A Comparative Study on the Legal Protection of Indigenous Peoples Rights towards Traditional Knowledge in Brazil and Indonesia

Billy Panjaitan¹, Kholis Roisah² {billypanjaitan3@gmail.com¹, kholisroisah.fh.undip@gmail.com²}

Universitas Diponegoro, Indonesia^{1, 2}

Abstract. International law has provided regulations – Convention on Biological Diversity and Nagoya Protocol - to protect indigenous peoples' rights to Traditional Knowledge (TK). Countries could implement these established international standards to protect indigenous peoples towards their TK. This comparative study aims to describe how countries implement international standards of TK protection to the national level. Brazil and Indonesia share the resemblance of: (i) being developing countries; (ii) countries with abundant biodiversity; (iii) and having concern for TK protection arrangement in the international community. The method used in this research is a normative judicial approach. This research shows, Brazil and Indonesia show resemblance by acknowledging indigenous people's rights constitutionally and having a registry system to anticipate the misappropriation to TK. Furthermore, the difference on both countries to this matter are mainly divided into several aspects: (i) the definition of TK. Brazil associates TK with biodiversity, while Indonesia defines it in a wider scope; (ii) the rights given to indigenous peoples to TK. Brazil regulates specific rights given to indigenous peoples, while Indonesia only gives recognition right of indigenous peoples to TK from its Patent Law; (iii) Prior and Informed Consent. Brazil has stipulated the methods of acquiring TK, one of which is to earn Prior and Informed Consent. Indonesia has also regulated the Prior and Informed Consent principle, but hasn't laid down the technical methods; (iv) Benefit Sharing regulation. Brazil has regulated the benefit-sharing process, procedure, and outcome (monetary and non-monetary benefits), while Indonesia doesn't specify the ends and means to conduct a Benefit Sharing; and (v) institutions that oversees. Brazil established two specific bodies to oversee the rights of indigenous peoples to TK, while Indonesia, in its regulation, only appoints a Minister, but doesn't clearly specify which ministry body. In general, it could be concluded Brazil has conducted positive and Indonesia is using the defensive protection method in regards to indigenous peoples' rights towards Traditional Knowledge.

Keywords: Indigenous Peoples Rights, Traditional Knowledge, Brazil, Indonesia

1 Introduction

Generally, indigenous peoples are known for a certain group of people who lives in rural areas, but actually, it is more than that. Indigenous peoples become integrated – spiritually, socially, and culturally [1] – with their area due to the fact that those areas provide them with their basic survival needs. Consequently, that kind of relationship creates economic dependence on their ancestral lands [1]. Furthermore, as a consequence of such dependence on land – mostly,

by the management of natural resources in their environment – indigenous peoples establishes a specific kind of empirical experience. Such experience is known, in most cases, as Traditional Knowledge (TK) [2]. TK can be used as information to formulate traditional medicines made from genetic resources (GR) from plants, animals, or microorganisms so that they have properties for the treatment and healing various diseases [2].

TK has a lot to offer. TK can be utilized for academic purposes, research and development material, and/or a commercial commodity [3]. For instance, a research conducted by Kate and Laird accentuates the huge amount of commercial revenue - mostly from the biogenetic industrial sector: pharmaceuticals, botanical medicines, personal care and cosmetic products, etcetera - from GRs is between US\$ 500 Billion and US\$ 800 Billion. Furthermore, Kate and Laird explains, "TK is widely used in the botanical medicine industry as the basis for termining safety and efficacy, to develop agronomic practices for cultivation of materials and to guide the development of new products" [4]. Needless to say, GRs and TK have been widely used in the pharmaceutical industry, namely: penicillin, quinine, atropine, menthol, taxol, morphine, salicin, borneol, digitalin, and so on are all natural product based [5]. Moreover, in most cases, the ones who seek TK comes from a country: (i) that has a variety of natural/genetic resources; or (ii) that has less diverse communities, where there aren't many indigenous peoples. Therefore, parties who have a certain interest in TK are, mostly, foreigners [6]. These people can be either scholars, researchers, or companies. However, the utilization of TK are often neglecting the rights of indigenous peoples, for instance: foreign companies utilized TK for commercial purposes without the consideration of a fair and reasonable amount of compensation to indigenous peoples [7]. Parties like these justify their misconduct by the preliminary thought of TK as a public domain – which has no specific ownership, or in other words, communal [7].

In the paragraph above, the light has been given to the fact that foreign parties – to the TK-providing country – conduct means of acquiring TK for their self-interest. In the context of TK, such acts are deemed as biopiracy. According to Dutfield, biopiracy is a term directed to the following acts of: (i) theft, misappropriation of, or unfair free-riding on, GR and/or TK through the patent system; and (ii) the unauthorized and uncompensated collection for commercial ends of GR and/or TK [8].

Biopiracy has been known from various cases, namely: Shiseido case (Indonesia v. Japan) [8], Ayahuasca Case (Brazil v. the United States) [9], and many more. Cases like these demonstrate, not only that the utilization of TK is useful to certain individuals and/or parties, it also demonstrates a similarity: biopiracy tends to be transnational. Since it is transnational, what has the international community do about it? Internationally, discourse on the protection of the rights of indigenous peoples towards its traditional knowledge has shown significance over the years, namely by the establishment of the Convention on Biological Diversity (CBD) and 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) [10].

The international community – through World Intellectual Property Organization (WIPO) – has provided international forums regarding the protection for TK [11]. WIPO proposes two kinds of protection: (i) Defensive Protection, which uses a source of TK database to prevent granting intellectual property right to TK or GR; or (ii) Positive Protection, which gives protection from the establishment of law. Although defensive protection gives the preventive measures of certain individuals to claim TK as their own, it doesn't necessarily give sufficient protection to acts of biopiracy. In any case, the establishment of law is the main mechanism in an effort to achieve sufficient protection, and subsequently fair compensation for the custodians of TK [10].

International law – namely, CBD and Nagoya Protocol – has given general standards to the protection of TK of indigenous peoples, but it won't be truly useful if states, don't establish their own regulation. The CBD stipulates that biological resources and associated TK should be considered as property owned by the nation-state of origin [12]. Generally, countries that put weight of concern on this problem are countries that are abundant in animal and plant diversity. This gives the country a wide variety of GR, which are often linked to TK.

Indonesia and Brazil are known for being a mega-diversity country because it has many types of plants and animals [13]. They also share the same concern of TK protection by actively participating in international forums [14]. Due to the similarity in status between Brazil and Indonesia as a mega-diversity country, this study will compare the regulations – regarding the protection of indigenous peoples' rights towards TK – between these two countries. Comparisons are intended as a guiding tool for understanding the differences and similarities in this particular context.

2 Method

The method of research used in this article is a normative judicial approach, often referred to as library law research. The research specifications used are descriptive analytical and qualitative analysis.

3 Results and Discussions

Brazil, as one of the party to the CBD, regulates its biodiversity through the Law No. 13.123/2015 about Access to Genetic Resources and Associated Traditional Knowledge and Regulates the Sharing of Benefits (Law 13.123). Law 13.123 regulates access to components of genetic heritage, protection and access to related traditional knowledge and fair equitable sharing of benefits to conserve and sustain Brazil's biodiversity. Industries relating to fields of practice, such as pharmaceuticals, chemicals, personal care, cosmetics, horticulture, seeds and agricultural inputs, the food and biotechnology sectors, that exploit biodiversity are subject to this law. Then, a year later, Decree No. 8.722/2016 (Decree 8.722) further implements specific aspects concerning, inter alia, the requirement to provide information on relevant research activities involving components of genetic inheritance or associated traditional ties through an electronic registration [15]. Both of these regulations are no different on its objective: (i) recognizes the rights of farmers and communities to freely sell biodiversity products; and (ii) to use, conserve, manage, store, produce, modify, develop and enhance reproductive materials that contain genetic inheritance or related TK [16]. Thus, it should be duly noted that Brazil's concern to indigenous peoples' rights to TK is governed by regulations regarding biodiversity.

Indonesia is also the party to the CBD. Indonesia is an archipelagic country that has various tribes with a variety of customs, arts, and culture which has great potential in terms of TK. Unfortunately, Indonesia hasn't regulate a specific law that protects indigenous peoples rights to TK, but it can't be neglected that Indonesia has some provisions that can be linked to the protection of TK. Some of these provisions are written in Law No. 5/2017 about Cultural Advancement (Cultural Advancement Law), Law No. 13/2016 (Patent Law), and Law No. 41/1999 (Forestry Law). While this is true, Indonesia has arranged bills that actually provides specific protection to indigenous peoples' TK, namely: (i) Indigenous Peoples Bill, as a step to

provide recognition, protection, and empowerment of indigenous peoples; and (ii) Traditional Knowledge and Traditional Cultural Expressions Bill (TKTCE Bill).

Nevertheless, this study's objective is not to find who is better than the other, simply it's to find what are the main resemblance and differences between these two countries regarding the protection of indigenous peoples rights towards traditional knowledge.

3.1 Main Resemblance

Both of these countries regulates in a very different way, but somehow shows common resemblance, and there are two of them. First, both of these countries regulates indigenous peoples' rights constitutionally. Article 231 of the Constitution of The Federative Republic of Brazil and Article 18B paragraph (2) of the 1945 Constitution of The Republic of Indonesia clearly admits indigenous people and their traditional rights.

Second, registry system. Both of these countries have an online registry system that has the capacity to document traditional knowledge in their territory, namely: (i) The National System of Management of Genetic Resources and Associated Traditional Knowledge (Brazil); (ii) *Data Pokok Kebudayaan* or Main Cultural Data (Indonesia); and *Pusat Data Nasional Kekayaan Intelektual Komunal Indonesia* or The National Data Center for Indonesian Communal Intellectual Property (Indonesia) [17].

3.2 Difference

The scope of this comparison is classified into, at least, five main components: (i) Definition of TK; (ii) Indigenous peoples rights to TK; (iii) Prior and Informed Consent (PIC); (iv) Benefit Sharing; and (v) Institutions that oversee the interest of indigenous peoples rights to TK.

3.2.1 Definition of TK

It is crucial to know how countries define TK. Since the international community hasn't agreed on one universal definition [18], due to dynamic nature [19], it is highly important to know how countries define TK. A particular definition will lead to a sufficient scope of protection, and also able to generate legal certainty.

Brazil defines TK in Article 2 (II) of the Law 13.123 as information or practices of indigenous people, traditional communities, or traditional farmers about property, or direct or indirect use related to genetic heritage. Indonesia defines TK in the Elucidation of Article 5 letter (e) of the Cultural Advancement Law, as all ideas and notions in society, which contain local values as a result of real experiences in interacting with the environment, developed continuously and passed on to the next generation. TK includes crafts, clothing, health methods, herbal medicine, traditional food and drinks, as well as knowledge and behavioral habits about nature and the universe. On the other hand, TKTCE Bill defines TK as community knowledge obtained as a result of real experience in interacting with the environment. Further, Article 4 of the TKTCE Bill states TK's scope: which includes technical knowledge in traditional contexts, traditional skills, innovation in traditional contexts, traditional practices, traditional learning, and knowledge that underlies a way of life that is passed down from generation to generation, including TK related to genetic resources, medicine, and other intellectual creation.

In short, it can be concluded that Brazil's definition of TK is narrower – only associated to genetic resources and/or biodiversity – while Indonesia's definition of TK is broader that includes all sorts of traditional forms and discoveries.

3.2.2 Indigenous Peoples Rights to TK

Although both states admits and recognizes indigenous people's rights by its constitution, these rights must be regulated specifically on another regulation. Brazil explicitly recognize indigenous peoples rights to traditional knowledge in Article 10 of the Law 13.123 which governs the rights to, inter alia: (i) recognition; (ii) identification; (iii) benefit; (iv) included in any decision-making process; (v) use or sell products; and (vi) conserve, manage, store, produce, exchange, develop and improve reproductive material, containing genetic heritage or Associated Traditional Knowledge (ATK).

Meanwhile, rights to TK in Indonesia is not specifically being regulated. Article 26 of the Patent Law implicitly recognizes the right of indigenous peoples to the inclusion of TK when an invention is related to and/or derived from a TK. On the other hand, Article 27 of the Indigenous Peoples Bill states that indigenous peoples have the right to maintain, develop, teach, protect, and develop their customs, culture, traditions, TK, and intellectual property. Article 1 number 3 of the TKTCE Bill also recognize indigenous peoples as holders of TK rights. Further, Article 15 paragraph (2) of the TKTCE Bill emphasizes utilization of TK by parties other than the community members must involve indigenous peoples. Also, Article 49 of the TKTCE Bill states that indigenous peoples have the right to file a law suit if they suffer damages as a result of illegal harvesting, abuse, or public misdirection.

The provisions in Brazil are clearer, more specific, and guarantee the various rights of indigenous peoples to their TK. Meanwhile, the positive law in Indonesia only acknowledges it implicitly. On the other hand, the draft provisions to the rights of indigenous peoples to TK are more specific, comparing to the provisions that are included in Indonesia's Patent Law.

3.2.3 Prior and Informed Consent

The concept of Prior and Informed Consent (PIC) is an internationally recognized concept. PIC is known mostly from Article 8 (j) of the CBD that partially states "... with the approval and involvement of the holders of such knowledge." Article 8 (j) of the CBD stipulates a kind of ownership position of TK holders. Furthermore, the consent and involvement as stated in these provisions certainly implies that indigenous peoples can reject the wider application of their knowledge [5].

Brazil has regulated PIC specifically in the Article 9 and 10 (IV) of the Law 13.123. Article 9 of the Law 13.123 states "Access to associated traditional knowledge from an identifiable origin is dependent on obtaining prior and informed consent". Further, PIC is reiterated in: (i) Article 15 of the Decree 8.722, concerning traditional methods in acquiring TK from the community; (ii) Article 16 Decree of the 8.722, concerning PIC process (ex: explanations, benefits, etcetera); and (iii) Article 17 of the Decree 8.722, concerning the language of PIC.

Indonesia has also regulated PIC in the Article 37 of the Cultural Advancement Law, but it should be noted first that TK in the Cultural Advancement Law is stipulated as the Object of Cultural Advancement, as seen in Article 5 (e) of the Cultural Advancement Law. Further, Article 37 of the Cultural Advancement Law mainly states parties – industries and/or foreign parties – who will utilize TK for commercial purposes are required to have a permit from the Minister. Finally, Article 37 paragraph (4) of the Cultural Advancement Law clarifies the PIC provision will be further regulated by a Ministerial Regulation. However, apparently, the draft of this Ministerial Regulation hasn't even been drafted [19]. Meanwhile, TKTCE Bill has stipulated these provisions in: (i) Article 1 point 13, concerning the definition of PIC – an

agreement given by the holders to the users; (ii) Article 1 point 14, concerning the form and terms of an agreement; and (iii) Article 38, concerning the requirement of PIC to access TK.

In Brazil, either the main or the technical provisions are clearly regulated, hence the legal certainty towards indigenous peoples' rights at hand is assured. While on the other side, Indonesia has regulated the term of PIC – which needs a permit from the Minister and not from the indigenous peoples – in its law but hasn't regulated it even further for technical directions.

3.2.4 Benefit Sharing

The concept of Benefit Sharing is widely known as Access and Benefit Sharing (ABS) based on Article 5 paragraph 5 and Article 7 of the Nagoya Protocol, which mainly stipulates access and benefits arising from TK must be predetermined upon mutually agreed terms with the indigenous peoples involvement [20].

Brazil regulates rights to benefit sharing in Article 10 (III) and 19 of the Law 13.123, alongside Article 12 of the Decree 8.722. Generally, Article 10 of the Law 13.123 states that indigenous peoples have the right to benefit directly or indirectly from any economic exploitation of TK by third parties. Further, the sharing or benefits resulting from economic exploitation through finished products or reproductive materials arising from the access to genetic inheritance or associated TK can be done in two ways, namely monetary and non-monetary – as stipulated in Article 19 of the Law 13.123. Moreover, Article 12 of the Decree 8.722 reasserts that indigenous peoples have the right to participate in making decisions regarding ABS.

On the other side, Indonesia in its Article 26 paragraph (3) of the Patent Law provision states the sharing of benefits and/or access of GR and/or TK utilization is implemented in accordance with statutory regulations and international treaties in the field of GR and TK. Explanation of the recent Article elucidates the reasons for mentioning the origin of TK in the description – of an invention – so that it is not claimed by other countries, and in order to support ABS. Other than that, Article 23 and 30 of the Forestry Law requires the utilization of forests are aimed at obtaining benefits for the welfare of the community and must cooperate with local communities. Conversely, the TKTCE Bill – namely Article; 15 paragraph (4), 16 paragraph (1), and 17 – obligates benefit sharing by users (outside the community) and also stipulates the forms (monetary and non-monetary) and the agreement requirement of benefit sharing.

In this case, it can be clearly seen that Brazil regulates benefit-sharing as a clear right to the indigenous peoples in their territory, while Indonesia regulates benefit-sharing without explicitly stating that it is one of the indigenous peoples' rights.

3.2.5 Institutions

As it has been explained above, in order to acquire TK from indigenous peoples, the party who's interested in utilizing them must conduct PIC and, thereafter, shall determine the ABS. These requirements are essential in the fulfillment of indigenous peoples' rights. However, in order to respect these rights, one should protect and guard these peoples – usually, the government – to make sure that they are not being defrauded by legal loopholes and so on. Therefore, an institution that oversees indigenous peoples' rights is essential.

Brazil, under the Ministry of Environment, appoints two bodies in this regard: (i) The Genetic Heritage Management Council (CGEN); and (ii) The National Fund For the Benefit-Sharing (FNRB). Article 4 of the Decree 8.722 describes CGEN's numerous responsibilities, inter alia; coordinate drafting and implementation of policies regarding access to TK and the

sharing of benefits, determine technical standards of ABS agreement, supervise the access to GR or TK, create and maintain a database of information related to TK, etc. On the other hand, FNRB by Article 96 of the Decree 8.722 – instituted by Law 13.123 and controlled by the Ministry of Environment – will receive money from monetary benefit-sharing and fines, and aims to support actions and activities that recognize the value of GR and associated TK, and promote their sustainable use [21].

Article 6 of the Cultural Advancement Law stated Cultural Advancement is coordinated by a Minister. A Minister's responsibility was again reiterated on Article 36 of the Cultural Advancement Law in terms of the permit to access and utilize TK, but it was not clearly specified which ministerial body was appointed to handle these matters – PIC or ABS – in the Cultural Advancement Law. Further, Article 15 of the Cultural Advancement Law stipulated Sistem Pendataan Kebudayaan Terpadu (Integrated Cultural Data Collection System). It functions as a system that collects, one of which is TK. This system was later realized by the Ministry of Education and Culture. Although this is true, Article 43 of the TKTCE Bill has actually provided a stipulation where the President can appoint several ministerial institutions to provide certain expertise in order to regulate further the utilization of TK – either supervision regulation, ABS bodies, protocols, and so on.

Therefore, it could be concluded, regards to the Institutions that deals with TK, Brazil's way of handling it is more specific by forming CGEN and FNRB. While Indonesia, to this day, has just provided data system by the Ministry of Education and Culture, and none other.

4 Conclusion

Internationally, CBD and Nagoya Protocol has actually laid down regulation towards the protection of indigenous peoples' rights in regards to their TK. Indonesia and Brazil are one of the most diverse countries – in terms of natural resources. While being diverse in natural resources, these countries are also responsible for the TK that is being provided by indigenous peoples. In order to protect indigenous peoples' rights towards TK, international treaties are not enough when there comes a local conflict in their respected countries.

Brazil and Indonesia show common resemblance in their regulations, inter alia: (i) the Constitution's recognition of indigenous people's traditional rights; and (ii) online registry systems to provide the registration of TK – effort to the defensive protection of TK. On the other hand, these two countries also show major differences in regards to indigenous peoples' TK rights protection. Namely, these differences are shown by different: (i) Definition of TK; (ii) Indigenous peoples' rights to TK; (iii) PIC provisions; (iv) ABS provisions; and lastly (v) Institutions that oversee indigenous peoples' rights.

Broadly speaking, in Brazil, the protection of TK is pursued by means of positive protection – by issuing positive laws – that give indigenous peoples rights over their TK. Furthermore, Indonesia is currently conducting protection in the form of defensive protection using data systems as means of TK registration. Even so, in its development, Indonesia continues to strive for positive protection to regulate indigenous peoples over their TK through the Indigenous Peoples Bill and TKTCE Bill.

References

- Development Bank, 2009.
- [2] M. R. Ayu, H. Alexander, and W. Puspitasari, "Hukum Sumber Daya Genetik," Pengetah. Tradis. dan Ekspresi Budaya Tradis. di Indones. (Bandung, PT Alumni, cetakan ke 1, Bandung, 2014.
- [3] K. Roisah, "Perlindungan Hukum Terhadap Kekayaan Intelektual Tradisional," *Maj. Masal. Huk.*, vol. 35, no. 3, pp. 354–364, 2006.
- [4] G. Dutfield, Intellectual property, biogenetic resources and traditional knowledge. Earthscan, 2010.
- [5] S. K. Srivastava, Commercial Use of Biodiversity: Resolving the Access and Benefit Sharing Issues. SAGE Publications India, 2016.
- [6] K. Roisah, "Perlindungan Ekspresi Budaya Tradisional dalam Sistem Hukum Kekayaan Intelektual," Masal. Huk., vol. 43, no. 3, pp. 372–379, 2014.
- [7] S. Von Lewinski, *Indigenous heritage and intellectual property: genetic resources, traditional knowledge and folklore.* Kluwer Law International BV, 2008.
- [8] G. Dutfield, "What is Biopiracy?" International Expert Workshop on Access to Genetic Resources and Benefit Sharing, 2004.
- [9] Mandala Projects, "TED Case Studies: Basmati," Geographic Indications and International Trade. [Online]. Available: http://mandalaprojects.com/giant-project/basmati.htm. [Accessed: 08-Mar-2021].
- [10] R. Rohaini, "Perlindungan Hukum terhadap Pengetahuan Tradisional melalui Pengembangan Sui Generis Law," *Fiat Justisia J. Ilmu Huk.*, vol. 9, no. 4, 2015.
- [11] World Intellectual Property Organization, "Practical Mechanisms for The Defensive Protection of Traditional Knowledge and Genetic Resources Within the Patent System," *World Intellectual Property Organization*. [Online]. Available: https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_5/wipo_grtkf_ic_5_6. [Accessed: 04-Mar-2021].
- [12] T. R. Eimer and V. Schüren, "Global Wordings and Local Meanings: Traditional Knowledge Regulation in India and Brazil," 2013.
- [13] Mexican Biodiversity National Comission for the Knowledge and Use of Biodiversity, "What is a mega-diverse country?," *Mexican Biodiversity National Comission for the Knowledge and Use of Biodiversity*. [Online]. Available: https://www.biodiversidad.gob.mx/v_ingles/country/whatismegcountry.html. [Accessed: 10-Mar-2021].
- [14] I. A. Kumlawati, "Hubungan (Interface): Pelindungan dan Pemanfaatan Hak Kekayaan Intelektual (HKI) dengan Sumber Daya Genetik (SDG), Pengetahuan Tradisional (PT), Ekspresi Budaya Tradisional (EBT)." Media HKI, 2018.
- [15] World Intellectual Property Organization, "Key Questions on Patent Disclosure Requirements for Genetic Resources and Traditional Knowledge, 2nd edition," WIPO. Geneva, 2017.
- [16] World Rainforest Movement, "The Brazilian Biodiversity Law: Progress or Threat?," *World Rainforest Movement*. [Online]. Available: https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/the-brazilian-biodiversity-law-progress-or-threat/. [Accessed: 12-Mar-2021].
- [17] Kementerian Pendidikan dan Kebudayaan, "Data Pokok Kebudayaan," Kementerian Pendidikan dan Kebudayaan. [Online]. Available: https://dapobud.kemdikbud.go.id. [Accessed: 13-Mar-2021].
- [18] F. Lenzerini, Traditional Knowledge, Biogenetic Resources, Genetic Engineering and Intellectual Property Right, Genetic Engineering and The World Trade System, World Trad. Cambridge: Cambridge University Press, 2008.
- [19] World Intellectual Property Organization, "Intellectual Property Needs and Expectations of Traditional Knowledge Holders WIPO Report on Fact-Finding Missions on Intellectual Property and Traditional Knowledge (1998-1999)," World Intellectual Property Organization.

 [Online]. Available: https://www.wipo.int/edocs/pubdocs/en/tk/768/wipo_pub_768.pdf .

 [Accessed: 13-Mar-2021].
- [20] E. Morgera, E. Tsioumani, and M. Buck, Unraveling the nagoya protocol: a commentary on the nagoya protocol on access and benefit-sharing to the convention on biological diversity. Brill,

2014.

[21] M. da Silva and D. R. de Oliveira, "The new Brazilian legislation on access to the biodiversity (Law 13,123/15 and Decree 8772/16)☆." SciELO Brasil, 2018.