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Alternative Dispute Resolution in Genetic Resources and Traditional Knowledge: Settlement at the World Intellectual Property Arbitration and Mediation Center

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The growing importance of biological resources as sovereign rights to healthcare, energy, and food has sparked international discussions on Genetic Resources (GRs) and Traditional Knowledge (TK). As the bio-industry continues to grow, research and development utilizing patented biological resources are advocated. Currently, World Intellectual Property Organization (WIPO) is actively discussing GRs and TK, and an effective response to national interest has been sought. Of late, there have been growing disputes over issues like ownership, control, and access and benefit-sharing between indigenous peoples and users of GRs and TK resources. Resolution of disputes concerning GRs and TK are thus becoming critical not only to stakeholders such as the indigenous peoples and corporations, but also to third-party users. Due to the weakness of the current IP and court system however, such disputes are not addressed adequately. This paper will address the use of Alternative Dispute Resolution (ADR), which is an out-of-court dispute resolution system, on conflicting issues regarding GRs and TK. It will consider the WIPO as a forum for ADR and ADR for GRs and TK disputes and it will seek both parties in the dispute to benefit from the use of the ADR process.

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Key Words : Genetic Resources (GRs), Traditional Knowledge (TK), World Intellectual Property Organization (WIPO), Access and Benefit-sharing (ABS), indigenous peoples, Convention on Biodiversity (CBD), Nagoya Protocol, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge, and Folklore (IGC), mediation, conciliation, arbitration, Alternative Dispute Resolution (ADR), World Trade Organization (WTO)

〈 Contents 〉

Ⅰ. Introduction

With the recent development of new technologies due to the rise of the Fourth Industrial Revolution, Intellectual Property (IP) is becoming increasingly influential.[1] As a result, the importance of IP in national competitiveness is being emphasized to such an extent that securing IP is perceived as a marker of viability for a nation's future. As per this trend, major countries around the world are making efforts to build an international cooperation system based on IP in order to enhance the competitiveness of companies and further revitalize industrial economy in their own countries.

The growing importance of biological resources as sovereign rights to healthcare, energy, and food has sparked international discussions on Genetic Resources (GRs) and Traditional Knowledge (TK). As the bio-industry continues to grow, research and development utilizing patented biological resources are advocated, giving rise to a need for stable preservation of patented biological resources. Currently, World

1) The Fourth Industrial Revolution is characterized by a fusion of technologies blurring the lines between physical, digital, and biological worlds (WEF, 2016). Almost all of the innovation listed in MIT Breakthrough Technologies from 2010 combine expertise and tools from multiple disciplines and domains, The average researcher today has access to more scientific research resources and powerful open-platform processing tools than ever before, which leads to more cross-disciplinary collaborations and innovations (Ruan, Keyun, Digital Asset Valuation and Cyber Risk Measurement: Principles of Cybernomics (Academic Press, 2019).

Intellectual Property Organization (WIPO) is actively discussing GRs and TK, and an effective response to national interest has been sought.

Of late, there have been growing disputes over issues like ownership, control, and access and benefit-sharing between indigenous peoples and users of GRs and TK resources. Disputes over GRs and TK are complex, and these disputes are often cross-jurisdictional and can involve legal components combining non-legal elements of a commercial, ethical, cultural, religious, spiritual, and moral nature. Resolution of disputes concerning GRs and TK are thus becoming critical not only to stakeholders such as the indigenous peoples and corporations, but also to third-party users. Due to the weakness of the current IP and court system, however, such disputes are not addressed adequately.

This paper will address the use of Alternative Dispute Resolution (ADR), which is an out-of-court dispute resolution system, on conflicting issues regarding GRs and TK. The general background of GRs and TK is discussed, followed by a review of disputes in GRs and TK and the scope of ADR for GRs and TK conflicts. It will consider the WIPO as a forum for ADR and ADR for GRs and TK disputes and it will seek both parties in the dispute to benefit from use of the ADR process.

Ⅱ. General Background of Genetic Resources (GRs) and Traditional Knowledge (TK)

1. Overview of Genetic Resources and Traditional Knowledge

Genetic Resources (GRs) are generally a wide range of life-industrial resources that are found in all living organisms (such as microorganisms, animals, plants) and DNA, genomes, etc. in nature, and in a sense, can be defined as the basic material of nature. Traditional Knowledge (TK) is the collective term used to define industrial, artistic, or literary outcomes derived from tradition-based intellectual activities. Folk therapies performed in various mountainous regions, patterns of Indian murals, indigenous African music, oriental medicine such as acupuncture, etc., can all be classified as examples of TK.

Recently, disputes between indigenous peoples and users of TK resources over

ownership and control, access, and benefit-sharing, etc., have steadily increased.[2] Since GRs and TK disputes may involve numerous stakeholders, such as states, non-governmental organizations, corporations, indigenous communities, and individuals, various issues may arise in settling these disputes within the existing legal system. Case studies have illustrated if these issues are well-exercised in litigation under the prevailing court system.[3]

2. Genetic Resources and Traditional Knowledge in the Nagoya Protocol

The Convention on Biodiversity (CBD)[4] and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (Nagoya Protocol)[5] do not provide a clear definition of TK associated with GR. However, Article 2 of the CBD defines GRs as "genetic materials of actual or potential values," and Article 8 (j) states that "each contracting party shall, as far as possible and as appropriate subject to national legislation, respect, preserve and maintain knowledge, innovations and

2) Anderson, Jane E. On Resolution, Intellectual Property and Indigenous Knowledge Disputes Prologue, 2(1) Landscapes of Violence, 7 (2012).

3) Theurich, Sarah, Alternative Dispute Resolution in Art and Cultural Heritage - Explored in the Context of the World Intellectual Property Organization's Work, in KULTURGÜTERSCHUTZ – KUNSTRECHT – KULTURRECHT: FESTSCHRIFT FÜR KURT SIEHR, 569, 574 (Kersten Odendahl and Peter J. Weber eds., 2010).

4) The Convention on Biological Diversity (CBD) is an international legally binding treaty with three main goals: the (1) conservation of biodiversity, (2) sustainable use of the components of biodiversity, and (3) equitable sharing of the benefits derived from the use of genetic resources. The CBD is one of the multilateral agreements hosted by the United Nations Environment Programme (UNEP). The Convention was opened for signature at the United Nations Conference on Environment and Development—known as the Rio Earth Summit—in 1992 and entered into force in December 1993. As of 2018, 196 countries—indeed, almost the entire world—have ratified the CBD (See Kageyama, Mariko, Bio-Property Contracts in a New Ecosystem: Genetic Resources Access and Benefit Sharing, 13 Wash. J.L. Tech. & Arts, 109, 112 (2018)).

5) The Nagoya Protocol, a supplementary agreement to the CBD. The Nagoya Protocol was adopted by the Conference of the Parties of the Convention at its tenth meeting in October 2010 in Nagoya, Japan. It was opened for signature in 2011-2012 and was entered into force in October 2014 pursuant to Article 33. As of April 2018, 105 countries—just over half of the 196 Parties to the CBD—have domesticated the instrument to become Parties to the Nagoya Protocol(See Kageyama, Mariko, supra note 4 at 112-113).

practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations, and practices and encourage the equitable sharing of benefits arising from the utilization of such knowledge innovations and practices." Some of the definitions of GRs and TK can thus be inferred from provisions, but are not enough to clarify such concepts.

3. Genetic Resources and Traditional Knowledge in the World Intellectual Property Organization

The discussion on Intellectual Property Rights surrounding GRs and TK[6] in the World Intellectual Property Organization (WIPO) is intended to incorporate into the IP system effective measures designed to support the purposes, principles, and obligations stipulated in the CBD and Nagoya Protocol concerning the protection of biological resources.[7] The definitions of GRs and TK in the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge, and Folklore (IGC) discussion are reported below.[8][9]

In the WIPO IGC, GRs follow the definition in the CBD and are described as a part of a reproducible biological material of actual or potential value among genetic

6) Developing countries first requested that WIPO start discussions on intellectual property and GRs and TK in 1999 in the Standing Committee on the Law on Patents (SCP).

7) Gordon, Veronica, Appropriation Without Representation? The Limited Role of Indigenous Groups in WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge, and Folklore, 16 Vand. J. Ent. & Tech,. 629, 635 (2014).

8) Kwak, Choong Mok, A Study on Analysis of Key IP issues related to International Organization and Countermeasures Strategies, 140-142 (Korea Institute of Intellectual Property, 2017).

9) In 2000 a compromise reached to create a timelimited body to discuss IP issues that arise in the context of (i) access to GRs and the sharing of benefits; (ii) the protection of TK, whether or not associated with those resources; and (iii) the protection of expressions of folklore (similarly referred to as TCEs). The focus of WIPO discussions would be the IP linkages that are not dealt with in other international for a. An intergovernmental committee – the IGC- was established with a two-year mandate to identify the problems and solutions. The IGC is accountable to the General Assembly -the highest Member state body in WIPO-, for its work. Since 2000, the IGC has met regularly and its mandate renewed or enhanced every two years (See Tellez, Viviana Muñoz, The WIPO Negotiations on IP, Genetic Resources and Traditional Knowledge: Can It Deliver? South Centre POLICY BRIEF No. 22, 7, (September 2015)).

materials of plant, animal, microbial, or other origin containing functional units of heredity. This includes plant, animal, or microbial origin materials such as medicinal plants, agricultural crops, and animal varieties. GRs as objects of access and profit sharing cannot be regarded as creations of human beings, and therefore cannot be protected by IPR as themselves.[10] However, in the IGC discussion, inventions developed using GRs or related TK may be subject to patents or protected by rights of holders.

On the other hand, TK is a collective term for outcomes of industries, arts, and culture that are derived from intellectual-based activities inherited from the past. The components of TK are broadly understood as knowledge of traditional medicines, traditional treatments, food, agriculture, environment, and traditional literature, music, and art. However, in the IGC discussion, the meaning of TK was narrowed down by separating Traditional Cultural Expressions (TCEs) from TK. Since TK is a lack of novelty, it is distinguished from existing IPR; moreover, knowledge itself is unstructured and most TCEs are undocumented. TK is closely related to GRs, seed rights protection, CBD, etc., and protection of its rights are discussed in WIPO.[11][12]

Ⅲ. Disputes on Genetic Resources (GRs) and Traditional Knowledge (TK)

1. The case of Amazon Ayahuasca vine

In 1986, Loren Miller who was an American scientist and enterpriser acquired a US patent for a substance called Banisteriopsis, which comes from the vine of the Ayahuasca plant. Ayahuasca grows naturally in the Amazon rainforest and has been

10) WIPO, Genetic Resources, available at 〈https://www.wipo.int/tk/en/genetic/〉.

11) WIPO, Traditional Knowledge, available at 〈https://www.wipo.int/tk/en/tk/〉.

12) This paper considers traditional knowledge (TK) as a broad category, despite the many distinctions between traditional knowledge (TK) and traditional cultural expression (TCEs) Such grouping is not inconsistent with the concept of TK and TCEs, and some early documents from the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) have even defined TCEs as a subset of TK (OseiTutu, J. Janewa, A Sui Generis Regime For Traditional Knowledge: The Cultural Divide in Intellectual Property Law, 15 Marq. Intell. Prop. L. Rev., 147, 151 (2011)).

used by therapists and spiritual leaders for centuries across regions of the Amazon. For years, Shamans used Ayahuasca to cure diseases, welcome gods, and predict the future. Many indigenous people of the Amazon regarded the plant as a holy religious symbol. After several years, native leaders discovered Miller's patent and were furious about the fact that an outsider had acquired a patent for the same plant they had used and worshipped for hundreds of years.

Antonio Jacanamijoy, leader of a council representing over 400 South American natives and groups said, "Our ancestors learned the knowledge of this medicine and we are the owners of this knowledge." In 1999, the council requested a withdrawal of the patent, and United States Patent and Trademark Office (USPTO) withdrew the Ayahuasca patent on grounds that lack of novelty and wildness could be applied and this plant that was sacred to natives, and it could not be considered private property. However, in 2001, the patent was revived by Miller's request for a retrial and consecutive judgments. This patent dispute caused significant hostility between the US and Ecuador, which led the National Assembly of the Ecuador to discontinue the conclusion of an agreement of IPRs between the two.[13)]

2. The case of Zimbabwean Swatzia madagascariensis

A patent on antimicrobial diterpenes was granted to a professor at the University of Lausanne. The patented invention relied on TK found in Zimbabwe and on the root of the tree called Swartzia madagascariensis, found throughout tropical Africa. In April 1997, an addendum to a material transfer and confidentiality agreement signed between an American pharmaceutical company Phytera and the University of Lausanne, under which Phytera received an option for an exclusive worldwide licence and in return agreed to pay royalties of 1.5 percent on the net sales of any product marketed under this licence. Professor Hostettmann, on the other hand, is obliged to give 50 percent of any royalties received to the National Herbarium and the Botanical Garden of Zimbabwe and to the Department of Pharmacy at the University of Zimbabwe. However, the agreement does not specify to re-negotiate of benefit-sharing in case the

13) Fecteau, Leanne M., The Ayahuasca Patent Revocation: Raising Questions About Current U.S. Patent Policy, 21 Boston College Third World Law Journal, 69, 70 (2001).

substances are commercialized. Furthermore, relevant regulation of the Zimbabwean states that access to GRs states that user of GRs shall be subject to prior informed consent (PIC) of the contracting party providing such resource. However, neither the Ministry of Environment in Zimbabwe, nor the traditional healers have been a party to this contract nor have they given their PIC to control the access to GRs,[14)]

3. The case of Peruvian Maca (Lepidium meyenii)

Maca is a root vegetable that originated in Peru and grows at an altitude of above 4,000 meters. Maca has been used as a Peruvian traditional medicine for centuries—often regarded as the ginseng of the Andes or natural Viagra—for its sexual function benefits and effectiveness with insomnia, among others. In 1999, Pure World Botanicals Inc. applied for an American patent on Maca and was registered in 2001 (US 6,267,995). In retaliation, Peru's National Anti-Biopiracy Commission started a movement stating that it was an act of biopiracy and argued a lack of novelty among requirements of patentability. Subsequently, in the case of developing medicines by taking genetic resources of tradition abroad, legal regulation was legislated to share benefits with fixed rates between the Peruvian government and indigenous communities.

Maca has been cultivated for hundreds of years on the plateaus of Junin and Pasco, which are found at altitudes of 4,000 meters in the Andes of Peru. Maca is cultivated in limited climatic conditions as it requires an environment of low temperature and strong alpine winds. It is known to be helpful in fatigue recovery, overall health promotion, and especially for treating sterility, lending it the title of Peruvian ginseng. During the Spanish colonial era, Maca held economic value and was even used against tax payment.[15)] As the efficacy of Maca is well-known, US company Pure World Botanicals Inc. collected and analyzed its components through field investigation, and then applied for the patent regarding the use of its extract and process of manufacture. The company applied for the patent and tried to register it in America in 1999, and finally, an international patent application by Patent Cooperation Treaty (PCT) was granted to the public in 2000. Currently, the nutritional benefits of Maca have been identified and

14) Raghavan, Chakravarthi, Bio-piracy in Zimbabwe, patenting by Swiss university denounced, Third World Network (April 26, 2001), available at 〈https://www.twn.my/title/denounced.htm〉.

15) WIPO IGC, Patent Referring to LEPIDIUM MEYENII (MACA): Responses of Peru, WIPO/GRTKF/IC/5/13.

it is sold widely in US, Europe, Japan, and Venezuela as a natural health product.

Since 2002, several Peruvian organizations have organized practical groups for research and planned countermeasures claiming that the US Maca patent violates the right to Traditional Holding Knowledge of Peruvian natives. A major concern regarding Maca is that its commercialization and exportation due to the patent might negatively affect existing Maca producers in Peru. Following discussions and research, Peru passed a law on May 1, 2004, with an aim to "Protecting Access to Peruvian Biological Diversity and the Collective Knowledge of Indigenous Peoples" in the council.[16] According to the law, "Biopiracy means unauthorized and non-remunerated access to and use of biological resources or collective knowledge of indigenous peoples by others, without the relevant authorization and in contravention of the principles established in the Convention on Biological Diversity." Simultaneously, Peru formed the National Anti-Biopiracy Commission (NAC), a body that maintains records of biological resources and traditional knowledge in order to protect the interest of Peruvians, and develops solutions to investigate and prevent biopiracy by supporting formal objections in case of violations. With the help of scientists and Maca exporters, the NAC and other practical groups prepared evidence of Maca's patent invalidity with a collection of documents on the use of Maca prior to application of the patent. The Peruvian National Institute for the Defense of Competition and Protection of Intellectual Property (INDECOPI) has continually negotiated expenses and supported the local community against corporations holding the patent, but alas, a settlement is yet to be reached. Pure World Botanicals Inc. suggested providing their patent license at no cost to the Peruvian corporations in the response to the Peruvian appeal; however, it still retains the patent.[17]

4. Types of Genetic Resources and Traditional Knowledge Disputes

In order to analyze the cases of GRs and TK disputes, these disputes have been

16) WIPO, Law No. 28216 on the Protection of Access to Peruvian Biological Diversity and the Collective Knowledge of Indigenous Peoples (2004).

17) Takushi, Sarah, Biological Prospectors, Pirates, Pioneers, and Punks in the Andes Mountains: An examination of scientific practice in the Andean Community of Nations (Illinois Wesleyan University Honors Project, 2013), 29-34.

investigated on grounds of right, registration, and benefit-sharing of GRs and TK. TK that is narrowly defined includes cases of using a nation/region's TK by ill or good will, or registered IP rights such as patents even if it is the TK of a certain nation or region. In this case, a proof of the fact that it is the TK of a certain nation or region as a provider is the issue.

In case of non-commercial use of the TK regarding GRs, special problems do not arise as long as both parties have consulted and agreed on use for research and investigation of non-commercial aspects with limitation. Consultation and agreement thus play an important role between both parties. In the event of commercial use, the main grounds for a case is use without permission or consent of the provider. Namely, the TK regarding GRs arises in cases of commercial use of natural substances extracted from certain substances of certain nations or regions, so naturally, parts of the profit should be returned to the originating nation or region. However, this profit is seldom distributed, leading to consequent disputes. In this case, proof of the fact that it is TK regarding GRs of a certain nation or region is an issue.

Ⅳ. Alternative Dispute Resolution(ADR) for Genetic Resources(GRs) and Traditional Knowledge(TK) Disputes

1. Overview of Genetic Resources and Traditional Knowledge Dispute Resolution

As discussed in the previous section, disputes involving GRs and TK have been arising due to their growing economic value. In such a dispute, it would be important to take into account concerns of both IP rights holders and relevant GRs and TK-related communities with fairness and equity. Due to the weakness of current IP laws and the court system, such disputes are not addressed adequately.[18)]

Article 5 of the Nagoya Protocol explains that profits resulting from the utilization of GRs should be shared in a fair and balanced manner with providers of GRs. Article 27 of CBD stated that the resolution of disputes concerning the interpretation or

18) See OseiTutu, J. Janewa, supra note at 212.

application of the convention can be conducted with the council. If the council fails to reach an agreement, parties may seek the services of a third-party in term. If they still fail to reach an agreement despite third party intervention, the dispute shall then be resolved by ADR or through international IP dispute resolution tribunals or courts.[19)]

2. Features of Alternative Dispute Resolution

Disputes relating to GRs and TK are complex, spanning a wide range of highly-specific subject matter. These disputes are often cross-jurisdictional and can involve legal components and combine non-legal elements of a commercial, ethical, cultural, religious, spiritual, and moral nature.[20)] Different national court proceedings may need to be undertaken in multiple jurisdictions concerning GRs and TK disputes. The process may be expensive and timely, and there may also be a perceived jurisdictional bias, potential conflict of laws, inexperienced judges or juries, as well as the risk of conflicting outcomes where legislation is not fully harmonized.[21)]

ADR is an out-of-court dispute resolution system that has many outstanding advantages, such as the speed of proceedings, matters of cost, privacy, and neutrality of forum allowing parties to settle dispute in a more flexible, time and cost efficient way. ADR gives parties more control over the process, including the possibility to select relevant experts as independent decision-makers. Technically oriented cases have a substantial incentive to choose ADR. [22)]

In contrast to court litigation, ADRs are generally consensual, in that they can be initiated only if all parties agree to resolve disputes within this system. Such consent can be agreed on in advance by including an ADR clause into a contract for possible future disputes. Such advantages have made ADR a preferable method for dispute resolution, and parties can consider using ADR instead of court proceedings in various commercial matters.

As ADR provides a singular dispute resolution process agreed upon and consented

19) Adlhiyati, Zakki et al., The Model of Biopiracy Dispute Settlement in the Framework of Protecting Traditional Knowledge, 16(1) Jurnal Dinamika 17, 18 (2016).
20) See Anderson, Jane E. supra note 2 at 7.
21) See Theurich, Sarah, supra note 3 at 576.
22) See Anderson, Jane E. supra note 2 at 7.

by parties, and since the proceedings can be neutral, it has become particularly practical for resolving complex disputes. IP disputes include multiple parties' interests, and a court-granted judgment, which is generally in favor of one party and would thus not be the right solution.[23] Further, IP cases often involve highly-technical, complicated issues and, hence, parties would feel more comfortable with the ability to choose decision-makers who could help them formulate appropriate resolution to cases instead of using court litigation. In this manner, ADR is particularly useful for IP dispute settlements, as it is flexible, confidential, and helps parties adopt sustainable and interest-based solutions.[24]

Key methods of ADR are negotiation, mediation, arbitration and combined method. There may be some differences between the methods, all of the ADR methods provide flexible processes that aim to enhance the understanding of the parties' interests.[25]

(1) Mediation/Conciliation

Mediation or conciliation is a non-binding informal procedure, whereby parties voluntarily submit a dispute for settlement, and may themselves determine the structure and conditions to resolve the dispute. Mediation or conciliation cannot be forced to accept an outcome of resolution. It remains a confidential process, and parties can withdraw from the procedure at any point. A neutral intermediary, the mediator or conciliator is a neutral third party who assists parties in engaging and identifying their underlying interests in disputes, such as causes of disagreements and possible resolutions. However, the mediator or conciliator cannot impose settlement or remedy. [26]

Mediation allows preservation of party relationships, private dispute resolutions, and speedy settlements without damage to reputations by consideration of sensitive

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23) Ristanić, Aleksandar, Alternative Dispute Resolution And Indigenous Peoples: Intellectual Property Disputes in the Context of Traditional Knowledge, Traditional Cultural Expressions and Genetic resources, (Lund University, April 2015), available at 〈https://www.law.lu.se/webuk.nsf/%28MenuItemById%29/JAMR32exam/$FILE/Alternative%20Dispute%20Resolution%20and%20Indigenous%20Peoples.%20Intellectual%20Property%20Disputes%20in%20the%20Context%20of%20Traditional%20Knowledg.pdf〉.

24) Blackman, Scott H. et al., Alternative Dispute Resolution in Commercial Property Disputes, 47 Am. U. L. Rev. 1709, 1716 (1997-1998).

25) Anderson, Jane E. (2015) WIPO Background Brief 8: Alternative Dispute Resolution for Disputes Related to Intellectual Property and Traditional Knowledge, Traditional Cultural Expressions and Genetic Resources, Geneva, Switzerland: World Intellectual Property Organization.

26) See Anderson, Jane E. supra note 25.

information and non-legal issues. Parties to contracts or relationships involving exploitation of intellectual property often share these goals when a dispute arises. Common examples of such contracts include patent, know-how and trademark licenses, franchises, computer contracts, multimedia contracts, distribution contracts, joint ventures, research and development contracts, technology-sensitive employment contracts, mergers and acquisitions where intellectual property assets assume importance, sports marketing agreements, and publishing, music and film contracts. [27)]

(2) Arbitration

Many IP disputes involve parties from different countries. In such cases, court litigations may involve several procedures in different jurisdictions, and parties can agree to accept arbitration so that they can resolve their disputes under a single law and in a single forum determined themselves. Hence, arbitration can be neutral to the law, language, and institutional culture of parties, and thereby avoid the complexity of multi-jurisdictional proceedings.

Parties can choose arbitrators by agreement and their disputes can be submitted to arbitrators. These arbitrators have special expertise in legal, technical, or business areas relevant to the resolution of their disputes. Although arbitration shares several principles with mediation, it is a more formal process. Arbitration functions like a court where arbitrators can make final and binding decisions, and parties cannot unilaterally withdraw from the process once disputes have been submitted to arbitrators.[28)]

The Convention for the Recognition and Enforcement of Foreign Arbitral Awards of 1958, known as the New York Convention, provides for recognition of awards at par with domestic court judgments without reviewing merits. This greatly facilitates the enforcement of awards across borders. Further, arbitration allows parties to choose an appropriate arbitrator, and for the process to be completely confidential.[29)]

In sum, advantages of arbitration are manifold. They offer a single proceeding under the law determined by the parties; the arbitral procedure and nationality of arbitrator

27) WIPO, Why Refer Intellectual Property Disputes to Mediation?, available at 〈http://www.wipo.int/amc/en/mediation/why-mediation.html〉.

28) See Anderson, Jane E. supra note 25.

29) WIPO Arbitration and Mediation Center, Guide to WIPO Arbitration, available at 〈http://www.wipo.int/edocs/pubdocs/en/arbitration/919/wipo_pub_919.pdf〉.

can be neutral to the law, language, and institutional culture of parties; parties can select an arbitrator(s) with relevant expertise; arbitrator(s) and parties can shorten the procedure; limited appeal options; proceedings and awards are confidential.[30]

(3) Combined Methods

When using the ADR procedure to resolve disputes, parties may combine arbitration with mediation or vice-versa. Success rates for conflict resolution using mediation and conciliation are very high, especially when the two methods are combined. WIPO's mediation rules cover mediation and conciliation as well as links to arbitration, allowing for combined processes in appropriate cases and special rules.[31]

The most frequently used WIPO clause is providing for "mediation, followed in the absence of a settlement by (expedited) arbitration." It has the advantage of giving parties the opportunity to settle their cases in a more informal forum before moving on to arbitration.[32]

According to WIPO's Arbitration and Mediation Center, based on over 220 cases in recent years, its mediations have a 73% settlement rate and its arbitrations have a 58% settlement rate. Of the 27% of mediations that did not settle in mediation, several went on to settle in arbitration before an award was granted. Combining these statistics, using mediation followed by arbitration can generate an 89% settlement rate.[33]

3. International Institution as an alternative to Dispute Settlement

A recent trend of international tribunals has been emerging due to the tendency of vast numbers of cases being settled through an international judicial system. International courts include World Trade Organization (WTO), Permanent Court of International Justice (PCIJ), the International Court of Justice (ICJ), the International

30) Id.

31) Lack, Jeremy, The growing need for ADR in IP disputes, Intellectual Property Magazine, 22, (December, 2010).

32) WIPO, Trends in WIPO mediation and arbitration, available at 〈https://www.wipo.int/wipo_magazine/en/2009/03/article_0008.html〉.

33) See Lack, Jeremy, supra note 31 at 22.

Criminal Court (ICC), and The International Tribunal for the Law of The Sea (UNCLOS), etc.[34]

Further, IP disputes can be settled through international arbitration and mediation centers. The relevant ADR institutions include the WIPO Arbitration and Mediation Center (AMC), the American Arbitration Association (AAA), the International Center for the Settlement of Investment Disputes (ICSID), the International Chamber of Commerce (ICC) the Court of Arbitration, the London Court of International Arbitration (LCIA), and the Stockholm Chamber of Commerce (SCC).[35]

(1) World Trade Organization (WTO)

Related to IP disputes in the international sphere, the WTO has a special body authorized to resolve disputes, that is, the Dispute Settlement Body (DSB), which includes panels and an appellate body to determine claims brought under the dispute settlement provisions of the various WTO Agreements. DSB is a quasi-judicial institution that resolve disputes of the trade.[36]

Understanding on Rules and Procedures Governing the Settlement of Dispute (Dispute Settlement Understanding), which is in charge of WTO dispute resolution, is providing ADR as well. In Article 5 of the Dispute Settlement Understanding, good offices, conciliation, and mediation are procedures that are undertaken voluntarily if both disputing parties so agree.[37][38] In case of an unsatisfactory result of the negotiation between two parties, if there is a request from the lesser-developed country, the WTO Secretary General or President of the DSB must provide a procedure of good offices, conciliation or mediation. This is the purpose of supporting parties to

34) See Adlhiyati, Zakki et al., supra note 19 at 20.

35) Hiranras, Nilobon, The Intellectual Property and Alternative Legal Protection for Thai Cultural Heritage Properties, Traditional Knowledge and Products (Durham theses, Durham University, 2015), 328.

36) See Adlhiyati, Zakki et al., supra note 19 at 20.

37) Good offices, conciliation and mediation are procedure that are undertaken voluntarily if the parties to the dispute so agree.

38) Good offices generally support parties negotiate procedurally in an environment that is better for constructive discussions. For mediation, a third party is involved directly in the process of discussion and negotiation for the parties. For conciliation, a third party is able to suggest measures to resolve matters for the parties as well as participate in the process of discussion and negotiation of the parties, but parties are not obligated to accept suggestions. Especially, in cases where a lesser-developed country is a disputing party, the Dispute Settlement Understanding looks beyond good offices, conciliation and mediation.

resolve disputes before a formal panel process commences.[39]

(2) The International Court of Justice (ICJ)

The ICJ was established in 1945 and is the principal judicial organization of the UN. The court's role is to settle, in accordance with international law, legal disputes submitted to it by states and to give advisory opinions on legal questions referred to it by authorized UN and specialized agencies. An article allowing a party to bring an IP dispute to the ICJ is found in each convention/treaty; however, states prefer not to use the court for this purpose, as historically, they have been reluctant to embark on international adjudication, or IPRs involving subject matter that is too specialized for the ICJ. Moreover, the ICJ is unable to offer specific performance and lacks effective enforcement of its judgments.[40]

(3) The European Court of Justice (ECJ)

The ECJ is the judicial institution of the EU that examines the legality of EU measures and ensures the uniform interpretation and application of EU law. The ECJ works in conjunction with national courts in applying EU law. Cases are submitted to the court through a written stage followed by an oral stage (public hearing), in which advocate-generals may be required to provide their opinion on the case. The development of the ECJ's case-law illustrates the court's contribution in creating a for citizens by protecting the rights that EU legislation confers upon them. The ECJ has played a significant role in the development of European IP law by interpreting and reorganizing IPRs, including and TK, which is apparent based on the sheer number of its decisions on the matter.[41]

(4) International Center for the Settlement of Investment Disputes (ICSID)

The international arbitration decision is recognized and can be implemented, but the resolution should be conducted through ICSID as well as on the condition that the international arbitration decision imposed by the arbitrator or the Arbitration Tribunal

39) Article 24.2 of the Dispute Settlement Understanding.
40) See Hiranras, Nilobon, supra note 35 at 328.
41) See Hiranras, Nilobon, supra note 35 at 326.

in a country is bound by either a bilateral or multilateral agreement.[42)]

4. Advantages of ADR for Genetic Resources and Traditional Knowledge Dispute Settlement

As discussed previously in this section, ADR has many advantages for disputes involving GRs and TK. Such processes can settle the dispute in ways that recognize the different value systems of the parties.[43)]

ADRs serve as a potentially viable option for addressing disputes that arise, in relation to GRs and TK, between stakeholders over ownership and control, access, and benefit-sharing. The ADR process provides a single forum that allows parties to resolve international GRs and TK disputes in a neutral procedure which concerns multi-jurisdictions and has the advantage of avoiding potential conflicts of legal issues. Parties can choose the specific applicable law, language, and place of mediation or arbitration in the ADR process.

Further, in the ADR procedure, parties can choose mediators or arbitrators who possess the necessary expertise in the field of the GRs and TK and understand knowledge and cultural backgrounds of indigenous people and communities.

ADR procedure, and in particular mediation, provides a flexible forum, in which legal as well as sensitive non-legal issues may be considered. Additionally, for GRs and TK disputes that involve indigenous peoples and communities, ADR may be an ideal forum that allows the incorporation and consideration of customary laws in order to provideThe usefulness of ADR in this area has been recognized in the Nagoya Protocol from their utilization of CBD, which encourages mutually agreed terms (MAT) to include options for ADR.[44)]

Court litigation is a public process that generally ends with a winning and a losing party, which may not necessarily take into account all interests and issues at stake, and could ultimately be harmful to preserving relationships between parties.[45)] In contrast,

42) See Adlhiyati, Zakki et al., supra note 19 at 19.
43) See Anderson, Jane E. supra note 25.
44) See Hiranras, Nilobon, supra note 35 at 322.
45) Bandle, Anne Laure et al., Alternative Dispute Resolution and Art-Law – A New Research Project of the Geneva Art-Law Centre, Journal of International Commercial Law and Technology, Vol. 6,

the ADR procedure allows parties to adopt mutually satisfactory solutions and fair and balanced remedies that establish relationships between indigenous communities and institutions, and reduce animosity and misunderstandings. The ADR procedure ultimately adds value to potential products derived from GRs and TK.[46]

ADR mechanisms generally allow parties to keep all the information and outcomes from proceedings confidential. Confidentiality can help to preserve reputations, which may be important for both indigenous communities and companies engaged in the dispute[47]

Ⅴ. Conclusion

1. Consideration of World Intellectual Property Organization (WIPO) as a Forum for ADR

Disputes related to GRs and TK are often intricately interwoven with cultural values about knowledge, its circulation, and use. Article 40 of the United Nations Declaration on the Rights of Indigenous Peoples states: "Indigenous peoples have the right to access and prompt decision through just and fair procedures for the resolution of conflicts and disputes with States or other parties, as well as to effective remedies for all infringements of their individual and collective rights. Such a decision shall give due consideration to the customs, traditions, rules and legal systems of the indigenous peoples concerned and international human rights." However, Court-based processes may not be able to resolve disputes of this nature, which often have no recognized legal basis. Further court proceedings could disadvantage indigenous peoples and communities who may experience difficulties in utilizing the legal system, either financially or materially.[48]

In case of such disputes, parties can refer to an ADR body. This section will consider and address the WIPO Arbitration and Mediation Center (AMC) as a forum for

No. 1, 28, 30-31, (2011).

46) See Anderson, Jane E. supra note 25.

47) See Bandle, Anne Laure et al., supra note 45 at 30-31.

48) See Anderson, Jane E. supra note 25.

an ADR body in the field of GRs and TK. Based in Geneva, Switzerland, with a further office in Singapore, the WIPO AMC was established in 1994 to offer Alternative Dispute Resolution (ADR) options for the resolution of international commercial disputes between private parties. Developed by leading experts in cross-border dispute settlement, the arbitration, mediation and expert determination procedures offered by the Center are widely recognized as particularly appropriate for technology, entertainment and other disputes involving intellectual property.[49)]

The WIPO AMC is a fitting example of using a technological approach for modern dispute settlement. Its Electronic Case Facility (WIPO ECAF) allows parties from anywhere in the world to submit case files and documents directly to a web-based electronic docket. It also facilitates case management by providing case overviews, time tracking, and finance information. It thus increases the availability of an ADR and significantly reduces costs to parties.

Notably, in the field of biodiversity, AMC has provided technical assistance to the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) Secretariat in developing the Rules for Mediation of a Dispute in relation to a Standard Material Transfer Agreement.[50)]

2. ADR for the Genetic Resources and Traditional Knowledge Dispute

As a number of limitations have been identified in the current court system to address disputes regarding complex elements such as GRs and TK, ADR may be effective. This is because ADR determines how disputing parties resolve said disputes, and parties initiatively participate in following procedures and processes. ADR could play an important role in GRS and TK dispute which has global aspects with a combination of legal and non-legal elements. This is because the rule of law is not an absolute standard of judgment, and induces agreement considering interests of concerning parties on a case-by-case basis. Therefore, considering the opportunity to use mediation or other ADR might be practically useful for dispute resolution related to

49) See WIPO, supra note at 29.

50) See Ristanić, Aleksandar, supra note 23

GRs and TK.

While no cases of GRs and TK disputes have yet to have been reported as being resolved using the ADR, the ADR procedure could have been an option for the dispute regarding the auction[51] of seventy ceremonial masks used by Hopi and Zuni tribes in Paris, France.[52]

"These masks, made in the late nineteenth and early twentieth century in North America, are extremely sought after by collectors. From an indigenous perspective, they are sacred objects and contain cultural and spiritual elements that remain active and meaningful within contemporary Zuni and Hopi cultural practice. The dispute was over the question of who the legitimate owners of these masks should be. It raised legal and nonlegal questions about the conditions of initial acquisition and therefore the right to resale, authenticity, ongoing private property rights as well as underlying IP rights regarding reproduction of images of the masks and access and control of cultural knowledge embodied within them. With multiple areas of law, and differing cultural positions, ADR could have enabled the non-legal components, particularly the cultural significance of the works, to be included for consideration."[53]

ADR leads parties to personally discuss necessary issues by creating new relationships, providing enough time to explore each other's complaints by realizing cultural differences causing the disputes, and developing measures for resolution beside procedural suggestion between the framework of law and the balance of court. It also accelerates the integration of a customary law which is diversified in various fields, helps parties choose suitable procedures for disputes, selects neutral and professional arbitrators or mediators in certain issues, and knows the connected relationships of interests between indigenous individuals and communities. If parties so

51) From 2012 until the present, there have been multiple auctions of sacred Native American artifacts in France.

52) Nicolazzi, Laetitia, et al. Case Hopi Masks—Hopi Tribe v. Néret-Minet and Estimations & Ventes aux Enchéres, ARTHEMIS (2015), available at 〈https://plone.unige.ch/art-adr/cases-affaires/hopi-masks-2013-hopi-tribe-v-neret-minet-and-estimations-ventes-aux-encheres〉 (Haines, Aaron, Will the STOP Act Stop Anything? The Safeguard Tribal Objects of Patrimony Act and Recovering Native American Artifacts from Abroad, 39 Cardozo L. Rev. 1091, 1092 (2018)).

53) See Anderson, Jane E. supra note 25.

opt, statements of ADR are kept strictly confidential, reasonable deadlines are proposed for dispute resolution, and costs are efficient compared to regular court procedures.

Depending on the parties, if they proceed with an informal consultation, they might feel that their legal rights have weakened in comparison to a formal legal procedure, and in this case, they may withdraw mediation[54] to instead file a lawsuit. However, disputes of GRs and TK are increasing, and lately, there is a lot of confusion regarding how to approach dispute resolutions as arguments between IPRs and non-IPRs arise complexly. As the range of the issues to be considered in this field is expected to expand, practical measures should be suggested to respond to current needs. This provides a chance to approach related legal procedures when required by disputing parties, enhancing their ability of judgment, and developing a strategy to approach disputes practically and effectively by providing several options.

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54) However, in arbitration, parties cannot unilaterally withdraw from the process once disputes have been submitted to arbitrators.

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