

The Legal Protection of Genetic Resources Associated with Traditional Knowledge in Indonesia: Juridical Implications of the GRATK Treaty

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Abstract

This study aims to analyze the legal consequences of Indonesia's ratification of the GRATK agreement on the patent framework. As is known, the recognition and protection of Intellectual Property Rights (IPR) has undergone rapid development, especially communal IPR such as the protection of genetic resources and traditional knowledge, which demand fair and adequate legal protection for all parties. The emergence of unfair practices in the use, commercialization (biopiracy), and restriction of ownership of traditional knowledge through IPR instruments has created a conflict of interest between the owners of traditional knowledge and those who develop and commercialize it. This research focuses on the legal protection of traditional knowledge through the international agreement, the GRATK Treaty, which the Indonesian government has signed, and its legal consequences. This study uses normative legal research, analyzing Law No. 65 of 2024 concerning Patents and the 2024 GRATK Treaty as the main sources. The results of the study show that the GRATK agreement provides a fair framework for the recognition and legal protection of genetic resources, as desired by countries that own genetic resources in a world dominated by developing countries. However, the study also argues that while the GRATK Agreement and its incorporation into Indonesian patent law represent significant progress, their effective implementation requires comprehensive regulatory harmonization and the development of sui generis mechanisms to protect communal intellectual property, thereby safeguarding the national interest in genetic resources and traditional knowledge.

Keywords: *Communal Intellectual Property; GRATK Treaty; Traditional Knowledge.*

Abstrak

Penelitian ini bertujuan untuk menganalisis konsekuensi hukum dari ratifikasi Indonesia atas perjanjian GRATK tentang kerangka paten. Sebagaimana diketahui, pengakuan dan perlindungan Hak Kekayaan Intelektual (HKI) mengalami perkembangan yang sangat cepat, khususnya HKI yang bersifat komunal seperti perlindungan atas sumber daya *genetik*, pengetahuan tradisional, yang menuntut adanya perlindungan hukum yang adil dan memadai bagi semua pihak. Timbulnya praktik yang tidak adil atas penggunaan, komersialisasi (*biopiracy*), dan pembatasan kepemilikan pengetahuan tradisional dengan memakai instrumen HKI telah menimbulkan benturan kepentingan antara para pihak pemilik pengetahuan tradisional

dengan pihak yang mengembangkan dan mengomersialisasikan pengetahuan tradisional tersebut. Penelitian ini difokuskan pada permasalahan perlindungan hukum terhadap pengetahuan tradisional dengan bersandar pada perjanjian internasional *GRATK Treaty* yang telah ditandatangani oleh pemerintah Indonesia beserta akibat hukumnya. Penelitian ini menggunakan penelitian hukum normatif dengan bahan hukum primer, sekunder, dan tersier dengan menganalisis UU No. 65 Tahun 2024 tentang Paten dan *GRATK Treaty* 2024 sebagai bahan utama. Hasil penelitian menunjukkan bahwa dengan disepakatinya perjanjian *GRATK* memberikan ruang yang adil bagi pengakuan dan perlindungan hukum atas sumber daya genetik seperti yang dikehendaki negara-negara pemilik sumber daya genetik di dunia yang didominasi oleh negara-negara berkembang. Akan tetapi, studi ini juga memberikan pandangan bahwa meskipun Perjanjian *GRATK* dan penggabungannya ke dalam undang-undang paten Indonesia mewakili kemajuan yang signifikan, implementasinya yang efektif memerlukan harmonisasi peraturan yang komprehensif dan pengembangan mekanisme *sui generis* untuk melindungi kekayaan intelektual komunal. Yang dapat melindungi kepentingan nasional terhadap sumber daya *genetik dan* pengetahuan tradisional.

Kata Kunci: Hki Komunal, *Gratk Treaty*, Pengetahuan Tradisional.

INTRODUCTION

The recognition and protection of Intellectual Property Rights (hereinafter referred to as “IPR”) have undergone remarkable development, extending well beyond the conventional categories of IPR, such as Patents, Trademarks, Industrial Designs, Trade Secrets, and Copyrights. Communal IPR, encompassing the protection of genetic resources, traditional knowledge, and traditional cultural expressions, has likewise seen significant development in the provision of fair and adequate legal protection for all stakeholders.

This discourse was initially sparked by the conduct of large corporations that exploited genetic resources and traditional knowledge originating from developing countries for commercial purposes. In many cases, such exploitation was carried out without the consent of the local communities, who are the rightful owners of these resources. Furthermore, following commercialization, these corporations often neglected to share the resulting benefits with those communities. Such conduct is commonly referred to as *biopiracy*. According to Merriam-Webster, *biopiracy is the unethical or unlawful appropriation or commercial exploitation of biological materials (such as medicinal plant extracts) native to a particular country or territory without providing*

*fair financial compensation to the people or government of that country or territory.*¹

This reprehensible practice has been documented in many countries, for instance, in India (the turmeric and neem tree cases, in which the patents were ultimately revoked)², Malaysia (the Bintangor tree case), the Philippines (the Ylang-Ylang case), Pakistan (the Basmati Rice case), Thailand (the Jasmine Rice case), and Brazil (the Cunani and Bibiru tree cases). The principal countries implicated in the misappropriation of plant genetic resources have included the United States, France, Japan, and the United Kingdom.³ A similar situation has arisen in Indonesia, most notably, the case involving a patent for an anti-aging cream derived from brotowali (*Tinospora crispa*) filed by the Japanese company Shiseido. However, that patent was ultimately invalidated.⁴ These incidents have been the primary drivers of demands for fair and adequate legal protection regarding the use of genetic resources and traditional knowledge.

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs Agreement) does not explicitly address the protection of traditional knowledge.⁵ Nevertheless, the emergence of unfair practices in the use, commercialization, and restriction of ownership rights in traditional knowledge through IPR instruments has created a conflict of interest between traditional knowledge holders and those who develop and commercialize such knowledge.⁶ This tension is further sharpened by fundamentally divergent perspectives on the protection of traditional knowledge. Developed countries tend to regard traditional knowledge as

¹ Merriam-Webster.com Dictionary, s.v., *biopiracy*, diakses 8 Maret 2026, <https://www.merriam-webster.com/dictionary/biopiracy>.

² Vandana Shiva, *Protect or Plunder: Understanding Intellectual Property Rights* (Zed Books, 2001).

³ “Correa, C. (2000). Options for the Implementation of Farmers’ Rights at the National Level - Farmers Rights,” 17 Agustus 2022, <https://www.farmersrights.org/literature-and-other-resources/global-level-and-conceptual-work-1/correa-c-2000-options-for-the-implementation-of-farmers-rights-at-the-national-level>.

⁴ Hans Nicholas Jong and Moses Ompusunggu, “Indonesia Steps up Fight against Biopiracy - National,” The Jakarta Post, diakses 8 Maret 2026, <https://www.thejakartapost.com/news/2017/03/20/ri-steps-up-fight-against-biopiracy.html>.

⁵ Agreement on Trade-Related Aspects of Intellectual Property Rights (1994).

⁶ D. F. Robinson, *Confronting Biopiracy: Challenges, Cases and International Debates*, Online access with subscription: Proquest Ebook Central (Earthscan, 2010), https://books.google.co.id/books?id=J7qvJQIFd_AC.

information in the public domain that cannot be protected under IPR and, therefore, consider themselves entitled to exploit it freely. Conversely, countries that serve as custodians of traditional knowledge strongly object to practices that exploit such knowledge without compensating its rightful owners, viewing them as inherently unjust.⁷

The growing awareness of the importance of legal protection for traditional knowledge and genetic resources, particularly plant genetic resources, cannot be separated from the reality that the IPR legal framework established under the TRIPS Agreement fails to provide adequate protection and tends to prejudice the interests of countries that hold such resources.

At the international level, disputes concerning traditional knowledge have been deliberated in various forums since 1998. The World Intellectual Property Organization (WIPO) has convened numerous expert meetings on Genetic Resources, Traditional Knowledge, and Folklore (GRTKF). After more than 25 years of protracted negotiations, agreement was finally reached on 24 May 2024 on the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge (hereinafter referred to as “the GRATK Treaty”) an international legal instrument whose primary objective is to combat biopiracy by requiring patent applicants to disclose the origin of the genetic resources upon which their invention is based, and/or the associated traditional knowledge.

At the national level, Indonesia signed this international treaty on 9 July 2024 in Geneva.⁸ The signing of this agreement represents a strategic step towards more adequately protecting genetic resources and traditional knowledge. Before this, the relevant provisions in Indonesia were governed by Article 26 (1) of Law No. 13 of 2016 on Patents, which stipulated inventions related to and/or derived from genetic resources and/or traditional knowledge must clearly and accurately identify the origin of such resources in the description. Law No. 65 of 2024 on Patents has further strengthened these protections, as set out in Article 26 (paragraphs 1 through 4). However, given the broad scope of traditional knowledge, the existing provisions may be considered incomplete and insufficient. Indonesia’s signing of the GRATK Treaty

⁷ Sophia Twarog dan Promila Kapoor, *Protecting And Promoting Traditional Knowledge: Systems, National Experiences And International Dimensions*, t.t.

⁸ “Menkumham Lakukan Pertemuan Bilateral dengan Dirjen WIPO,” diakses 8 Maret 2026, <https://riau.kemenkum.go.id/berita-utama/menkumham-lakukan-pertemuan-bilateral-dengan-dirjen-wipo>.

is thus regarded as a progressive step towards establishing legal norms for the protection of traditional knowledge that conform to the international standards articulated in that Treaty. As a legal consequence thereof, the Indonesian Government must promptly revise its Patent Law accordingly. The insufficiency of the existing regulatory framework for the protection of genetic resources and traditional knowledge constitutes the central legal issue examined in this research.

This study examines key legal issues arising from the inadequacy of the current regulatory framework for protecting genetic resources and traditional knowledge. Previous studies have typically addressed regulatory models for the protection of genetic resources and traditional knowledge, including ideas for sui generis legal frameworks. However, no research has comprehensively examined the juridical impact of the GRATK Agreement on Indonesia's patent system, particularly regarding the disclosure of the origin of genetic resources as a process distinct from the protection of traditional knowledge itself. This research gap is a specific weakness that this research aims to overcome.

A study entitled "*Perlindungan Pengetahuan Tradisional Di Indonesia Dengan Hukum Sui*" by Andy Usmina Wijaya, Sekaring Ayumeida Kusnadi, Fifin Dwi Purwaningtyas, and Dwiki Arief Darmawan found that legal protection of traditional knowledge is needed to more evenly recognize, protect, and regulate the legal rights and obligations of both users and holders of traditional knowledge.⁹ While these findings are very important, the study did not examine the normative implications resulting from Indonesia's participation in the GRATK Agreement. In addition, the study did not distinguish the substantive dimension of conventional knowledge protection under the IPR framework from the procedural dimension of mandatory disclosure. Therefore, a clear understanding of mandatory disclosure as set out in the GRATK Agreement is required. Instead, this study analyzes the legal protection framework for genetic resources over time and reviews the legal implications of Indonesia's ratification of the GRATK Agreement. In this regard, the main questions of the research are as follows: What are the legal implications of Indonesia's ratification of the GRATK Agreement for the legal protection of genetic resources and related traditional knowledge under the patent law system?

⁹ Andy Usmina Wijaya dkk., "Perlindungan Pengetahuan Tradisional Di Indonesia Dengan Hukum Sui," *Kajian Hasil Penelitian Hukum* 6, no. 2 (2023): 165–81, <https://doi.org/10.37159/jmih.v6i2.2383>.

RESEARCH METHODS

This research uses a Juridical-Normative type with a *Statute Approach* and a *Conceptual Approach*. The legislative approach is used to analyze policies on the protection of traditional knowledge within the intellectual property regime, particularly Law Number 65 of 2024 concerning Patents, which serves as the main instrument in this research. The second is the WIPO agreement on intellectual property, genetic resources, and traditional knowledge (WIPO-GRATK Agreement), which needs to be reviewed for its conceptual framework, relevance, and applicability in Indonesia.

The legal materials used in this study are primary, secondary, and tertiary law. Primary law includes the Law on Patents, the WIPO Agreement, and the GRATK Agreement. Meanwhile, secondary legal materials include journals and articles on patent law, intellectual property protection, genetic resources, and traditional knowledge. Finally, tertiary sources can include legal dictionaries and other reference works.

In this study, qualitative juridical analysis techniques are used, namely primary, secondary, and tertiary legal materials, which are first obtained and reduced to assess their truthfulness and suitability for discussion in this research. Legal materials that have been reduced and are in accordance with the research discussion are directly described in the form of abstractions of laws, regulations, and other legal materials. The legal materials that have been described are then analyzed to explore the nature and information that exists in the form of legal events or legal documents.

RESULTS AND DISCUSSION

Legal Negotiation of Genetic Resources and Traditional Knowledge

The protection of genetic and other biological resources is not only part of protection in the environmental and cultural context, but is also a unique subject in the protection of Intellectual Property Rights (IPR) since the IPR system began to protect innovations in modern science, in the mid-1970s.¹⁰ Clemente F. Penida observes that over nearly three decades, IPR has been strengthened across various dimensions, progressing from discoveries to inventions, from technological information to scientific information, and from industrial products and processes to service industries, the financial sector, and business

¹⁰ Dayu Medina dan M. Rizqi Azmi, "Perlindungan Sumber Daya Genetik Dan Pengetahuan Tradisional Dalam Kerangka World Intellectual Property (WIPO)," *JURNAL HUKUM DAS SOLLEN* 10, no. 1 (2024): 162–77, <https://doi.org/10.32520/das-sollen.v10i1.3404>.

methods. Several conceptual boundaries associated with IPR have also shifted, for instance, the distinction between invention and discovery, and between the natural and the artificial.¹¹

IPR has generally been understood disproportionately, with emphasis placed almost exclusively on the absolute monopolistic rights of IPR owners and rights holders. Such an understanding negates the fundamental premise of IPR, namely, that its primary function is to advance creativity and innovation for the broad benefit of society, and to serve as a vehicle for introducing, enriching, and disseminating the cultural heritage of nations. Indeed, a feature intrinsic to all categories of IPR, except trademarks, is their social dimension: upon the expiration of the term of protection, the subject matter enters the public domain.

This perspective has, however, evolved as awareness of the importance of recognizing traditional knowledge has grown, ultimately expanding the scope of IPR protection beyond the individual to encompass the communal. This is based on the condition of people in developing countries who still adhere to the concept of communal ownership.¹² Over the past decade and more, developments concerning traditional knowledge have attracted widespread attention across various international agendas, particularly regarding the recognition of rights, the utilization, and the commercialization of traditional knowledge at the local, national, regional, and international levels. Legal protection of traditional knowledge has also garnered broad international support, since the recognition of traditional knowledge is integral to the cultural identity of the world's peoples. In several respects, the management of traditional knowledge across systems is critical, as it can enhance well-being, sustain development, and preserve cultural life and knowledge for future generations.

For the majority of the world's peoples, traditional knowledge is inextricably woven into their worldview, cultural values, spiritual beliefs, and living legal systems. This means that the continuity of traditional knowledge is of paramount importance not merely as a body

¹¹ Clemente Forero-Pineda, "The impact of stronger intellectual property rights on science and technology in developing countries," *Research Policy*, Property and the pursuit of knowledge: IPR issues affecting scientific research, vol. 35, no. 6 (2006): 808–24, <https://doi.org/10.1016/j.respol.2006.04.003>.

¹² Heri Aryanto, "The Utilization of Indonesian Traditional Knowledge Based on Regional Potential as Development Capital," *Journal of Law & Development* 44 (February 2016): 292, <https://doi.org/10.21143/jhp.vol44.no2.24>.

of knowledge, but as an integrated system forming an indivisible social and environmental whole.

Traditional knowledge is also a vital component developed to address the diverse needs of communities, both directly and indirectly. Many significant technologies, in fact, derive from traditional knowledge, for example, traditional medical practices developed in several developing countries such as Brazil, Peru, China, Malaysia, and Korea; knowledge about traditional agricultural practices and plant breeding; and various forms of cultural expression, including musical arts and handicrafts.

The question of genetic resource protection has been the subject of vigorous discussion since the early 2000s, when the WIPO General Assembly established the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC),¹³ with the principal aim of developing an effective and balanced legal framework for genetic resources, traditional knowledge, and cultural expressions, as well as preventing their misappropriation, unauthorized exploitation, inequitable benefit-sharing, and the failure to recognize the rights of their legitimate owners.

Medina and Azmi explained that the long journey of negotiations related to the protection of genetic resources cannot be separated from the sharp paradigm differences between the bloc of northern and southern countries and the existence of different views between developed and developing countries with different justification bases.¹⁴ The northern bloc of countries, most of which are developed countries, view that genetic resources can be used freely or *in the public domain*, that is, people can use them freely or for free. Meanwhile, the bloc of countries in the south, most of which are developing countries, has suffered losses due to the improper use of genetic resources and unfair exploitation.

The protracted course of negotiations over genetic resource protection cannot be disentangled from the profound paradigmatic differences between the Global North and the Global South, nor from the divergent perspectives of developed and developing countries, each grounded in distinct justificatory rationales. The Northern Bloc, comprising predominantly developed nations, has taken the view that

¹³ “WO/GA/54/9,” t.t., diakses 8 Maret 2026, https://www.wipo.int/edocs/mdocs/govbody/en/wo_ga_54/wo_ga_54_9.pdf.

¹⁴ Medina dan Azmi, “Perlindungan Sumber Daya Genetik Dan Pengetahuan Tradisional Dalam Kerangka World Intellectual Property (WIPO).”

genetic resources may be freely utilized. In contrast, the southern bloc, comprising predominantly developing nations, has suffered harm from the inappropriate exploitation and inequitable use of those resources.

The difference in paradigm between the North and South Blocs invites various alternative international institutions to formulate a joint agreement. Awareness and paradigm shift need a middle point through the harmonization of international instruments and national policies. Thus, various instruments appear, complementing and intersecting each other. Madina and Azmi also realized that in the results of their research, it was found that there was a legal disharmony, especially regarding the protection of genetic resources and traditional knowledge. The issue of the protection of genetic resources is also a new field as part of IPR. This is also expanded by the number of international organizations that have the same concern for the protection of genetic resources.¹⁵ The organization already has legal instruments as a form of protection for genetic resources and traditional knowledge. Some of these instruments include the International *Undertaking on Plant Genetic Resources for Food and Agriculture* (IUPGRFA), the *Convention on Biological Diversity (CBD)*, the *Nagoya Protocol*, and the *International Convention on the Elimination of All Forms of Racial Discrimination*. ICERD), the *UN Declaration on the Rights of Indigenous Peoples* (UNDRIP), and the *International Treaty on Plant Genetic Resources for Food and Agriculture* (ITPGRFA). These instruments are binding *instruments* and *non-binding instruments*. Traditional and genetic knowledge resources are better protected and positioned by these seven instruments of international law. In the context of human rights protection, the recognition of indigenous peoples' rights, communal ownership, and IPR, as well as the protection of genetic resources and traditional knowledge, is essential because they both have economic value. If used correctly, it will improve and support the lives of indigenous people.

First, the 1992 Convention on Biological Diversity (CBD). CBD is the first international agreement that adheres to the law to preserve conservation, sustainable use, and profit sharing from the use of biodiversity. Generally. The Convention supports biodiversity, both domesticated and non-domesticated. In addition, this convention does not use the "*common heritage of mankind*" approach, but uses the

¹⁵ Ian Goss, 25 Years in the Making: The WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, *Harvard International Law Journal* / Vol. 66, special edition summer 2025, hal 44-45

sovereign right of the state approach to the genetic resources within its territory. For this reason, *Informed Consent* is required for parties who want to utilize these resources. CBD affirms the national government's responsibility to realize the rights of farmers related to plant genetic resources for food and agriculture. In accordance with Article 8(j), the CBD parties are obliged to respect, value, and uphold traditional knowledge, innovation, and practice, where possible, in accordance with their national laws. It was created for local indigenous peoples who uphold traditional ways of life that are relevant to the conservation and utilization of biodiversity.¹⁶ The CBD takes the position that economic incentives are essential for developing countries to undertake the conservation of their biodiversity, rather than seeking quick profits through deforestation activities that result in biodiversity damage.

Second, *the International Treaty on Plant Genetic Resources for Food and Agriculture* (ITPGRFA). It was adopted on 3 November 2001 in Rome at the Thirty-first Session of the Food and Agriculture Organization of the United Nations (FAO) Conference. The ITPGRFA is the first legally binding agreement that fully addresses the management of plant genetic resources for agricultural and food purposes. In line with the Convention on Biological Diversity (CBD), the goal is to conserve and utilize these resources in a sustainable manner and provide a fair and equitable sharing of benefits from their use to achieve sustainable agriculture and food security.¹⁷ Barizah menambahkan bahwa ITPGRFA menegaskan adanya hak petani termasuk “*the right to use, exchange, and sell farm-saved seeds of traditional as well as improved varieties to remain within the sole discretion of national governments*”.

The agreement also seeks to protect farmers' rights to information exchange, technology transfer, and capacity development, and to share financial and non-financial benefits from agricultural commodities.¹⁸ Based on the above concept, this agreement is considered to be in harmony with CBD; however, if you look closely, it still has differences

¹⁶ Nurul Barizah, *Hukum Internasional tentang Hak-Hak Petani dan Pemulia Tanaman: Upaya Mewujudkan Ketahanan Pangan Nasional Berbasis Prinsip Keadilan* (Revka Prima Media, 2018).

¹⁷ Medina dan Azmi, “Perlindungan Sumber Daya Genetik Dan Pengetahuan Tradisional Dalam Kerangka World Intellectual Property (WIPO).”

¹⁸ Barizah, *Hukum Internasional tentang Hak-Hak Petani dan Pemulia Tanaman: Upaya Mewujudkan Ketahanan Pangan Nasional Berbasis Prinsip Keadilan*.

in the scope that is implemented, where the purpose of CBD is for the preservation of *biodiversity*, while *the FAO Treaty* is to realize food security. For this reason, there is a very important part of this agreement, namely the establishment of a multilateral system of profit-sharing. In Article 12 paragraph (3) letters d and f, "*Recipients shall not claim any intellectual property or other rights that limit facilitated access to the plant genetic resources for food and agriculture, or their genetic parts or components, in the form received from the Multilateral System*". "*Access to plant genetic resources for food and agriculture protected by intellectual and other property rights shall be consistent with relevant international agreements, and with relevant national law.*" The important articles mentioned above are the result of compromises between developing countries and developed countries. As a result, there is a conflict in the language construction of the provision.

Third, the *adopted Nagoya Protocol* is an international agreement that governs the CBD by regulating fair and balanced access and benefit-sharing. Although CBD aims to achieve the goal of fair and equitable cooperation in the utilization of biodiversity, ABS is still widely regulated. The Nagoya Protocol is one of the additional protocols of the CBD that regulates access to genetic resources and the fair and balanced sharing of benefits from the utilization of biodiversity.¹⁹ Article 8 of the Nagoya Protocol is the basis for states to implement national laws, protecting biodiversity from damage, including modifications across transnational boundaries. Yulia and Zainol consider that this condition places the state as the ruler of biodiversity, and it is entitled to compensation for the exploitation of biodiversity.²⁰

The Fourth is the *WIPO Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge* (WIPO-GRATK Agreement), which is one of the important steps in the regulation of intellectual property related to genetic resources and traditional knowledge. The treaty was adopted by the member states of *the World Intellectual Property Organization* (WIPO) in May 2024 and became the first international treaty to specifically regulate the relationship between intellectual property, genetic resources, and traditional knowledge

¹⁹ Mrs. Yulia dan Zinatul Ashiqin Zainol, "MELINDUNGI KEANEKARAGAMAN HAYATI DALAM KERANGKA PROTOKOL NAGOYA," *Mimbar Hukum - Fakultas Hukum Universitas Gadjah Mada* 25, no. 2 (2014): 271, <https://doi.org/10.22146/jmh.16084>.

²⁰ Yulia dan Zainol, "MELINDUNGI KEANEKARAGAMAN HAYATI DALAM KERANGKA PROTOKOL NAGOYA."

associated with indigenous peoples. According to Frédéric Perron-Welch, the WIPO Treaty 2024 provides clarity on two main issues, namely mandatory patent disclosure requirements that require patent applicants to disclose the country of origin of the genetic resource and/or indigenous peoples or local communities that provide relevant traditional knowledge where the claimed invention is based on genetic resources and/or traditional knowledge.²¹

Table 1. International Legal Instruments of Genetic Resources and Traditional Knowledge

Instrument	Year	Organization	Purpose
CBD	1992	PBB	Preserving conservation, sustainable use, and profit sharing from the use of biodiversity, there is a national government responsibility to realize the rights of farmers related to plant genetic resources for food and agriculture
ITPGRFA	2001	FAO	To maintain and utilize these resources in a sustainable manner and to provide a fair and equitable share of the benefits of their use to achieve sustainable agriculture and food security
Protokol Nagoya	2014	PBB	Additional protocols from CBD that govern access to genetic resources and fair and balanced profit sharing of the use of biodiversity as state sovereignty.
GRATK	2024	WIPO	Regulate the relationship between intellectual property, genetic resources and

²¹ Adi Tiaputri dkk., “Menggali Potensi The Wipo Treaty On Intellectual Property, Genetic Resources And Associated Traditional Knowledge Untuk Memperkuat Pelindungan Pengetahuan Tradisional,” *Universitas Islam Indonesia* (Yogyakarta) 8, no. 2 (2025), <https://doi.org/10.20885/%20jipro.vol8.iss2.art2>.

			<p>traditional knowledge associated with indigenous peoples. I think this agreement requires the disclosure of the origin of genetic resources and knowledge known in patents as a voluntary concept to mandatory</p>
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Source: Processed Data

A comprehensive review shows that there are more international instruments related to Genetic Resources and Traditional Knowledge than those listed in Table 1. The seven instruments on display represent developments from 1992 to 2024. Based on the analysis of the instrument, the paradigm regarding genetic resources and traditional knowledge has undergone a change. The table also shows that before the 2024 GRATK Agreement, international instruments only regulated the access and benefit-sharing (ABS) aspect, which generally required the disclosure of the origin of genetic resources in patent applications. For more than two decades, developing countries have been fighting for patent protection. The 2024 GRATK Agreement marks a significant shift from a voluntary disclosure regime to a clearer disclosure regime regarding responsibilities in the international patent system.

Negotiations continued from 2000 through 2022, during which period the expansion of the scope of protection kept pace with the rapid development of new technologies, most notably, digital sequencing and artificial intelligence, adding further layers of complexity to the IGC negotiations. The accelerating pace of technological evolution and the proliferating possibilities for the use (and misuse) of genetic resources, traditional knowledge, and traditional cultural expressions gave rise to new areas of contention among member states.²²

In 2012, after thirteen years of complex deliberation within the IGC, a Consolidated Text on Genetic Resources and Associated Traditional Knowledge was finally published. This text encapsulated the outcomes of years of discussion and served as the foundation for future negotiations. However, because each member state was entitled to incorporate its positions into the document, the result was a text increasingly encumbered by hundreds of bracketed provisions (denoting

²² Ian Goss, *25 Years in the Making: The WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge*, t.t.

disagreement), numerous alternative formulations for various articles, and several mutually contradictory clauses, such as a provision stating “no obligation to disclose”.²³ Despite this, significant progress had been made. In 2018, efforts to adopt a revised text, incorporating important compromises, were obstructed by a single member state, effectively bringing the negotiations to an impasse.²⁴

Ultimately, negotiations culminated in the adoption of the GRATK Treaty, which provides a fair framework for the recognition and legal protection of genetic resources as sought by the countries that own such resources, predominantly developing nations, and the Global South. This significant step forward is worthy of recognition, as it provides member states with more flexible legal instruments to determine the most appropriate options in accordance with the evolving landscape of IPR protection and the national interests of each member state.

Judicial Implications for the Government of Indonesia Arising from the Adoption of the GRATK Agreement

The WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge (“the Treaty”), commonly known as the GRATK Treaty, was adopted by WIPO member states on 24 May 2024, and will enter into force three months after fifteen states have ratified it.²⁵ Normatively, the treaty has consequences or responsibilities for the country that ratifies it. Article 5 of the GRATK Agreement stipulates that states must take appropriate, efficient, and proportionate legal, administrative, and/or policy measures to address failures in providing the necessary information. The construction of witnesses is the result of the responsibility and obligation of the state and beneficial owners who do not implement agreements and regulations that are derivatives of the GRATK agreement.

Indonesia, as a country that ratified the GRATK Agreement, certainly pays attention to various provisions that are obligations or

²³ “The GRATK Treaty: Understanding a Triumph of Multilateralism,” Geneva Policy Outlook 2026, 20 Januari 2025, <https://www.genevapolicyoutlook.ch/the-gratk-treaty-understanding-a-triumph-of-multilateralism/>.

²⁴ Peter Yu, “WIPO Negotiations on Intellectual Property, Genetic Resources and Associated Traditional Knowledge,” *Akron Law Review* 57, no. 2 (2025), <https://ideaexchange.uakron.edu/akronlawreview/vol57/iss2/3.a>

²⁵ “WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge,” Treaties, diakses 8 Maret 2026, <https://www.wipo.int/en/web/treaties/ip/gratk/index>.

responsibilities in the GRATK Agreement.²⁶ As a result of having ratified this agreement, Indonesia should update its patent policy, namely Law Number 65 of 2024 concerning the Third Amendment to Law Number 13 of 2016 concerning Patents (Law No. 65/2024). Even though they were both born in the same year, the GRATK Agreement, the GRATK Agreement is a consideration that needs to be harmonized. In addition, the policies prepared through the law still do not have follow-up as stated in the GRATK agreement. Considering that the implementing regulations in Law Number 65 of 2024 have not yet been formulated. This means that there is still a legal vacuum that needs to be acted upon.

Some of the critical notes of the policy, Article 26 of Law No. 65/2025, still cause legal abstraction when compared to the GRATK Agreement. Article 26, paragraph (1) of Law No.65/2025 has given an obligation to patent applicants to clearly and correctly state the origin of genetic resources and/or traditional knowledge. The phrase "clear and true" can trigger interpretations of the ownership or origin of genetic resources and traditional knowledge. Is it in the form of a state, community, indigenous people, or individual? The concept or elaboration then needs to be answered in the explanation of the implementing regulation. In addition, the demand for the delivery of clear and correct information cannot explain the existence of legal consequences if the information submitted is in the opposite condition. Of course, this is a consideration in drafting and reformulating changes and the concept of implementing regulations.

The key provisions of the Treaty, as enshrined in Article 2 of the Treaty, are as follows: First, Objective. The objective of the Treaty is to enhance the efficiency, transparency, and quality of the patent system as it relates to genetic resources and traditional knowledge associated with genetic resources (hereinafter referred to as "associated traditional knowledge"), and to prevent the erroneous granting of patents for inventions that are neither novel nor inventive in light of genetic resources and associated traditional knowledge.

Second, Mandatory Patent Disclosure Requirements, The Treaty establishes mandatory patent disclosure requirements. Specifically, it obliges patent applicants to declare the country of origin of the genetic

²⁶ *Menkumham Tanda Tangan Traktat Internasional Tentang Sumber Daya Genetik Dan Pengetahuan Tradisional – Website Resmi Kantor Imigrasi Kelas I TPI Yogyakarta*, 8 Juli 2024, <https://jogja.imigrasi.go.id/menkumham-tanda-tangan-traktat-internasional-tentang-sumber-daya-genetik-dan-pengetahuan-tradisional/>.

resources and/or the indigenous people or local community that provided the associated traditional knowledge, where the invention “is based on” such genetic resources and/or traditional knowledge. Where such information is unavailable, the source of the genetic resources or associated traditional knowledge must nonetheless be declared. Where the applicant does not know the foregoing, they are required to state this fact explicitly.

Third, Sanctions and Remedies. Failure to submit the required information shall be subject to measures that are appropriate, efficient, and proportionate. Patent applicants shall be allowed to remedy any failure to provide the required information, except where there is evidence of fraudulent conduct or intent. Where fraudulent intent in relation to the disclosure obligation is established, sanctions or legal measures may be applied following the grant of the patent. Notwithstanding any such fraud, no Party to the Treaty may revoke, invalidate, or render unenforceable a patent solely based on the applicant's failure to submit the required information.

Fourth, Non-Retroactivity. In accordance with current national disclosure regulations, the Treaty contains a non-retroactivity clause, meaning that none of the obligations established by the Treaty apply to patent applications filed before it entered into force.

Fifth, Information Systems. The Treaty proposes the establishment of an information system (such as a database) relating to genetic resources and associated traditional knowledge, to be developed in consultation, as appropriate, with indigenous peoples and local communities, as well as other interested parties, while taking into account each state's national circumstances. This information system must be accessible to patent offices for the purposes of prior art searching and the examination of patent applications. One or more technical working groups may be established to address related matters, including accessibility for patent offices.

Sixth, Review Mechanism. The Treaty establishes a review mechanism to allow for the analysis of specific matters four years after it enters into force. These matters include the possible extension of disclosure requirements to other areas of intellectual property, to derivatives, and to various other issues arising from new and emerging technologies relevant to the implementation of the Treaty.

Seventh, Relationship with Other International Agreements. The Treaty shall be implemented in a mutually supportive manner alongside other relevant international agreements.

Eighth: Implementation Principles. The Parties shall take the necessary measures to ensure the implementation of the Treaty. The Parties are nonetheless free to determine the appropriate methods of implementing the Treaty within their respective national legal systems and practices.

Thus, it can be said that the GRATK Agreement requires all parties to the contract to require the utility patent applicant to disclose the origin or source of the genetic resource as well as the traditional knowledge associated with the invention based on that source or information. This Agreement also provides for the application of appropriate measures in the event of non-compliance with disclosure obligations. This agreement does not create any new rights. Instead, these agreements are generally a step toward transparency that can help prevent the granting of patents on non-innovative material. In addition, these agreements can also support the fulfillment of obligations to share the benefits of genetic resources and traditional knowledge in accordance with the UN Convention on Biological Diversity and the Nagoya Protocol.

The proper and effective implementation of the GRATK agreement cannot rely on one ministry alone, but requires cross-sectoral coordination that is structured and formalized in general. At least four state institutions have direct authority, namely: first, the Ministry of Law within the Directorate General of Intellectual Property, as the national patent authority that has direct power over the implementation of Article 26 of Law Number 65 of 2024; Second, the Ministry of Environment and Forestry is tasked with managing access to and sharing of the benefits of biological genetic resources based on various laws. The Ministry of Agriculture and the National Research and Innovation Agency (BRIN) have an interest in managing plant genetic resources and researchers based on biological natural resources. The last is the local government, which holds my role as the closest element to indigenous peoples and local communities

Indonesia, as a country endowed with rich and diverse genetic resources, has frequently been a victim of biopiracy. In February 2017, the Ministry of Environment and Forestry apprehended a French national, identified as DL, in Papua on suspicion of attempting to smuggle a rare butterfly species known as *Ornithoptera goliath*, widely known as the Goliath Birdwing and the second-largest butterfly species

on the planet.²⁷ It is hoped that Indonesia's ratification of the GRATK Treaty will help prevent such incidents from recurring.

At the national level, several regulations have already been enacted to protect genetic resources, including Law No. 13 of 2016 on Patents, which establishes protection for innovations based on genetic resources; and Government Regulation No. 56 of 2022 on Communal Intellectual Property (KIK), which governs the inventory, conservation, and protection of genetic resources as part of the communal heritage of indigenous communities. Sectoral policies have also been implemented through instruments such as the Regulation of the Minister of Environment and Forestry No. P.30/MENLHK/SETJEN/KUM.1/5/2017, which sets out mechanisms for access and benefit-sharing (ABS) as a means of protecting genetic resources from inequitable exploitation; and the Regulation of the Head of LIPI No. 9 of 2014, providing guidelines on access and benefit-sharing for genetic resources in the context of scientific research. Strategically, the policy framework for the protection of genetic resources is designed to support research and innovation related to such resources, with Law No. 18 of 2002 on the National System for Research, Development, and Application of Science and Technology serving as the legal foundation for promoting the sustainable use of genetic resources.

Law No. 65 of 2024 on Patents has established the obligation to disclose the origin of genetic material in the following terms.²⁸

Article 26

- (1) Where an Invention is related to and/or derived from Genetic Resources and/or Traditional Knowledge, the information on the origin of such Genetic Resources and/or Traditional Knowledge shall be clearly and accurately stated.
- (2) Information on the origin of the Genetic Resources and/or Traditional Knowledge as referred to in paragraph (1) shall be recorded and published electronically and/or non-electronically.
- (3) The information referred to in paragraph (2) shall be taken into consideration in the sharing of results and/or the granting

²⁷ Ompusunggu, "Indonesia Steps up Fight against Biopiracy - National."

²⁸ Perubahan Ketiga atas Undang-Undang Nomor 13 Tahun 2016 tentang Paten, Legis. No. 65 (2024).

of access to the utilization of Genetic Resources and/or Traditional Knowledge.

- (4) The sharing of results and/or the granting of access to the utilization of Genetic Resources and/or Traditional Knowledge as referred to in paragraph (3) shall be carried out in accordance with the applicable laws and regulations and international agreements in the field of Genetic Resources and Traditional Knowledge.

The enactment of Article 26 of Law No. 65 of 2024 on Patents represents a progressive step that reflects the Government's commitment to the legal protection of genetic resources. The Patent Law has also provided a degree of clarity regarding the implementation of the key provisions of Article 2 of the GRATK Treaty as discussed above. Article 26, paragraphs 1 and 2, establish the obligation to provide information on genetic resources associated with traditional knowledge as claimed in a patent, in accordance with the mandatory patent disclosure requirements. Furthermore, Article 26, paragraphs 3 and 4, accommodate provisions for benefit-sharing arising from the utilization of genetic resources associated with traditional knowledge. Nevertheless, Article 26 must be promptly supplemented by more detailed implementing regulations to ensure its effective application.

Genetic Resources and Traditional Knowledge policy development

To fill the existing legal gap, a systematic and layered technical policy is needed. This policy must be built on several pillars. First, the implementing regulations must increase the substance of the regulation; second, build supporting technical infrastructure; and finally, increase institutional capacity and community involvement. First, the government must immediately issue an implementing law that explains how the disclosure obligation works by conducting various policy harmonizations in detail, including international instruments such as the Nagoya Protocol and the CBD.²⁹ These regulations should include a minimum standard of information that must be provided. Second, there is a verification process carried out by the Directorate General of Intellectual Property before a patent is issued, a procedure for dealing with infringement of disclosure obligations after the issuance of a patent, and a procedure for sharing profits between state patent holders and

²⁹ Andrea Schüssler dkk., "AIPPI-Q289: Asking for Harmonization of Disclosure Requirements – Analysis and Opinion from a German and European Perspective," *GRUR International* 74, no. 2 (2025): 103–18, <https://doi.org/10.1093/grurint/ikae158>.

communities that own genetic resources or traditional knowledge. These implementing regulations should be made consistent with the Nagoya Protocol as a recognized meter. Second, there is a verification process carried out by the Directorate General of Intellectual Property before a patent is issued, a procedure for dealing with infringement of disclosure obligations after the issuance of a patent, and a procedure for sharing profits between state patent holders and communities that own genetic resources or traditional knowledge. These implementing regulations should be made consistent with the Nagoya Protocol as an accepted measure in Indonesia, and should also take into account the flexibility offered by the GRATK Agreement, where the regions that ratify this agreement can establish implementation methods as needed.

The second pillar is that, according to the concept in the GRATK agreement, building a national information system of genetic resources and traditional knowledge is one of the most important things. This system, at the very least, can be accessed electronically by the Directorate General of Intellectual Property during the patent application examination process. These systems may include genetic resource inventories by region and owner community, knowledge documentation, and genetic resource inventories by region and owner community. This operation is in accordance with Article 5 of the GRATK Agreement, which stipulates that each state party must establish an accessible information system.

The final pillar is to improve the ability of institutions, especially the Directorate General of Intellectual Property of the Ministry of Law, to conduct patent examinations related to genetic resources. This includes providing training to patent examiners to know how the source of invention and traditional knowledge relates to genetic resources. In addition, it must be constitutionally guaranteed that indigenous communities and local communities will participate in the derivative policy-making process because they are the most influential or interested, as well as the most vulnerable to the failure of this system of protection of genetic resources and traditional knowledge. In fact, patents are an important indicator of the progress of national innovation. Hermansyah Siregar, Director General of Intellectual Property, said that

patents reflect the nation's ability to produce original and strategically valuable technological solutions.³⁰

CONCLUSION

The findings of this study indicate that over more than two decades, international negotiations concerning the protection of genetic resources and traditional knowledge have been persistently shaped by fundamental paradigm divergences between developed and developing countries. The establishment of the GRATK Agreement signifies a negotiated convergence that reconciles the competing interests of the Global North and Global South, thereby functioning as a compromise-oriented legal instrument. This agreement not only mitigates longstanding normative tensions but also provides a more equitable and structured governance framework, particularly with respect to access, utilization, and benefit-sharing mechanisms related to genetic resources.

From a national standpoint, Indonesia's ratification of the GRATK Agreement carries substantial legal and institutional ramifications. The study affirms that harmonization between the agreement and Law Number 65 of 2024 is essential to ensure regulatory coherence and effective implementation. Considering the expansive and cross-sectoral nature of genetic resource governance, the government is required to undertake comprehensive legal mapping, harmonize overlapping regulatory frameworks, and align domestic policies with key international instruments, notably the Nagoya Protocol and the Convention on Biological Diversity. Moreover, the development of detailed and coherent implementing regulations is crucial to operationalize the substantive provisions of Law 65 of 2024, thereby establishing a resilient legal architecture that guarantees both protection and sustainable utilization.

Furthermore, this study highlights the pivotal role of multi-level and cross-sectoral collaboration in reinforcing the governance of genetic resources and traditional knowledge. Effective protection necessitates coordinated engagement among governmental institutions, local communities, and international stakeholders. In this regard, the formulation of an integrative and adaptive policy framework is imperative to accommodate regulatory diversity, address local socio-cultural contexts, and fulfill international commitments, particularly

³⁰ *DJKI Tingkatkan Paten Dalam Negeri Terdaftar*, (Jakarta), 2026, <https://www.dgip.go.id/artikel/detail-artikel-berita/djki-tingkatkan-paten-dalam-negeri-terdaftar?kategori=pengumuman>.

within the Access and Benefit-Sharing (ABS) regime. Such a framework is expected to reposition genetic resources and traditional knowledge not merely as conserved entities, but as strategic assets capable of generating equitable economic value while simultaneously ensuring the protection of the rights of indigenous and local communities.

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