ACCESS AND BENEFIT SHARING OF BIODIVERSITY AND CONSERVATION CONVENTIONS IN NIGERIA*

Abstract

Benefit sharing is a legal term used in the context of access to and utilization of biological resources. It meaning that those who contribute to scientific research and innovation ought to share in the resulting benefits. If benefit sharing with the contributors of biological resources and related knowledge does not take place, scientific advancement is exploitative. The main legal instrument to govern benefit sharing is the UN Convention on Biological Diversity (CBD. (1992). This paper assesses the effectiveness of the ABS regime implemented by the CBD and the NP on the basis of its central instrument. The aim is to accurately document the number of ABS agreements concluded since the entry into force of the regime. To do so, I combine several sources, including first hand data collected from the official information agencies the National Focal Points (NFP) of each of the States Parties to the NP aimed at summarizing the existing explanations of the low number of ABS agreements concluded and evaluate the corresponding causal mechanisms, relying on the results obtained from the number of permits and agreements. The paper makes valuable recommendations going forward.

Keywords: Access and Benefit Sharing; Convention on Biological Diversity; Nagoya Protocol; ABS agreements

1. Introduction

Over the past 40 years, enormous advances have been made in life sciences disciplines. Since the 1970s, it has been possible to act directly on the genetic material contained in the nucleus of the cells of living organisms[1]. Deoxyribonucleic Acid (DNA) became a source of value, a resource, the genetic resource (GR). Almost simultaneously the decline of biodiversity (in other words the genetic diversity among and within species) has been recognized as a major environmental issue of global scope.[2] For almost half a century, GR are the subject of intense debates and rivalries which mainly concern their appropriation through material and intellectual property rights (IPRs); the necessity to conserve them and use them sustainably; and the effects of their manipulation through genetic engineering techniques. Numerous public policies, on all jurisdictional and institutional levels, were implemented to address public problems arising from the utilization of GR. Among these policies, the Convention on Biological diversity (CBD) aims to regulate the uses of biodiversity. One of the objectives of this treaty is the implementation of an Access and Benefit Sharing (ABS) mechanism. In other words, through the CBD, the international community wanted to establish a global regime regulating the access to GR which are used to perform scientific researches so as to enable the fair sharing of the benefits that may arise from those research activities. Although important efforts have been undertaken to make such a regime effective, culminating with the adoption of a binding protocol to the CBD the Nagoya Protocol (NP) in 2010, important and numerous reservations were expressed by scholars[3] researchers dealing with GR[4] as well as by countries which provide GR[5] on the regime's capacity to achieve its objectives. The purpose of this article is to empirically verify how those doubts about the effectiveness of the ABS regime are confirmed by the results the regime obtained so far, based on its core instrument: the ABS agreements concluded between users and providers of GR. At a time when the majority of States Parties to the CBD or NP are still in the process of adopting the national ABS legislations that will implement the regime, it seems both scientifically relevant and useful in terms of public policy to compare theoretical knowledge of ABS as well as practical experiences of it with empirical data on its functioning on a global scale.

2. Historical Background on Access and Benefit Sharing of Biodiversity and Conservation Conventions in Nigeria

Before Nigeria gained independence in 1960, biodiversity and conservation efforts were primarily localized, with indigenous communities practicing traditional methods of resource management. Indigenous knowledge systems played a vital role in preserving biodiversity, with communities relying on sustainable practices. In the early post-independence period, Nigeria recognized the importance of biodiversity conservation and enacted the National Parks Service Act in 1979. The establishment of national parks, such as Gashaka Gumti National Park, marked early efforts to protect and conserve diverse ecosystems. Nigeria became a party to several international conventions related to biodiversity and conservation, including the Convention on Biological Diversity (CBD) in 1992. The Convention on Biological Diversity (CBD), adopted in 1992 and entered into force at the end of 1993, established a global regime on access to genetic resources (GR) and sharing of benefits arising from their utilization (Access and Benefit Sharing (ABS) regime). Its

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[1] Oberthür, S.; Rosendal, G.K. Global governance of genetic resources: Background and analytical framework. In Global Governance of Genetic Resources: Access and Benefit Sharing after the Nagoya Protocol; Oberthür, S., Rosendal, G.K., Eds.; Routledge: Abingdon, UK, 2014; pp. 1–17.

[2] Mahrane, Y.; Fenzi, M.; Pessis, C.; Blanchard, E.; Korczak, A.; Bonneuil, C. De la nature à la biosphère: La construction de l'environnement comme problème politique mondial 1945–1972. Vingtième Siècle Revue D'histoire 2012, 113, 127–141.

[3] Boisvert, V.; Tordjman, H. Vingt ans de politiques de conservation de la biodiversité: De la marchandisation des ressources génétiques à la finance 'verte'. Econ. Appl. 2012, 65, 107–136.

[4] Wynberg, R. Bioscience at a Crossroads: Implementing the Nagoya Protocol on Access and Benefit Sharing in a Time of Scientific, Technological and Industry Change. The Agricultural Sector; Secretariat of the Convention on Biological Diversity: Montréal, QC, Canada, 2013.

[5] Kamau, E.C. Valorisation of genetic resources, benefit sharing and conservation of biological diversity: What role for the ABS regime? In Ex Rerum Natura Ius?—Sachzwang und Problemwahrnehmung im Umweltrecht; Dilling, O., Till, M., Eds.; Nomos Verlagsgesellschaft mbH & Co.: Baden-Baden, Germany, 2014; pp. 143–174.

protocol the Nagoya Protocol (NP) which entered into force 21 years later in 2014, clears up some terminological ambiguities of the Convention, clarifies and develops several procedural and instrumental elements of the regime, and obliges States Parties to implement some of its provisions, including the core instrument of the regime: the bilateral ABS agreement between users and providers of GR, that became a condition for obtaining access to the resource. However, scholars who analyzed the ABS regime as well as its official bodies find, and sometimes deplore, the small number of ABS agreements concluded so far, under the CBD as under the NP The ratification demonstrated Nigeria's commitment to global efforts in preserving biodiversity and recognizing the significance of equitable access and benefit-sharing. The CBD's entry into force prompted Nigeria to formulate policies and frameworks to implement its provisions, including Access and Benefit Sharing (ABS). The National ABS Policy and Action Plan, developed in alignment with the CBD, provided a structured approach to regulate access to genetic resources and ensure fair benefit-sharing. Nigeria, acknowledging the importance of specific provisions on ABS, acceded to the Nagoya Protocol in 2015.

The Nagoya Protocol strengthened the legal and regulatory frameworks for ABS, emphasizing the need for Mutually Agreed Terms (MAT) between providers and users of genetic resources. Nigeria developed its National Biodiversity Strategy and Action Plan (NBSAP) to articulate a comprehensive approach to biodiversity conservation, taking into account ABS principles. The NBSAP integrated strategies for sustainable use, conservation, and fair benefit-sharing to address challenges related to biodiversity loss. Nigeria faced challenges in implementing ABS, including the need for capacity building, awareness creation, and legal harmonization. The government, in collaboration with stakeholders, initiated programs and projects to address these challenges, emphasizing community involvement, research partnerships, and education. Nigeria actively engaged in international collaborations and partnerships to enhance its capacity for ABS implementation. International funding and support facilitated the development of projects focused on biodiversity conservation, sustainable resource use, and community empowerment. In recent years, Nigeria has continued to refine its ABS frameworks, aligning them with global best practices.

The country looks toward strengthening enforcement mechanisms, promoting research and development partnerships, and ensuring that ABS contributes to national development goals. Nigeria's historical journey in the realm of Access and Benefit Sharing of biodiversity and conservation conventions reflects a progression from localized conservation practices to active participation in international frameworks. The adoption of the CBD and the Nagoya Protocol, coupled with the development of national policies, signifies Nigeria's commitment to preserving its rich biodiversity and ensuring equitable sharing of benefits derived from its genetic resources. Ongoing efforts underscore the importance of continued collaboration, capacity building, and sustainable practices in the realm of ABS. Nigeria spans different climatic and ecological zones and therefore occupies a unique geographic position in Africa. The diversity of the country’s natural ecosystems ranges from semi-arid savanna to mountain forests, rich seasonal floodplain environments, rainforests, vast freshwater swamp forests and diverse coastal vegetation. Nigeria’s Niger Delta contains the largest tract of mangrove in Africa. Variable climatic conditions and physical features have endowed Nigeria with some of the richest flora and fauna on the continent. The economy is characterized by a large rural-based traditional sector. Although Nigeria derives about 80% of its external earnings from the oil sector, the agricultural sector contributes about 38% towards the Gross Domestic Product (GDP). About 70% of the population derives its means of livelihood from agriculture.

While the commercial value of biological diversity in Nigeria exceeds the cost of conservation measures by more than $3 billion (according to 1993 values), biodiversity conservation has not been recognized as feasible investment in Nigeria’s economic development and, consequently, natural resources valuation has not been fully incorporated into national economic planning.

3. Conceptual Framework of Access and Benefit Sharing of Convention on Biological Diversity (CBD)

Access and benefit-sharing (ABS) refers to the way in which genetic resources may be accessed, and how the benefits that result from their use are shared between the people or countries using the resources (users) and the people or countries that provide them (providers). Providers of genetic resources are governments or civil society bodies, which can include private land owners and communities within a country, who are entitled to provide access to genetic resources and share the benefits resulting from their use. The access and benefit-sharing provisions of the Convention on Biological Diversity (CBD) are designed to ensure that the physical access to genetic resources is facilitated and that the benefits obtained from their use are shared equitably with the providers. In some cases, this also includes valuable traditional knowledge associated with genetic resources that comes from ILCs. The benefits to be shared can be monetary, such as sharing royalties when the resources are used to create a commercial product, or non-monetary, such as the development of research skills and knowledge. It is vital that both users and providers understand and respect institutional frameworks such as those out lined by the CBD and in the Bonn Guidelines. These help governments to establish their own national frameworks which ensure that access and benefit-sharing happens in a fair and equitable way. and benefit-sharing is based on prior informed consent (PIC) being granted by a provider to a user and negotiations between both parties to develop mutually agreed terms (MAT) to ensure the fair and equitable sharing of genetic resources and associated benefits. Prior informed consent (PIC): is the permission given by the competent national authority of a provider country to a user prior to accessing genetic resources, in line with an appropriate national legal and institutional framework.

The Access and benefit-sharing is defined as the number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits. It refers to the efforts by countries to implement 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 (2010) and the International Treaty on Plant Genetic Resources for Food and Agriculture (2001). The Nagoya Protocol covers genetic resources and traditional knowledge associated with genetic resources, as well as the benefits arising from their utilization by setting out core obligations for its contracting Parties to take measures in relation to access, benefit-sharing and compliance. The objectives of the International Treaty are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity. The Protocol provides greater legal certainty and transparency for both providers and users of genetic resources and associated traditional knowledge, and therefore, encourages the advancement of research on genetic resources which could lead to new discoveries for the benefit of all. The Nagoya Protocol also creates incentives to conserve and sustainably use genetic resources, and thereby enhances the contribution of biodiversity to development and human well-being. In addition, Parties to the Protocol are to encourage users and providers to direct benefits arising from the utilization of genetic resources towards the conservation of biological diversity and the sustainable use of its components. The International Treaty has established the Multilateral System of Access and Benefit-sharing, which facilitates exchanges of plant genetic resources for purposes of agricultural research and breeding to contribute to sustainable agriculture and food security, by providing a transparent and reliable framework for the exchange of crop genetic resources. The Multilateral System is instrumental to achieving the conservation and sustainable use of plant genetic resources as well as the fair and equitable sharing of benefits arising from their use. The Standard Material Transfer Agreement is a mandatory standard contract for parties wishing to provide and receive material under the Multilateral System

The Access and Benefit Sharing Clearing-House (ABSCH) serves as a centralized platform established under the Nagoya Protocol, a supplementary agreement to the Convention on Biological Diversity (CBD). Its primary purpose is to facilitate the exchange of information related to Access and Benefit Sharing (ABS) among countries, institutions, and stakeholders globally. The ABS Clearing-House acts as a repository for various types of information, including national ABS measures, legislative frameworks, and contact points for competent national authorities. It supports transparency, compliance, and the implementation of ABS by providing a structured platform for sharing data on genetic resources and associated traditional knowledge. ABSCH contains a wealth of data crucial for understanding the global landscape of ABS. This includes information on national ABS laws and regulations, contact details of national focal points, and summaries of ABS agreements and permits. It offers access to data on genetic resources and associated traditional knowledge, ensuring comprehensive coverage of biodiversity-related information. The ABS Clearing-House is a valuable source for accessing data on ABS agreements between providers and users of genetic resources. These agreements, often including Mutually Agreed Terms (MAT), outline the conditions for access, benefit-sharing mechanisms, and other relevant details, contributing to transparency in ABS transactions. Serving as a global information hub, ABSCH facilitates collaboration and partnerships by enabling users to explore the ABS measures of different countries. Researchers, policymakers, and stakeholders can access a diverse range of data, fostering a better understanding of global ABS practices and challenges. Researchers leverage the ABS Clearing-House as a primary source for data on international ABS regimes, aiding in comparative analyses and assessments of global trends. Policymakers benefit from the wealth of information to make informed decisions, design effective ABS frameworks, and address challenges in national and international biodiversity conservation efforts. ABSCH plays a role in capacity building by providing educational resources and facilitating awareness campaigns on ABS principles and regulations. The platform ensures that relevant stakeholders have access to accurate and up-to-date information, contributing to enhanced understanding and compliance with ABS requirements. While ABSCH is a valuable resource, challenges such as data completeness and consistency across countries persist. Continuous improvements in data quality, user interface, and integration with national databases are essential for maximizing the effectiveness of ABSCH. The Access and Benefit Sharing Clearing-House stands as a pivotal source of data, fostering global collaboration, transparency, and informed decision-making in the realm of genetic resource access and benefit-sharing. It plays a critical role in advancing the goals of the Nagoya Protocol and the Convention on Biological Diversity by promoting fair and equitable sharing of benefits derived from biodiversity. In essence, the ABS Clearing-House serves as a dynamic and comprehensive repository, empowering users with the information needed to navigate the complex landscape of Access and Benefit Sharing in the context of biodiversity conservation.[6] According to States Parties shall notify the ABSCH about the issuance of a Certificate of Compliance as evidence of the decision to grant PIC and of the establishment of MAT.[7] State that Parties shall also notify the Secretariat about the NFP and CNA they designated and that the Secretariat shall make those information available through the ABSCH. Finally,[8]states that 'Without prejudice to the protection of confidential information, each Party shall make available to the Access and Benefit-sharing Clearing-House any information required by this Protocol, as well as information required pursuant to the decisions taken by the Conference of the Parties serving as the meeting of the Parties to this Protocol. Thus, by consulting the ABSCH's website, one should be able to know what the requirements regarding ABS are in any State Party, whom to contact to get more information (NFP), which agency has the competency to issue the PIC and conclude the MAT (CNA) as well as

[6] NP. Article 6.3 (c) Access to Genetic Resources. Available online: https://www.cbd.int/abs/ (accessed on 6 February 2024).

[7] NP. Article 13.5 National Focal Points and Competent National Authorities. Available online: https://www.cbd.int/abs/ (accessed on 6 February 2024).

[8]NP. Article 14.2 The Access and Benefit-Sharing Clearing-House and Information-Sharing. Available online: https://www.cbd.int/abs/ (accessed on 19 February 2017).

information about the Certificates of Compliance, namely the PICs and MATs that have been concluded so far. Only four States Parties published such data (although they are required to): Guatemala (one case), Mexico (one case), South Africa (two cases), and India (46 cases), the latter being by far the best performer in terms of sharing this information.

4. Material and Intellectual Property Rights over Genetic Resources

The biotechnology sector emerged in the 1970s and, with it, the will to protect the new corresponding inventions[9] From the first successes of each of these techniques, intellectual property rights (IPRs) on newly extracted, isolated, purified, modified, or artificially created GR have been claimed and, more or less rapidly depending on the case, granted[10]If the material property over organisms (a herd of sheep, a plant nursery, etc.) is as old as the domestication of plants and animals, it has traditionally been assumed that no IPRs over living matter can be granted. Most IPR legislations require, for protection to be granted, that the IPR is claimed over an invention and not over the simple discovery of something already existing. Yet, biological matter, as a manifestation of Nature, cannot be invented, but only discovered. The living was thus considered to be part of a common heritage of humanity, which cannot be appropriated by IPRs[11]However, the molecular biology techniques mentioned above started to challenge this doctrine. The direct manipulation of GR changed their status, from product of Nature to product of the ingenuity of the human mind and therefore qualified them as possible candidate for protection by IPRs. During the year 1980, a Supreme Court decision,[12] which legalized the patentability of a genetically modified bacterium.) and the adoption of the Bayh-Dole Act (The Bayh-Dole Act is a patent law passed by US Congress, that allows publicly-funded research teams to patent their discoveries (including on living matter) and encourages them to build partnerships with the private sector), both in the United States, made the obtainment of IPRs over living beings possible. The general principle of this legal reversal is the following: once the natural GR has been genetically modified, it can be patented, provided that the modification in question is new, applicable within an industrial process, and can be considered as an invention.

5. Legal Framework on Access and Benefit Sharing

The legal framework for Access and Benefit Sharing (ABS) under the Convention on Biological Diversity (CBD) is primarily outlined in the Nagoya Protocol, a supplementary agreement to the CBD. The CBD, adopted in 1992, is the foundational international treaty addressing biodiversity conservation, sustainable use, and the fair and equitable sharing of benefits derived from genetic resources. While the CBD sets the stage for ABS considerations, the specific legal provisions for ABS are further elaborated in the Nagoya Protocol. The Nagoya Protocol, adopted in 2010 and entering into force in 2014, is a legally binding international instrument that builds upon the CBD. The Protocol focuses specifically on ABS and provides a comprehensive legal framework to ensure the fair and equitable sharing of benefits arising from the utilization of genetic resources. [13] The Nagoya Protocol aims to contribute to the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the utilization of genetic resources. It seeks to establish transparent and predictable legal frameworks for access and benefit-sharing, promoting the conservation and sustainable use of biodiversity. The Nagoya Protocol enshrines several core principles, including prior informed consent (PIC), mutually agreed terms (MAT), and the principle of national sovereignty over genetic resources. PIC ensures that access to genetic resources is granted only with the permission of the provider country, and MAT sets the terms for access, benefit-sharing, and utilization of genetic resources. The legal framework of ABS under the Nagoya Protocol applies to genetic resources covered by the CBD and to traditional knowledge associated with genetic resources. It is applicable to both access to genetic resources and the fair and equitable sharing of benefits arising from their utilization.

The Protocol outlines detailed procedures and requirements for obtaining access to genetic resources, emphasizing the importance of obtaining PIC from the provider country and establishing MAT. Users are obligated to comply with the access procedures and the terms agreed upon in MAT. The Nagoya Protocol establishes clear obligations for the fair and equitable sharing of benefits, ensuring that benefits flow to both the providing country and local communities that have traditionally conserved and used the genetic resources. Benefit-sharing mechanisms may include monetary and non-monetary benefits. The Protocol includes provisions for compliance, monitoring, and dispute resolution mechanisms to ensure that users adhere to ABS requirements. The ABS Clearing-House facilitates information exchange and compliance monitoring among Parties to the Protocol. Each Party to the Nagoya Protocol is required to adopt national measures to implement its provisions, including the development of legal frameworks, regulatory mechanisms, and administrative structures for ABS. The legal framework encourages international cooperation in ABS, recognizing the interdependence of countries and the need for collaboration to achieve the objectives of the CBD and Nagoya Protocol. The legal framework of Access and Benefit Sharing under the Convention on Biological Diversity, as outlined in the Nagoya Protocol, establishes a robust and comprehensive set of rules and principles to govern the fair and equitable utilization of genetic resources worldwide. The Convention on Biological Diversity (CBD) establishes a

[9] Sreenivasulu, N.S.; Raju, C.B. Biotechnology and patent law. In Patenting Living Beings, 1st ed.; Manupatra Information Solutions Pvt. Ltd.: New Delhi, India, 2008

[10] Blakeney, M. Trends in Intellectual Property Rights Relating to Genetic Resources for Food and Agriculture; Background Study Paper No. 58; FAO: Rome, Italy, 2011

[11] *Bonneuil, C.; Fenzi, M. Des ressources génétiques à la biodiversité cultivée: La carrière d'un problème public mondial. Revue D'Anthropologie des Connaissances* ***2011****, 5, 206–233*

12 Diamond v. Chakrabarty's 447 U.S. 303 (1980).

[13] Noiville, C. Aspect juridique: Droits d'accès aux ressources biologiques et partage des avantages. In Substances Naturelles en Polynésie Française: Stratégies de Valorisation; Guezennec, J., Moretti, C., Simon, J.-C., Eds.; Institut de Recherche Pour le Développement (IRD): Paris, France, 2006; pp. 178–209

comprehensive framework aimed at promoting the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the utilization of genetic resources. Access and Benefit Sharing (ABS) form a crucial component of the CBD, providing a conceptual framework that governs the access to genetic resources and the fair sharing of benefits derived from their utilization.

The CBD, adopted in 1992, outlines three main objectives conservation of biodiversity, sustainable use of its components, and the fair and equitable sharing of benefits arising from genetic resources. ABS principles are enshrined in the CBD's Nagoya Protocol, emphasizing sovereign rights of states over their genetic resources and promoting fair and equitable benefit-sharing arising from their utilization. ABS begins with the concept of access, defining the conditions under which users can access genetic resources for research, development, and commercial utilization, Prior informed consent (PIC) is a fundamental principle, requiring users to obtain permission from the country providing genetic resources after informing them of the intended use. CBD emphasizes that benefits arising from the utilization of genetic resources must be fairly and equitably shared with the provider country, acknowledging the contributions of local communities and indigenous peoples. Monetary and non-monetary benefits, such as sharing research results, technology transfer, and capacity-building, are integral components of ABS. ABS operates under the concept of Mutually Agreed Terms, negotiated between the provider and user countries, outlining the conditions of access and benefit-sharing. MAT includes details on benefit-sharing mechanisms, intellectual property rights, and the scope and purpose of utilization. National ABS Frameworks CBD encourages countries to establish National ABS Frameworks, providing a legal and administrative structure for implementing ABS at the national level. National laws and regulations, alongside community protocols, contribute to the development of a robust ABS framework within each country. The Nagoya Protocol includes mechanisms for compliance and enforcement, ensuring that users adhere to ABS provisions. The Access and Benefit Sharing Clearing-House facilitates information exchange and promotes transparency in ABS processes. CBD envisions a global ABS regime where countries collaborate to establish common standards and best practices for access and benefit-sharing. International cooperation and partnerships play a crucial role in achieving the CBD's ABS objectives.

The conceptual framework of Access and Benefit Sharing within the CBD establishes a balanced and equitable approach to the utilization of genetic resources. By emphasizing sovereign rights, fair benefit-sharing, and cooperation at national and international levels, the CBD's ABS provisions contribute to the conservation of biodiversity and the sustainable use of natural resources. The legal framework of Access and Benefit Sharing under the Convention on Biological Diversity, as outlined in the Nagoya Protocol, establishes a robust and comprehensive set of rules and principles to govern the fair and equitable utilization of genetic resources worldwide.

Recognising the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation. Each Contracting Party shall endeavour to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and not to impose restrictions that run counter to the objectives of this Convention. For the purpose of this Convention, the genetic resources being provided by a Contracting Party, as referred to in this Article and Articles 16 and 19, are only those that are provided by Contracting Parties that are countries of origin of such resources or by the Parties that have acquired the genetic resources in accordance with this Convention. Access, where granted, shall be on mutually agreed terms and subject to the provisions of this Article. Access to genetic resources shall be subject to prior informed consent of the Contracting Party providing such resources, unless otherwise determined by that Party. Each Contracting Party shall endeavour to develop and carry out scientific research based on genetic resources provided by other Contracting Parties with the full participation of, and where possible in, such Contracting Parties. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, and in accordance with Articles 16 and 19 and, where necessary, through the financial mechanism established by Articles 20 and 21 with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms.

Access to and transfer of technology referred to in paragraph 1 above to developing countries shall be provided and/or facilitated under fair and most favourable terms, including on concessional and preferential terms where mutually agreed, and, where necessary, in accordance with the financial mechanism established by Articles 20 and 21. In the case of technology subject to patents and other intellectual property rights, such access and transfer shall be provided on terms, which recognize and are consistent with the adequate and effective protection of intellectual property rights. The application of this paragraph shall be consistent with paragraphs 3, 4 and 5 below. 3. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that Contracting Parties, in particular those that are developing countries, which provide genetic resources are provided access to and transfer of technology which makes use of those resources, on mutually agreed terms, including technology protected by patents and other intellectual property rights, where necessary, through the provisions of Articles 20 and 21 and in accordance with international law and consistent with paragraphs 4 and 5 below. 4. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that the private sector facilitates access to, joint development and transfer of technology referred to in paragraph 1 above for the benefit of both governmental institutions and the private sector of developing countries and in this regard shall abide by the obligations included in paragraphs 1, 2 and 3 above. 5. The

Contracting Parties, recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international

6. Comparative Analysis of Access and Benefit Sharing

A comparative analysis of Access and Benefit Sharing (ABS) under the Convention on Biological Diversity (CBD) involves examining the legal provisions, principles, and implementation mechanisms across different countries. In Brazil, known for its rich biodiversity, has a comprehensive legal framework for ABS. The country implemented ABS through the Access to Genetic Resources and Associated Traditional Knowledge (TK) Law[14]. Brazil emphasizes the importance of prior informed consent (PIC) and mutually agreed terms (MAT) in ABS agreements. The law includes provisions for the fair and equitable sharing of benefits with local communities. While South Africa adopted the National Environmental Management: Biodiversity Act[15] to regulate ABS. The Biodiversity Act focuses on ensuring that benefits derived from the utilization of genetic resources are shared fairly. South Africa's ABS framework emphasizes the role of indigenous knowledge holders and local communities. The country has established competent authorities to oversee ABS agreements. India's Biological Diversity Act (2002) and the Biological Diversity Rules (2004) constitute the legal framework for ABS. India places a strong emphasis on PIC and the equitable sharing of benefits arising from the utilization of genetic resources. The country has a decentralized approach, involving Biodiversity Management Committees (BMCs) at the local level. ABS agreements must undergo scrutiny by the National Biodiversity Authority. Norway's legal framework for ABS is incorporated into the Nature Diversity Act (2009) and the Regulation on Access to Genetic Material of 2010. Norway emphasizes the importance of fairness and sustainability in ABS agreements. Norway's ABS framework involves permitting procedures, and access to genetic resources is contingent upon compliance with specified conditions, including benefit-sharing arrangements. Japan enacted the Act on Access to Genetic Resources (2017) to implement ABS measures. Japan places importance on the conservation of biodiversity and sustainable use, aligning with the CBD's objectives. The ABS framework in Japan involves a permitting system, and users are required to submit plans for benefit-sharing. The law also recognizes the traditional knowledge of indigenous peoples and local communities. Australia's ABS framework is primarily embodied in the Environmental Protection and Biodiversity Conservation Act 1999. Australia places a focus on sustainable use and conservation, and ABS agreements must align with the principles of the CBD. Australia emphasizes benefit-sharing, and ABS agreements may include financial contributions, capacity-building initiatives, and non-monetary benefits.

All analyzed countries recognize the significance of obtaining PIC from the provider country or local communities before accessing genetic resources. Mutually Agreed Terms (MAT) outlining the terms and conditions for access and benefit-sharing, is a common feature in ABS agreements globally. The principle of fair and equitable benefit-sharing is universally emphasized to ensure that benefits derived from genetic resources contribute to conservation and sustainable development. Countries differ in their administrative structures for overseeing ABS agreements, ranging from decentralized committees to national authorities. The types of benefits specified in ABS agreements vary, with some countries emphasizing financial contributions, while others highlight non-monetary benefits. A comparative analysis reveals both commonalities and divergences in the ABS frameworks of different countries. While there is a shared commitment to principles such as PIC and fair benefit-sharing, variations in administrative structures and specific benefit types reflect the diverse approaches taken by countries to implement the ABS provisions of the Convention on Biological Diversity. without the previous approval of the National Biodiversity Authority, transfer the results of any research relating to any biological resources occurring in, or obtained from, in India for monetary consideration or otherwise to any person who is not a citizen of India or citizen of India who is non-resident as defined in clause (30)of section 2 of the Income-tax Act, 1961 or a body corporate or organization which is not registered or incorporated in India or which has any non-Indian participation in its share capital or management.

Explanation: - For the purposes of this section, 'transfer' does not include publication of research papers or dissemination of knowledge in any seminar or workshop, if such publication is as per the guidelines issued by the Central Government. Sections 3 and 4 not to apply to certain collaborative research projects: The provisions of sections 3 and 4 shall not apply to collaborative research projects involving transfer or exchange of biological resources or information relating thereto between institutions, including Government sponsored institutions of India, and such institutions in other countries, if such collaborative research projects satisfy the conditions specified in sub-section. All collaborative research projects, other than those referred to in sub-section which are based on agreements concluded before the commencement of this Act and in force shall, to the extent the provisions of agreement are inconsistent with the provisions of this Actor any guidelines issued under clause of sub-section, be void. For the purposes of sub-section, collaborative research projects shall conform to the policy guidelines issued by the central government in this behalf; be approved by the central government. Application for intellectual property rights not to be made without approval of national biodiversity authority. No person shall apply for any intellectual property right, by whatever name called, in or outside India for any invention based on any research or information on a biological resource obtained from India without obtaining the previous approval of the National Biodiversity Authority before making such application. Provided that if a person applies for a patent, permission of the National Biodiversity Authority may be obtained after the acceptance of the patent but before the seating of tile patent by the patent authority concerned: Provided further that the National Biodiversity Authority shall dispose of the application for permission made to it within a period of ninety days from the date of receipt thereof.

[14] Law No. 13.123/2015.
[15] Act No. 10 of 2004.

The National Biodiversity Authority may, while granting the approval under this section, impose benefit sharing fee or royalty or both or impose conditions including the sharing of financial benefits arising out of the commercial utilization of such rights. The provisions of this section shall not apply to any person making an application for any right under any law relating to protection of plant varieties enacted by Parliament. Where any right is granted under law referred to in sub-section, the concerned authority granting such right shall endorse a copy of such document granting the right to the National Biodiversity Authority. No person, who is a citizen of India or a body corporate, association or organization which is registered in India, shall obtain any biological resource for commercial utilization, or bio-survey and bio-utilization for commercial utilization except after giving prior intimation to the State Biodiversity Board is concerned with the implementation of section 6, which exempts local people, communities, growers, cultivators of biodiversity, and vaids from certain provisions. Individuals or entities intending to obtain biological resources or associated knowledge for research, commercial use, or bio-survey must apply to the NBA. The NBA, after due inquiries and consultation, may grant approval, impose charges, or reject the application. Approval holders are prohibited from transferring biological resources or associated knowledge without the permission of the NBA. Any intended transfer requires a separate application to the NBA, which may grant approval, impose charges, or reject the application. The NBA ensures that approvals secure equitable sharing of benefits arising from the use of biological resources.

Benefit sharing may include joint ownership of intellectual property, technology transfer, location of production units, association with research, venture capital fund, and monetary or non-monetary compensation. Amounts ordered for benefit sharing may be directed to the National Biodiversity Fund. The NBA, in consultation with the Central Government, frames guidelines for the implementation of benefit-sharing provisions. While the NBA deals with citizens of India and organizations registered in India, it is the responsibility of the State Biodiversity Board to handle persons and entities listed under Sections 3, 4, 5, and 6 intending to access biological resources for commercial purposes. Chapter IV outlines the functions of the State Biodiversity Board concerning the regulation and management of biological diversity within the state. The State Biodiversity Board plays a crucial role in implementing and overseeing the access and benefit-sharing provisions of the Biological Diversity Act, particularly for individuals and entities intending to access biological resources for commercial purposes within the state's jurisdiction. The functions of the State Biodiversity Board provide for advice the State Government, in line with Central Government guidelines, on matters related to biodiversity conservation, sustainable use of its components, and equitable sharing of benefits from the use of biological resources. Regulate requests for commercial utilization or bio-survey and bio-utilization of biological resources by Indians through the granting of approvals or other means. Perform any other functions deemed necessary to carry out the provisions of the Biological Diversity Act or as prescribed by the State Government.

Information given for prior intimation is to be kept confidential and not disclosed to any unauthorized person. The text also references Chapter XII on Appeals, stating that any person aggrieved by the National Biodiversity Authority or State Biodiversity Board's determination of benefit-sharing may file an appeal to the High Court within a specified period. Furthermore, it introduces Section 52A, allowing appeals to the National Green Tribunal for determinations made after the commencement of the National Green Tribunal Act, 2010. The execution of determinations or orders made by the National Biodiversity Authority or State Biodiversity Board is facilitated through Section 53, treating them as decrees of the civil court. The document also highlights the importance of guidelines in Section 21 of the Biological Diversity Act, further clarified by Rules 14-19 of the Biological Diversity Rules, 2004. These rules outline the criteria for equitable benefit-sharing The National Biodiversity Authority shall formulate guidelines and describe the benefit-sharing formula, providing for monetary and non-monetary benefits.

7. Conclusion and Recommendations

The issue of Access and Benefit Sharing (ABS) of biodiversity and conservation conventions in Nigeria is a critical aspect of ensuring sustainable development, biodiversity conservation, and equitable sharing of benefits derived from the utilization of biological resources. The Biological Diversity Act of 2002 and the Biological Diversity Rules of 2004 provide the legal framework for regulating access to biological resources and associated traditional knowledge. Nigeria has established a robust legal framework through the Biological Diversity Act, demonstrating a commitment to complying with international conventions on biodiversity and conservation. The Biological Diversity Rules further detail the procedures for access and benefit sharing. The establishment of the National Biodiversity Authority and State Biodiversity Boards provides a regulatory mechanism for overseeing ABS agreements. These bodies play a crucial role in ensuring that access to biological resources aligns with conservation objectives and that benefits are equitably shared. The guidelines outlined in the Rules emphasize the importance of equitable benefit sharing, considering factors such as monetary benefits, joint ventures, technology transfer, and capacity building. The emphasis on case-by-case determination allows for flexibility in addressing unique circumstances. However, there is a need for increased public awareness regarding the importance of biodiversity conservation and the implications of ABS agreements. Capacity building initiatives should target both stakeholders and the general public to enhance understanding and compliance. Recognizing the significance of customary law and traditional knowledge is crucial. Efforts should be made to integrate these elements into the legal framework, respecting the rights and practices of indigenous communities. Enhance the enforcement mechanisms of the Biological Diversity Act to ensure strict compliance with ABS provisions. This may involve periodic audits and assessments of ongoing ABS agreements to guarantee adherence to stipulated guidelines. Encourage active participation and engagement of local communities, especially indigenous groups, in decision-making processes related to biodiversity conservation and ABS agreements. This includes respecting and integrating their traditional knowledge into conservation strategies. Periodically review and update the guidelines for ABS to accommodate emerging challenges, technological advancements, and evolving international standards. This ensures that the legal framework remains relevant and effective.