protocol successful and should act to become self-sufficient up to a limit. The discussion is going out of the scope of this paper, since the paper is focused on multidimensional aspects of TK, coming back to the point, the broader definition is one of the dimensions of multifaced TK.

Exhaustive Definition

The narrower definition is skeptical of excluding TK which may be intended to be included. This would defeat the entire purpose. A case-by-case analysis would bring complexities of its own which may bring internal issues like including one community and excluding the other. In such a language the meaning of traditional or what amounts to traditional would be a 'diluting' one. Having a functional approach through various knowledge systems like sciences and Indigenous knowledge system²⁵ is desired. Such an exhaustive definition would cover a specific community.

Two major instruments which triggered the debate over TK do not define TK. The first is CBD providing for the protection of TK and the other is Nagoya Protocol which looks to strengthen the ABS. Two other significant instruments in this regard are the Food and Agriculture Organisation (FAO) and the United Nations Declaration on the Rights of Indigenous Peoples (UNRIP) which talk about TK without defining it. The WIPO IGC is the only regulatory group for TK looking for its definition.

The concept of TK is found wider than the knowledge being possessed by indigenous people.²⁶ It is not certain that in order to be qualified as TK, it should belong to an indigenous group.²⁷ Hegelian approach²⁶ reads that IP is not about money all the time.²⁸ Innovations and knowledge has been seen as linkage of the soul and the territory, being an integrated one.²⁹ Since convention IPR or not wrong

to say that TRIPS does not talk about TK and TK being not found meeting requirements of IPR²⁹ resulted in the thought that extension of IPR to cover TK may weaken the substance of the protection of IPR.³⁰ In contrast some category of protection for TK is being debated even if kind of weak one.³⁰

TK Penetrating IPR

The acknowledgment, from viewpoint of dignity as well as from viewpoint of worth, has placed the potential which may be legal, conceptual, or political. The said acknowledgment may create means to secure the rights of people associated with TK. Such arguments give the push that the TK system is relevant as well as innovative. However, often it is assumed that IPR covers the rights of individuals and firms and does not cover communal or collective scenario. It has also been argued that the IPR system uses the traditional intellectual aspect and exploit it commercially whilst rights and commodity being controlled by an entity other than those holding the traditional intellectual aspects. Such assumptions and arguments may be self-imposed restricting novel platforms for the protection of TK in IP.

Collective scenario/rights exist in conventional IPR system like collective rights, Geographical Indications, and collective personality rights.³¹ Sovereignty must be respected and nations should go for laws implementing TRIPs which are beneficial for them and suits them, socially, politically and economically. This undoubtedly has the potential to give birth to further sui-generis systems.

IPR is concerned with exclusive rights where the right holder can restrict others from the commodification of what is possessed by the right holder. In such a scenario indigenous people may have control over their knowledge. Since Indigenous People are not that professional and exposed to the commercial world, the government has to be the bridge. In the case where TK is possessed by multicomunities or transboundary then such a situation may be tackled by Article 10 of NP or by bilateral or multilateral arrangements. Anyhow the benefits may be shared accordingly. Moreover, it may work comfortably with a narrower definition of TK³⁸ but again, it comes with its challenges.

Coming back to the point of indigenous people having control over their knowledge, the aspirations and interests of local and indigenous people may be taken into consideration before developing a mechanism. There may be differences of opinions

within and among communities which may halt the development of mechanisms. UNDRIP in 2007 recognized the right of Indigenous People to maintaining, protecting, and developing the IP over TK, traditional cultural expression, and cultural heritage. This has the potential to have an IP mechanism for settling the issues at hand. The approach opted by the Australian federal court in protecting the cultural context of the Indigenous artist in the field of copyright³², exclusion of patents which are traditional knowledge in India Patent act³³ and protection awarded to Maori culture under New Zealand Trade Marks Act³⁴ are some instances where TK has been recognized into core IP laws.

Patent law requires the applicant to disclose the invention and in turn, he receives IPR. The invention shall be novel and the patent framework is related to TK raising clashes as to novelty requirement.²⁶ The arguments that TK is the application of what is there already in nature³⁵ and genetic resources being naturally happening³⁶ challenges the demand of protection of TK.

Let us take an example to further the multidimensional aspect and complexities of having TK in IPR. Suppose 'A' community knows about the medicinal power of a bark that cures cancer without being trained in western science.²⁶ Now it may be argued that: i) the knowledge is valuable and protection against expropriation without PIC should be barred. Similarly, it may be said that in the better interest of society it may be allowed to be exploited, to check cancer worldwide, probably by someone like the pharma industry. If allowed for exploitation, the conventional IPR model becomes visible. In contrast proponents of a stronger TK regime demands that such exploitation would be done with the consent of the custodian of such knowledge.³⁷

Once IPRs are granted then the custodians would be restricted from using their asset.³⁸ It appears unjust but just from reward-innovation theory. It may be contrasted with Monsanto and farmers issue where farmers are developing seeds for ages but Monsanto through patents restrict them.

TK and Sui Generis System

Disclosure Requirements (First Sui Generis System)

One of the sui generis systems is the disclosure requirement for securing IPR over TK and genetic resources.³⁸ It requires disclosure of the use of TK in any invention.²⁶ This requirement is being

advocated by India and India has framed TKDL where documented TK³⁹ may be accessed by patent offices around the world.⁴⁰ It allows preventing patents from not passing novelty, obviousness, and subject matter exclusion.³⁸ The Disclosure requirement is being debated in WIPO IGC with many brackets and options.

ABS (Second *Sui-Generis*)

The benefit of bioprospecting to society should be considered and bio prospectors solving a big societal problem should be encouraged. In this regard also, the ABS mechanism is being promoted between custodians of TK and bio prospectors.⁴¹ The complexities and issues with ABS⁴² and the successful and strengthening of the ABS regime are happening.

It may also be taken as a tool to strengthen the protection of TK. It is pertinent to mention at the national level such steps may be taken but some protection at the international level is very much desired for the implementation and success of one or more dimensions of TK as being discussed. There may be instances where like-minded nations may come together and through multilateral, bilateral or regional mechanism renders text which may be useful for others.

Defensive and Offensive Protection

There is academics that TK is different and hence should be treated differently⁴³ and TK fails to satisfy the property entitlement.⁴⁴ Authors have been looking for similarity and dissimilarity to study viable options for applying similar rules⁴⁵ to TK and IPR. The defensive protection restricts the entity to claim patents lacking novelty, inventive step and is being termed as an illusory and weak substitute as to 'offensive' protection.³⁸

The mixed approach i.e., covering both defensive and offensive approaches can be seen with South Africa's model² which is in debate in WIPO IGC.³⁹ Authors have been looking for similarities and dissimilarities to study viable options for applying similar rules⁴⁵ to TK and IPR. The offensive approach is based on the notion that TK and GR are not in the public domain and do not constitute the common heritage of mankind.³⁹

WIPO IGC seems the origin of the defensive approach which is less beneficial for protection for TK. WIPO is eliding the notion of proprietary and offensive protection to TK and GR being witnessed,

however, from the 2012 draft in WIPO IGC is witnessing a regime for the protection of TK and associated concepts.³⁰

In 2014, the African Group introduced the concept of a tiered approach for the protection of TK.⁴⁶ Five types of TK have been identified; i) Sacred, ii) Secret, iii) Closely held, iv) widely held or diffused, and v) publicly available. Robust rights have been desired for sacred TK, secret TK, and closely-held TK. Rights of attribution are desired for widely held or diffused TK and publicly available TK to be in the public domain.

The sacred TK covers knowledge that is exercised during religious ceremonies. This TK is sacred in nature for example Hawai'i taro plant. Secret TK is akin to trade secret law and is economically valuable to the community, hence, kept as secret. Closely held TK covers knowledge that is developed collectively. San use of the hoodia may be considered as an example.

Widely held or diffused TK covers the TK which has been leaked and is beyond indigenous groups. The medicinal properties of Neem may be considered as an example. As per the proposal submitted by the African group, sacred, secret and closely-held TK may be subject to exclusive rights and moral rights i.e., right of attribution.⁴⁶ Widely held or diffused TK may, at least, be entitled to the right of attribution.⁴⁶ Publicly available TK may consider as part of the public domain.⁴⁶

The secret TK can be compared to trade secret law and TRIPS mandate trade secret protection.⁴⁷ Although trade secret is viewed to be the least welfare tool when it comes to IP,⁴⁸ still it has marked its presence.⁴⁸ Trade secret does not ask for absolute secrecy. It is infringed when a trade secret is accessed or procured by improper means, by violation of ABS.

East or West: IP is the Best?

The IPR model sustains, largely, on utilitarian models which support economic reward for innovation⁴⁹ to introduce innovations and cash the intellectuals. This concept ignores that innovation is not always done for economic reward. TK is something that is not individual-centric but is a product of history, tradition, and culture. The western models and thought processes are different from that of eastern models. Hence, policymakers are divided and not certain as to how to connect convention IPR and protection of TK.⁵⁰ Often policymakers find themselves in no man's land.

Developed countries, as stated, go by utilitarian models,³ whereas developing nations look for protecting TK and biological resources.³ Developed nations require strict enforcement of TRIPS,²⁶ and sometimes such enforcement goes against developing countries, economically and culturally wise.⁵¹

It has been contested that the current IPR system does not cater to the needs of the developing countries as it promotes misappropriation of TK.⁵² Procuring IPR, especially patentability of TK raises the question of compensation⁵² and the requirement of strong protection of TK.

Conclusion

The paper has tried portraying the conceptual paradigm of the TK. The etymological understating as to term 'traditional' may focus on obstructions or illusions restricting a definition of TK. Definitions have always been exhaustive, positive, negative and like and the law has always created fictions and developed the same by case laws and amendments. The exhaustive and non-exhaustive definition of TK is directly related to the coverage of knowledge.

TK is penetrating IPR and is making its stand. Either by sui-generis or by a text at the international level, it has the potential to alter the contours of IPR. However, such alteration may bring positive results or not, is the answer to be seen. However, the autor is of view that it would give positive results. Protection of TK is considered an event that would undermine the expectations of innovators in the global north. Protection of TK is considered as an event that would not undermine the expectations of demand of the global south. A way out is required.

The paper might have depicted, thoroughly, the multidimensional nature of TK when comes to its protection. Such depiction may be used to secure alternative, *sui-generis*, or as the case may be, platform for the protection of TK at international level.

References

- 1 Mgbeoji I, Patents and traditional knowledge of the uses of plants: Is a communal patent regime part of the solution to the scourge of bio piracy, *Indiana Journal of Global Legal Studies*, 9 (1) (2001) 163.
- 2 Dutfield G, TK unlimited: The emerging but incoherent International Law Of Traditional Knowledge Protection, *Journal of World Intellectual Property*, (20) (2017) 144.
- 3 Osei-tut J, Emerging Scholars Series: A *Sui Generis* regime for traditional knowledge: The cultural divide in Intellectual Property Law, *Marquette Intellectual Property Law Review*, 15 (1) (2011) 147.
- 4 https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_41/wipo_grtkf_ic_41_6.pdf (accessed on 17 April 2021).
- 5 <https://www.bananaip.com/ip-news-center/traditional-knowledge-the-curious-case-turmeric-latte/> (accessed on 17 April 2021).
- 6 Posey D A, Dutfield G & Plenderleith K, Collaborative research and intellectual property rights, *Biodiversity and Conservation*, 4 (8) (1995) 892.
- 7 Sunder M, The invention of traditional knowledge, *UC Davis Legal Studies Research Paper Series*, 70 (2006) 1.
- 8 Bannerman, S, *The World Intellectual Property Organization and traditional knowledge* (Edward Elgar Publishing), (2015) 1.
- 9 Gusfield J R, Tradition and modernity: Misplaced polarities in the study of social change, *American Journal of Sociology*, 72 (4) (1967) 351.
- 10 Rostow W W, *The stages of economic growth: A non-communist manifesto* (Cambridge: Cambridge University Press), 1960.
- 11 Mgbeoji I, Making space for grandma: The emancipation of traditional knowledge and the dominance of Western-Style Intellectual Property Rights Regimes, *Comparative Research in Law & Political Economy*, (Research Paper No. 39) (2010).
- 12 Lansing J S, *Priests and programmers: Technologies of power in the engineered landscape of Bali* (Princeton University Press, Princeton), 2007.
- 13 Boyle J, *The public domain: Enclosing the commons of the mind* (Yale University Press, New Heaven), 2008.
- 14 Hamilton C, Biodiversity, biopiracy and benefits: What allegations of biopiracy tell us about intellectual property, *Developing World Bioethics*, 6 (3) (2006) 158.
- 15 Jingcheng D, & Christopher L, The relationship between Traditional Chinese Medicine and Modern Medicine, *Evidence-Based Complementary and Alternative Medicine Hindawi Publishing Corporation*, (2013) 1.
- 16 Hansson O S, Farmers' experiments and scientific methodology, *European Journal for Philosophy of Science*, 9 (32) (2019) 1.
- 17 <https://www.dw.com/en/biopiracy-rips-off-native-medical-knowledge/a-16732044> (17 April 2021).
- 18 Greene J A, *Generic: The Unbranding of Modern Medicine* (Johns Hopkins University Press, Baltimore) (2014).
- 19 Everett N & Gabra M, The pharmacology of medieval sedatives: The 'great rest' of the Antidotarium Nicolai, *Journal of Ethnopharmacology*, 155 (1) (2014).
- 20 Lei S H, *Neither donkey nor horse: Medicine in the struggle over China's modernity*, (University of Chicago Press, Chicago), 2014.
- 21 https://www.wipo.int/meetings/en/details.jsp?meeting_id=50424 (accessed on 17 April 2021).
- 22 <https://www.lexology.com/library/detail.aspx?g=1c132aa5-97af-4164-af22-ca3c240ab172> (accessed on 17 April 2021).
- 23 Sheridan C, EPO neem patent revocation revives biopiracy debate, *Nature*, 23 (5) (2005) 511.
- 24 <https://twn.my/title/pir-ch.htm> (accessed on 17 April 2021).
- 25 Oguamanam C, *Pressuring 'Suspect Orthodoxy': Traditional Knowledge and the Patent System in M. Rimmer (Ed.), Intellectual Property: A Handbook of Contemporary Research*, (Edward Elgar, UK), 2015.

- 26 Judd L P, The Difficulties in Harmonizing Legal Protections for Traditional Knowledge and Intellectual Property, *Washburn Law Journal*, 58 (2019) 249.
- 27 Halabi S F, *Intellectual Property And The New International Economic Order: Oligopoly, Regulation, And Wealth Redistribution In The Global Knowledge Economy* (Cambridge University Press), 2018.
- 28 Radin J M, Property and Personhood, *Stanford Law Review*, (34) (1982) 957.
- 29 Williams F, *The Nature Fix: Why Nature Makes Us Happier, Healthier, And More Creative* (W. W. Norton Company, United States), 2018.
- 30 https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_37/wipo_grtkf_ic_37_facilitators_text_tk_rev_2.pdf (accessed on 17 April 2021).
- 31 Taubman A, Is There a Right of Collective Personality?, *European Intellectual Property Review*, (2006).
- 32 *Milpurrru v Indofurn Pty Ltd*, [1994] 30 IPR 209, 210 (Austl.)
- 33 https://www.indiacode.nic.in/handle/123456789/1392?view_type=browse&sam_handle=123456789/1362 (accessed on 17 April 2021).
- 34 <https://www.loc.gov/law/help/nz-maori-culture/nz-maori-culture-and-intellectual-property-law.pdf> (accessed on 17 April 2021).
- 35 *Mayo Collaborative Servs. v Prometheus Labs*, (2012) 566 U.S. 66.
- 36 *Ass'n Molecular Pathology v Myriad Genetics*, (2013) 569 U.S. 576, 590.
- 37 Bagley A M, The Fallacy of Defensive Protection for Traditional Knowledge, *Washburn Law Journal*, 58 (2019).
- 38 Okediji L R, A Tiered Approach to Rights in Traditional Knowledge, *Washburn Law Journal*, (58) (2019) 271.
- 39 <http://www.tkd1.res.in/tkd1/langdefault/common/Home.asp?GL=Eng> (accessed on 17 April 2021).
- 40 Fisher W, Why is Traditional Knowledge Different from All Other Intellectual Property?, *Washburn Law Journal* (58) (2019) 365.
- 41 <https://www.cbd.int/abs/> (accessed on 17 April 2021).
- 42 Dutfield G & Suthersanen U, Traditional Knowledge and Genetic Resources: Observing Legal Protection through the Lens of Historical Geography and Human Rights, *Washburn Law Journal* (58) (2019) 399.
- 43 Sunder M, The Invention of Traditional Knowledge, *Law & Contemporary Problems*, 2007, 97.
- 44 Munzer R S & Raustiala K, The Uneasy Case for Intellectual Property Rights in Traditional Knowledge, *Cardozo Arts and Entertainment Law Journal*, 27 (37) (2009) 37.
- 45 Gervais D, Traditional Knowledge and Intellectual Property: A TRIPS-Compatible Approach, *Michigan State Law Review* (137) (2005) 137.
- 46 https://www.wipo.int/edocs/pubdocs/en/tk/768/wipo_pub_768.pdf (accessed on 17 April 2021).
- 47 https://www.wto.org/english/docs_e/legal_e/27-trips_04d_e.htm (accessed on 17 April 2021).
- 48 Bone G R, The (Still) Shaky Foundations of Trade Secret Law, *Texas Law Review* (92) (2014) 1807.
- 49 Landes M W & Posner A R, *The Economic Structure of Intellectual Property Law* (Belknap Press) 2003.
- 50 Taubman A, New Dialogues, New Pathways: Reframing the Debate on Intellectual Property and Traditional Knowledge, *Washburn Law Journal*, 58 (2019) 373.
- 51 https://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm#:~:text=Agreement%20on%20Trade%2DRelated%20Aspects,Morocco%20on%2015%20April%201994 (accessed on 17 April 2021).
- 52 Srivastava C and Rana M, Easily Accessible Treasure Susceptible to Misappropriation: A Discourse on Traditional Knowledge, *Journal of Intellectual Property Rights* (25) (2020) 155.