

The Role of Novelty and Prior Art in the First to File System to Protect Traditional Knowledge from Invalid Patent Claims

Muhammad Citra Ramadhan

citra@staff.uma.ac.id

Faculty of Law, Universitas Medan Area, Indonesia

Article Info

Received:

Revised:

Accepted:

Keywords:

Novelty; Prior Art; First to File; Traditional Knowledge; Patents

Abstract

This study aims to analyze the role of novelty and prior art in the first to file system to protect traditional knowledge from invalid patent claims. Traditional knowledge is part of a valuable cultural heritage. Protecting it means maintaining and preserving the cultural identity of a community. In reality, most of the traditional wealth that was once owned by the people of the archipelago has been lost or moved to other countries. The study uses normative legal methods. Data collection was carried out through literature studies, observations, and document analysis. The results of the study show that in the First to File system, patent rights are granted to the first party to file a patent application, not the first party to create an invention. In the context of protecting against invalid patent claims on traditional knowledge, it is important for communities or countries to document their traditional knowledge as prior art. With adequate documentation, it can be shown that the knowledge existed before any patent claims were filed by other parties. So that it can protect traditional knowledge from invalid patent claims. Overall, the concept of novelty and prior art in the first to file system functions as a mechanism to ensure that traditional knowledge that has existed for a long time cannot be patented by unauthorized parties.

I. Introduction

Protecting traditional knowledge from unlawful patent claims is an important issue, especially in countries with a rich cultural heritage. Traditional knowledge encompasses practices, innovations and wisdom that have developed in indigenous or local communities over centuries (Mulalap et al., 2020). This often relates to traditional medicines, agricultural techniques, crafts and so on. Traditional knowledge is often the result of practices that have been passed down from generation to generation within indigenous or local communities (Williams & Hardison, 2013). Protecting this knowledge means recognizing and respecting their rights to their cultural heritage (Silverman & Ruggles, 2007; Purwandoko et al., 2021; Disemadi & Sudirman, 2023). Without adequate protection, traditional knowledge can be exploited by outsiders for their own gain, often without any benefit to the original communities that developed the knowledge. Protection helps prevent this injustice. Traditional knowledge is a valuable part of cultural heritage (Yu, 2003; Irawan, 2017). Protecting it means safeguarding and preserving the cultural identity of a community. It is also important for maintaining global cultural diversity. Protecting traditional knowledge also helps ensure that this knowledge can be passed on to future generations, without fear of loss or distortion (Okediji, 2022). Much traditional knowledge relates to sustainable ways of managing natural resources, such as agricultural practices, herbal remedies and nature conservation techniques. Protecting this knowledge can contribute to efforts to conserve biodiversity and the environment. Traditional knowledge often contains proven strategies for coping with environmental change (Reddy et al., 2015; Edington, 2017). Valuing and protecting this knowledge can be key to adapting to climate change.

Traditional knowledge has great economic potential, especially in areas such as medicine, cosmetics, and food products (Demunshi & Chugh, 2010; Elansary et al., 2015). Protecting this knowledge can ensure that the communities that hold it receive a fair share of the economic benefits it generates. Traditional knowledge can be a source of inspiration for modern innovation. Protecting and integrating this knowledge within a framework that respects the rights of its owners can encourage more sustainable and inclusive innovation (George et al., 2012; Herrera, 2016; Hossain & Ballardini, 2021).

Without protection, third parties can patent existing traditional knowledge as their own innovation. This not only harms indigenous communities but also undermines the patent system that is supposed to encourage new inventions. Protection also helps ensure that products claiming to be derived from traditional knowledge are truly original and not the result of illegitimate exploitation. Protecting traditional knowledge acknowledges that local

communities possess time-honored wisdom. It shows respect for their contribution to human knowledge as a whole. Protecting traditional knowledge thus supports equity, sustainability, and respect for cultural diversity and inclusive innovation. Every intellectual work is not merely referred to as Traditional Knowledge but if an intellectual property is developed and owned by a certain community group. The characteristics of traditional knowledge are as follows: 1) Passed down and applied continuously; 2) Interpreted as Science including knowledge of the environment and its relationships (Selin, 2003); 3) One unit with indigenous communities, so it cannot stand alone (Shawoo & Thornton, 2019); 4) Is a guideline in community life because it contains values created in society (Aguilar, 2001). Various forms of traditional cultural protection that have been available including the current intellectual property rights system, are felt to be unable to accommodate adequate protection in terms of the utilization and utilization of traditional knowledge and traditional cultural expressions. The current intellectual property rights system has not been able to protect traditional knowledge and traditional cultural expressions effectively and efficiently.

The current intellectual property rights system sets out a number of requirements for a creation to be protected, such as: 1) Protection given to the individual creator, whereas in the case of traditional knowledge and traditional cultural expressions the creator is unknown and is jointly owned by an indigenous community; 2) Limited protection period, whereas traditional knowledge and traditional cultural expressions are a perspective and identity of a community whose ownership period cannot be limited because they are the identity of a community that will continue to exist for generations as long as the indigenous community still exists and believes in it; 3) Contains elements of novelty. Traditional knowledge and traditional cultural expressions have existed since the birth of the indigenous community or society, so they are not new creations but rather old traditions that are passed down from generation to generation. For the requirements in the current intellectual property rights system, the above requirements cannot be applied to traditional knowledge and traditional cultural expressions. In traditional knowledge and traditional cultural expressions must be released from the existing requirements, because the tradition of a region which is a culture is very different from a work of an individual's creation that is not hereditary and is not a regional custom.

In a patent system that uses the "First to File" (FTF) principle, as is the case in many countries, two important concepts, namely novelty and prior art, play a crucial role in protecting traditional knowledge from invalid patent claims. Novelty is one of the main requirements for an invention to be patented (Verhoeven et al., 2016; He & Luo, 2017). An invention is considered new if it has never been previously disclosed to the public anywhere in the world before the patent filing date. Traditional knowledge has often existed in society for years or even centuries. If the knowledge

has been published or known to the public before the patent filing date, then the knowledge does not meet the novelty requirement.

First to file is a patent that protects the party who first registers, not the party who first discovers. Thus, novelty becomes a mechanism for protection against invalid patent claims on traditional knowledge (Mgbeoji, 2001; Yulia, 2021). If someone tries to patent existing traditional knowledge, the claim may be rejected for not meeting the novelty requirement. Prior art refers to any information that has been publicly available before the patent filing date, including scientific publications, previous patent documents, or even common practices that are already known in a community. In the context of traditional knowledge, prior art can include documents that record the use of the knowledge, such as literature, ancient manuscripts, or ethnobotanical records. Using prior art, patent authorities can reject patent claims that attempt to claim traditional knowledge as new inventions. Proper documentation of traditional knowledge as prior art is key to proving that the knowledge already existed. Therefore, this study seeks to analyze the role of novelty and prior art in the first to file system to protect traditional knowledge from invalid patent claims.

2. Research Method

This study uses a normative legal research method. That normative legal research is an approach used to research the law by focusing on applicable legal norms (Negara, 2023). This method is often referred to as library research because its main sources are legal materials, such as laws and regulations, doctrines, and other legal literature (Van Der Burg, 2019). The goal is to analyze and understand existing legal norms, identify legal concepts, and assess the consistency or harmonization of a regulation with the applicable legal system (Zumbansen, 2012). In this context, namely, analyzing the role of novelty and prior art in the first to file system to protect traditional knowledge from invalid patent claims. The main data sources in normative legal research are primary legal materials (laws and regulations, court decisions), secondary legal materials (legal literature, journals, articles), and tertiary legal materials (legal dictionaries, encyclopedias). One of them is to examine the laws and regulations related to the research and compare the legal system of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs) with Law Number 28 of 2014 concerning Copyright. And also the 2024 WIPO Diplomatic Conference has agreed and adopted the "WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge" or can be interpreted as a "Landmark Treaty": Treaty for the Protection of Traditional Knowledge of Indigenous Peoples. The author also takes a legislative approach by reviewing applicable regulations related to the legal issues discussed. Reviewing relevant legal concepts and legal theories. Analyzing relevant court decisions to understand the application of the law. This normative legal research uses qualitative analysis

techniques (Indriati et al., 2022). Researchers interpret and review legal norms, compare, and draw conclusions from existing regulations and doctrines.

3. Results and Discussion

Traditional knowledge is included in the scope of intellectual works used to refer to everything written or recorded that is the result of the thoughts, theories, or creations of a person, organization, or nation (Aikenhead & Ogawa, 2007). Literature, works of art or science, performances, inventions, scientific discoveries, designs, trademarks, names, and symbols, as well as confidential information, all fall within the scope of traditional knowledge, discoveries, inventions, and developments in the economic, scientific, literary, and artistic domains that are built on established norms and are the result of human intellectual efforts. The term “tradition-based ideas” is used to describe a body of information, artifacts, and cultural expressions that have been passed down from one generation to the next, usually associated with a particular geographic area, and have evolved organically and in response to a dynamic external context (Maydawati et al., 2023). Consequently, recognizing the transmission and application of traditional knowledge is as important as recognizing the discovery of the concept itself. When talking about traditional knowledge, such as art, culture, and other types of local wisdom, Indonesia has a lot of potential as an archipelagic country with various tribes, each of which has its own unique traditions, arts, and culture. Its extraordinary potential is an asset of the nation or country that must be maintained so that it continues to develop and ultimately benefits the community.

In reality, most of the traditional wealth that was once owned by the people of the archipelago has been lost or moved to other countries. For example, tempeh, a traditional Indonesian food made from soybeans, is an original Indonesian concept that has existed since the time of our ancestors. Unfortunately, other nations with more advanced technology and high awareness of intellectual property rights made tempeh an intellectual property when it became famous even in other countries. Indeed, tempeh that is patented in other countries is not the same as tempeh eaten in Indonesia; it is a newer type. For example, the United States and Japan have patents on the health benefits associated with tempeh. However, tempeh may be detrimental to Indonesia in the long run because of the public's reluctance to recognize it as a unique Indonesian product that deserves patent protection.

Indonesian society has a wealth of traditional wisdom, one of which is *tempe* (tempeh, fermented soybean cake) (Surono, 2016). There are still many more things created by the Indonesian people, such as traditional medicine, works of art, and literary works, which are not protected by law. Regulations that do not fully support the implementation of Intellectual Property Rights (IPR), low

public awareness to register their works or ideas, lack of data documentation, and characteristics of knowledge are just some of the reasons why the works and products of the nation's children have not been accepted. Legal protection in terms of recognition and appreciation of IPR. Historically, people have worked together. On the other hand, indigenous peoples have a unique perspective on traditional knowledge, which can be summarized as follows Kurnilasari et al. (2018); Syahputra (2019); Irawan (2017): 1) It is the result of practical thinking based on teachings and experiences passed down from generation to generation; 2) It is knowledge from the village area; And 3) It is closely related to the health, spirituality, culture, and language of the parent community. This lifestyle develops from the need to maintain one's spiritual identity; 4) Belief in one's own community is supported by the authority of traditional wisdom. Based on this definition, we can say that traditional knowledge is a type of information that is passed down through families and communities. Traditional knowledge, however, covers a wide range of disciplines, from visual arts to botany to architecture.

In the patent law regime, to be granted a patent, an invention must meet the elements of novelty and inventive step. Traditional knowledge related to the SDGs should be a discovery or invention that already existed before (prior art). The WIPO diplomatic conference has agreed and adopted the "WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge" or can be interpreted as a "Landmark Treaty": the Treaty for the Protection of Traditional Knowledge of Indigenous Peoples. Diplomatic conferences are usually held based on decisions of the General Assembly of the World Intellectual Property Organization. Diplomatic conferences are governed by rules of procedure and customary international law. Diplomatic conferences are the level of meeting of countries to adopt agreements and their final actions.



Figure 1. Indonesia is present at the World Intellectual Property Organization (WIPO) in Geneva, Switzerland on May 24, 2024.

Source: Kementerian Luar Negeri Republik Indonesia (2024)

Regarding information related to indigenous peoples or local communities that provide traditional knowledge. In cases where such information is unknown, the source from which the knowledge was obtained must be disclosed (Article 3.2(a) and Article 3.2(b)). States or parties to the Treaty are required to establish legal measures (in the form of administrative sanctions) or appropriate policies to address failure to comply with disclosure requirements (Article 5.1). However, an opportunity to correct disclosure deficiencies must be given before sanctions or remedies are applied (Article 5.2). If previously the search for prior art information was a database of patent offices and patent systems around the world that had been indexed and could be accessed online, then based on this Treaty, prior art related to SDGs and traditional knowledge should also be easily accessible. It is expressly stated that this Treaty encourages parties to establish an information system regarding genetic resources and traditional knowledge. This system is expected to be accessible to patent offices to facilitate patent examination, while still considering the protection of confidential information (Article 6.1 and Article 6.2).

Traditional knowledge is closely related to inventions and innovations from the use of natural resources (Cullet et al., 2006). In conducting research, inventors of a technology often use traditional knowledge as the basis for the invention to then be developed and obtain patent protection rights. Article 26 of the Patent Law states that an invention based on traditional knowledge or genetic resources must provide clear information regarding the origin of the traditional knowledge. This does not meet the ideal provisions stated in CBD Article 8 (j) which states that the protection of a country's traditional knowledge can be implemented if the country has a special law that protects its traditional knowledge. Protection that only confirms the granting of recognition of the origin of an invention based on traditional knowledge and/or genetic resources is not enough to cover the protection of traditional knowledge that is communal in nature and is often not registered as individual or business entity ownership according to the first to file principle as stipulated by the rules set by IPR protection relating to the protection of industrial rights ownership. Without any efforts to protect traditional knowledge through special laws, IPR regulations in Indonesia cannot prevent the misuse of traditional knowledge based on genetic resources and harm the indigenous communities that own the traditional knowledge (biopiracy) (Subagiyo et al., 2023).

Communities that own traditional knowledge have a different concept from the IPR concept in protecting an invention as an industrial right. Compared to IPR protection which is individualistic in nature, communities consider the use of their traditional knowledge as a public domain. Communities that hold traditional knowledge consider that the use of their traditional knowledge has a social function, so they have no complaints about the origin and source of an invention based on their traditional knowledge. This is very different from western societies that make their traditional knowledge an asset that can be owned by only one person so that it can generate economic value for them, while indigenous communities consider that the use of their traditional knowledge is closely related to social functions so that their traditional

knowledge can be owned by anyone. They assume that granting ownership rights to traditional knowledge to others will provide rewards to their group in the future.

Since traditional knowledge is closely related to an invention and method practiced by indigenous peoples in their cultural traditions, traditional knowledge is closely related to the definition of "invention" as outlined in Article 1 of the Patent Law. In Article 3 of the Patent Law, an invention that can be protected by the patent regime is an invention that meets the criteria as an invention that contains elements of novelty, contains inventive steps, and can be applied in industry. This still threatens traditional knowledge that is vulnerable to privatization based on the IPR regime, especially patents. Therefore, the existence of *sui generis* regulations as an effort to prevent invalid patents and other forms of misappropriation of traditional knowledge is important. The *sui generis* regulations that will be developed must clearly emphasize that inventions and knowledge categorized as traditional knowledge are positioned as prior art or knowledge that is considered to have existed for a long time (OseiTutu, 2011). With this regulatory concept, *sui generis* regulations become a legal basis that can provide a positive and defensive protection mechanism for traditional knowledge related to the use of genetic resources. In addition, defensive protection measures for traditional knowledge where the placement of traditional knowledge as prior art is used to thwart or revoke a patent granted for an invention because the invention does not meet the elements of novelty and has inventive steps (Webb, 2003). To use this step, comparative documents are needed so that the authorities who can grant or prevent a patent for an invention can first check whether the invention has elements owned by traditional knowledge and genetic resources or not.

The placement of traditional knowledge as prior art can be linked to registration and documentation efforts as policies that must also be developed in addition to the formation of *sui generis* regulations. As an illustration, the presence of *sui generis* regulations as rules that affirm the rights and obligations to access and use traditional knowledge that meets the requirements to be considered prior art is vital as a policy that follows up on the documentation and registration process of traditional knowledge as prior art. Then, the affirmation of this must be followed up by documenting every traditional knowledge owned by indigenous peoples. In the construction of claims, and the most important things in a patent application are as follows: 1) Revealing the boundaries of the scope of the invention; 2) Must be supported by a description; 3) Must not be broader than the description; 4) Stated explicitly in language and terms commonly used in descriptions in the field of technology; 5) Expressed clearly and concisely; 6) Does not contain images and diagrams; 7) May contain tables, chemical or mathematical formulas.

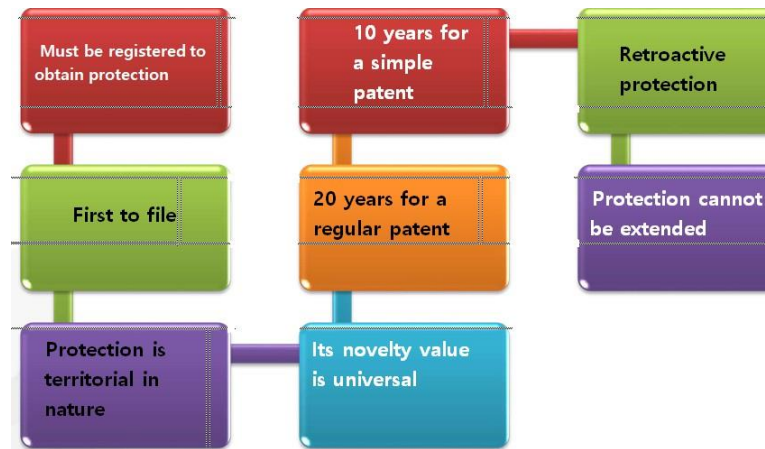


Figure 2 Characteristics of Patents

Patents in the context of traditional knowledge have several characteristics that distinguish them from patents in general. Traditional knowledge is often owned collectively by a particular community or society (Ziker et al., 2016). Unlike modern patents that are usually granted to individuals or companies, traditional knowledge is recognized as the common property of the community that has developed it for centuries. Traditional knowledge is usually passed down from generation to generation, often through oral traditions, rituals, or long-standing practices. It covers a wide range of areas, including traditional medicine, agriculture, arts, and crafts. Much traditional knowledge relates to the use of natural resources, such as medicinal plants, agricultural techniques, or natural materials for handicrafts. This knowledge is often very specific to the local environment and resources available in the area.

Unlike modern patents that have a limited time of protection (usually 20 years), traditional knowledge is timeless and has existed for thousands of years. Because of its collective nature and centuries of existence, traditional knowledge often does not meet modern patent criteria, such as novelty and inventiveness. Therefore, there are challenges in protecting traditional knowledge using the conventional patent system. Traditional knowledge encompasses not only specific technologies or practices, but is also closely tied to the cultural, spiritual and social contexts of the communities that hold it. As a result, it becomes an integral part of the identity and life of those communities. Traditional knowledge is often vulnerable to exploitation by outsiders who may patent components of the knowledge without permission or fair compensation to the communities that hold it. These characteristics indicate that traditional knowledge has unique and important value, requiring different protection mechanisms than conventional patents to ensure sustainability and fairness for the communities that hold it.

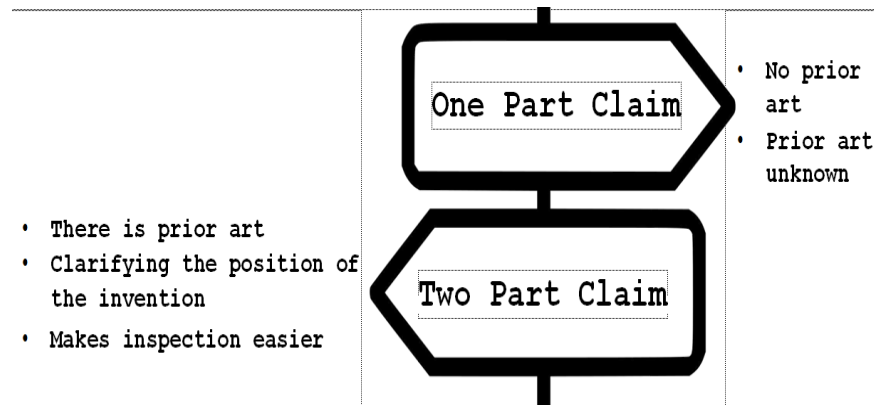


Figure 3. Type of Claim

To protect traditional knowledge from unauthorized patent claims, it is important to document and digitize it as prior art. An example of such an initiative is the Traditional Knowledge Digital Library (TKDL) in India, which compiles and documents traditional knowledge so that it can be accessed by patent authorities around the world (Poorna et al., 2014; Ganesan, 2016). The “First to File” system favors the first to file a patent, so without proper documentation, undocumented traditional knowledge can be more vulnerable to patent claims by unauthorized parties. In this context, novelty and prior art are two key instruments that can be used to prevent abuse of the patent system against traditional knowledge. Novelty and prior art are two key instruments that are very important in preventing abuse of the patent system, especially in the context of protecting traditional knowledge.

Table 1. The Role of Novelty and Prior Art in Protecting Traditional Knowledge

Novelty	Prior Art
1. Novelty is a fundamental requirement for obtaining a patent. If an invention is not new, meaning it already existed or is already known to the public, then the invention cannot be patented 2. In the case of traditional knowledge, much of this knowledge has existed and been used for generations in a particular community. Since this knowledge is no longer	1. Prior art is any evidence that an invention was known before the patent filing date. This can be a publication, historical record, or other document that shows that knowledge or technology existed before. 2. In protecting traditional knowledge, prior art is very important because it can show that the knowledge already existed and was used before there was an

considered new, novelty is not met, so it cannot be patented by others	attempt to patent it.
3. A novelty test can reveal that the traditional knowledge existed before the patent application, so the patent claim can be rejected.	3. Good documentation of traditional knowledge as prior art ensures that the patent authority has sufficient evidence to reject invalid patent claims.

There are also mechanisms for protecting Traditional Knowledge from invalid patent claims; first, documentation and recognition. To be effective as a protection tool, Traditional Knowledge needs to be thoroughly documented and recognized as prior art (Cottier, 2004). For example, digital libraries such as the Traditional Knowledge Digital Library (TKDL) in India have been successful examples of this effort. Second, community involvement. Communities with traditional knowledge should be encouraged to participate in documenting and protecting their knowledge, and understand how the patent system works. By ensuring that Traditional Knowledge is documented as prior art and by applying the principle of novelty, the patent system can be used to protect Traditional Knowledge from invalid claims, prevent exploitation by outsiders, and ensure that this cultural heritage remains protected.

4. Conclusion

The filing date of the claim in the application is not the same as the main characteristics/features disclosed in the prior art. Prior art can invalidate the novelty of an invention if the prior art explicitly contains all the essential features of the invention claim. If there is one essential feature that is not disclosed in the prior art, then the invention is considered new. Information used as prior art is global, either written (patents, journals, magazines, etc.) or unwritten (exhibitions, demonstrations or other means) that allow someone to do it. Information that has been published (announced) can invalidate novelty. In the "first to file" patent system, the concepts of "novelty" and "prior art" play an important role in determining whether an invention is eligible for patenting. These two concepts are also very relevant in protecting traditional knowledge from invalid patent claims. If traditional knowledge already exists and has been known or used by a particular community before the patent filing date, then that knowledge does not meet the requirements for novelty. In other words, traditional knowledge cannot be patented as a new invention because it is already part of existing knowledge. So it can prevent other parties from claiming patents on existing traditional knowledge. Prior art is used to assess whether an invention is truly new. In the context of traditional knowledge, evidence that the knowledge or practice has existed and is widely used by the community can be considered prior art. This means that if traditional knowledge is already part of prior art, a patent claim on that knowledge will be considered invalid because it does not meet the requirements of novelty. In the First to File system, patent rights are granted to the first party to file a patent

application, not the first party to create the invention. This emphasizes the importance of filing a patent as soon as possible. In the context of protecting against invalid patent claims on traditional knowledge, it is important for communities or countries to document their traditional knowledge as prior art. With adequate documentation, it can be shown that the knowledge existed before any patent claims were filed by other parties. So it can protect traditional knowledge from invalid patent claims. Overall, the concept of novelty and prior art in the first to file system serves as a mechanism to ensure that traditional knowledge that has existed for a long time cannot be patented by unauthorized parties. With proper documentation and international recognition of prior art based on traditional knowledge, invalid patent claims can be prevented.

References

- Aguilar, G. (2001). Access to genetic resources and protection of traditional knowledge in the territories of indigenous peoples. *Environmental Science & Policy*, 4(4-5), 241-256. [https://doi.org/10.1016/S1462-9011\(01\)00028-4](https://doi.org/10.1016/S1462-9011(01)00028-4)
- Aikenhead, G. S., & Ogawa, M. (2007). Indigenous knowledge and science revisited. *Cultural Studies of Science Education*, 2(3), 539-620. <https://doi.org/10.1007/s11422-007-9067-8>
- Cottier, T. (2004). LEGAL PERSPECTIVES ON TRADITIONAL KNOWLEDGE: THE CASE FOR INTELLECTUAL PROPERTY PROTECTION. *Journal of International Economic Law*, 7(2), 371-399. <https://doi.org/10.1093/jiel/7.2.371>
- Cullet, P., Germann, C., Müller, A. N., & Pasadilla, G. (2006). Intellectual property rights, plant genetic resources and traditional knowledge. In *Rights to plant genetic resources and traditional knowledge: basic issues and perspectives* (pp. 112-154). CABI. <https://doi.org/10.1079/9780851990330.0112>
- Demunshi, Y., & Chugh, A. (2010). Role of traditional knowledge in marine bioprospecting. *Biodiversity and Conservation*, 19(11), 3015-3033. <https://doi.org/10.1007/s10531-010-9879-9>
- Disemadi, H. S., & Sudirman, L. (2023). Unleashing Indonesia's Traditional Knowledge: Navigating Legal Challenges in a Changing Landscape. *Al-Risalah: Forum Kajian Hukum Dan Sosial Kemasyarakatan*, 23(1), 33-46. <https://doi.org/10.30631/alrisalah.v23i1.1334>
- Edington, J. (2017). *Indigenous Environmental Knowledge*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-62491-4>
- Elansary, H. O., Mahmoud, E. A., Shokralla, S., & Yessoufou, K. (2015). Diversity of Plants, Traditional Knowledge, and Practices in Local Cosmetics: A Case Study from Alexandria, Egypt. *Economic Botany*, 69(2), 114-126. <https://doi.org/10.1007/s12231-015-9308-9>
- Ganesan, D. (2016). Sui generis is the answer: positive protection of traditional knowledge in India. *Journal of Intellectual Property Law & Practice*, 11(1), 49-55. <https://doi.org/10.1093/jiplp/jpv215>
- George, G., McGahan, A. M., & Prabhu, J. (2012). Innovation for Inclusive Growth: Towards a Theoretical Framework and a Research Agenda. *Journal of Management Studies*, 49(4), 661-683. <https://doi.org/10.1111/j.1467-6486.2012.01048.x>
- He, Y., & Luo, J. (2017). The novelty 'sweet spot' of invention. *Design Science*, 3, e21. <https://doi.org/10.1017/dsj.2017.23>
- Herrera, M. E. B. (2016). Innovation for impact: Business innovation for inclusive growth. *Journal of Business Research*, 69(5), 1725-1730. <https://doi.org/10.1016/j.jbusres.2015.10.045>
- Hossain, K., & Ballardini, R. M. (2021). Protecting Indigenous Traditional Knowledge Through a Holistic Principle-Based Approach. *Nordic Journal of Human Rights*, 39(1), 51-72. <https://doi.org/10.1080/18918131.2021.1947449>

- Indriati, E. D., Ana, S., & Nugroho, N. (2022). Philosophy Of Law And The Development Of Law As A Normative Legal Science. *International Journal of Educational Research & Social Sciences*, 3(1), 425–432. <https://doi.org/10.51601/ijersc.v3i1.293>
- Irawan, C. (2017). Protection of traditional knowledge: A perspective on Intellectual Property Law in Indonesia. *The Journal of World Intellectual Property*, 20(1–2), 57–67. <https://doi.org/10.1111/jwip.12073>
- Kementerian Luar Negeri Republik Indonesia. (2024). *World Adopts International Treaty for the Protection of Intellectual Property, Genetic Resources and Traditional Knowledge*. Kemlu.Go.Id. <https://kemlu.go.id/portal/en/read/5942/berita/world-adopts-international-treaty-for-the-protection-of-intellectual-property-genetic-resources-and-traditional-knowledge>
- Kurnilasari, D. T., Yahanan, A., & Rahim, R. A. (2018). Indonesia's Traditional Knowledge Documentation in Intellectual Property Rights' Perspective. *Sriwijaya Law Review*, 2(1), 110. <https://doi.org/10.28946/slrev.Vol2.Iss1.114.pp110-130>
- Maydawati, C. D., Kusumadara, A., & Widhiyanti, H. N. (2023). Legal Protection of Indonesian Traditional Foods from the Perspective of Geographical Indications. *International Journal of Social Science Research and Review*, 6(3 SE-Main Articles). <https://doi.org/10.47814/ijssrr.v6i3.1086>
- Mgbeoji, I. (2001). 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), 163–186. <http://www.jstor.org/stable/20643824>
- Mulalap, C. Y., Frere, T., Huffer, E., Hviding, E., Paul, K., Smith, A., & Vierros, M. K. (2020). Traditional knowledge and the BBNJ instrument. *Marine Policy*, 122, 104103. <https://doi.org/10.1016/j.marpol.2020.104103>
- Negara, T. A. S. (2023). Normative Legal Research in Indonesia: Its Originis and Approaches. *Audito Comparative Law Journal (ACLJ)*, 4(1), 1–9. <https://doi.org/10.22219/aclj.v4i1.24855>
- Okediji, R. L. (2022). Is the Public Domain Just?: Biblical Stewardship and Legal Protection For Traditional Knowledge Assets. *The Columbia Journal of Law & the Arts*, 45(4). <https://doi.org/10.52214/jla.v45i4.10076>
- OseiTutu, J. J. (2011). A Sui Generis Regime For Traditional Knowledge: The Cultural Divide In Intellectual Property Law. *Marquette Intellectual Property Law Review*, 15(1), 147–216. <https://scholarship.law.marquette.edu/iplr/vol15/iss1/3/>
- Poorna, R. L., Mymoon, M., & Hariharan, A. (2014). Preservation and protection of traditional knowledge – diverse documentation initiatives across the globe. *Current Science*, 107(8), 1240–1246. <http://www.jstor.org/stable/24107164>
- Purwandoko, P. H., Sulistiyono, A., & Hawin, M. (2021). The Implementation of the Traditional Cultural Expression (TCE) Protection in Indonesia Based on Article 38 Law Number 28 of 2014 regarding Copyright. *Indonesian Journal of International Law*, 18(4), 543–570. <https://doi.org/10.17304/ijil.vol18.4.823>
- Reddy, G. P., Ali, S. Z., & Kumar, P. (2015). Traditional knowledge and sustainable agriculture: the strategy to cope with climate change. *Envisioning a Future without Food Waste and Food Poverty*, 109–118. https://doi.org/10.3920/978-90-8686-820-9_12
- Selin, H. (Ed.). (2003). *Nature Across Cultures* (Vol. 4). Springer Netherlands. <https://doi.org/10.1007/978-94-017-0149-5>
- Shawoo, Z., & Thornton, T. F. (2019). The UN local communities and Indigenous peoples' platform: A traditional ecological knowledge-based evaluation. *WIREs Climate Change*, 10(3). <https://doi.org/10.1002/wcc.575>
- Silverman, H., & Ruggles, D. F. (2007). Cultural Heritage and Human Rights. In *Cultural Heritage and Human Rights* (pp. 3–29). Springer New York. https://doi.org/10.1007/978-0-387-71313-7_1
- Subagiyo, D. T., Wibisono, H., & Ningrum, L. (2023). An Overview of Legal Measures to Prevent and

- Protect Unreasonably the Use of Traditional Medicine in Indonesia. *Journal of Law and Sustainable Development*, 11(11), e1782. <https://doi.org/10.55908/sdgs.v11i11.1782>
- Surono, I. S. (2016). Ethnic Fermented Foods and Beverages of Indonesia. In *Ethnic Fermented Foods and Alcoholic Beverages of Asia* (pp. 341–382). Springer India. https://doi.org/10.1007/978-81-322-2800-4_14
- Syahputra, H. (2019). Indigenous knowledge representation in mitigation process: a study of communities' understandings of natural disasters in Aceh Province, Indonesia. *Collection and Curation*, 38(4), 94–102. <https://doi.org/10.1108/CC-11-2017-0046>
- Van Der Burg, W. (2019). The Merits of Law: An Argumentative Framework for Evaluative Judgements and Normative Recommendations in Legal Research. *ARSP: Archiv Für Rechts- Und Sozialphilosophie / Archives for Philosophy of Law and Social Philosophy*, 105(1), 11–43. <http://www.jstor.org/stable/45175347>
- Verhoeven, D., Bakker, J., & Veugelers, R. (2016). Measuring technological novelty with patent-based indicators. *Research Policy*, 45(3), 707–723. <https://doi.org/10.1016/j.respol.2015.11.010>
- Webb, R. I. (2003). P Roperty R Ights and E Xchange I Ntellectual P Roperty. *Online*, 23(9), 891–913. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1397367
- Williams, T., & Hardison, P. (2013). Culture, law, risk and governance: contexts of traditional knowledge in climate change adaptation. In *Climate Change and Indigenous Peoples in the United States* (pp. 23–36). Springer International Publishing. https://doi.org/10.1007/978-3-319-05266-3_3
- Yu, P. (2003). Traditional knowledge, intellectual property, and Indigenous culture: An introduction. *Cardozo Journal of International and Comparative Law*, 11, 239. <https://scholarship.law.tamu.edu/facscholar/558/%0Ahttps://scholarship.law.tamu.edu/cgi/viewcontent.cgi?article=1557&context=facscholar>
- Yulia, Y. (2021). THE PROTECTION OF TRADITIONAL KNOWLEDGE UNDER INDONESIAN PATENT LAW: BETWEEN OPPORTUNITIES AND CHALLENGES. *Indonesian Journal of International Law*, 18(3). <https://doi.org/10.17304/ijil.vol18.3.815>
- Ziker, J. P., Rasmussen, J., & Nolin, D. A. (2016). Indigenous Siberians solve collective action problems through sharing and traditional knowledge. *Sustainability Science*, 11(1), 45–55. <https://doi.org/10.1007/s11625-015-0293-9>
- Zumbansen, P. (2012). Defining the Space of Transnational Law: Legal Theory, Global Governance and Legal Pluralism. In *Beyond Territoriality* (pp. 53–86). Brill | Nijhoff. https://doi.org/10.1163/9789004227095_005