THE NAGOYA PROTOCOL: SUSTAINABLE ACCESS AND BENEFITS-SHARING FOR INDIGENOUS AND LOCAL COMMUNITIES

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INTRODUCTION

International sustainable development law has seen a veritable acceptance in the international legal arena over the past twenty years. Part of this success can be attributed to indigenous peoples and their persistent calls for international legal instruments that provide protection for the natural environment and consider biodiversity as more than an economic resource but also as a necessity for life on earth and as central to many cultural and spiritual rituals. Currently, there are over 300 international legal instruments[1] that explicitly or implicitly support various aspects of

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1. *See, e.g.*, International Convention on Civil Liability for Bunker Oil Pollution Damage, Mar. 23, 2001, O.J. 2002 L 256/7; Stockholm Convention on Persistent Organic Pollutants, May 22, 2001, 40 I.L.M. 532; Cartagena Protocol on Biosafety, Jan. 29, 2000, 2226 U.N.T.S. 208; Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous

sustainable development. One of the most successful and widely accepted is the Convention on Biological Diversity (CBD).[2] Besides strides made in terms of environmental protection, it is also one of the few legal instruments that explicitly mentions indigenous peoples and the importance of their traditional ecological knowledge.

For indigenous peoples, an important feature of the CBD was the notion of access to and benefits-sharing from genetic resources. It is not a coincidence that the vast majority of the world's remaining biodiversity is located in areas populated by indigenous groups.[3] For these groups, the biodiversity that they cultivated for centuries using sustainable practices is vital to their survival. Hence, controlling access to this resource is important from a subsistence point of view as well as an economic one. The value of this biodiversity for industries such as health foods and

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Wastes, Dec. 10, 1999, U.N. Doc. UNEP/CHW.1/WG/1/9/2; Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, June 25, 1998, 2161 U.N.T.S. 447; Convention on the Law of the Non-Navigational Uses of International Watercourses, May 21, 1997, 36 I.L.M. 700; Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 2303 U.N.T.S. 148; Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Sep. 22, 1995, U.N. Doc. UNEP/CHW.3/35; North American Agreement on Environmental Cooperation, U.S.-Can.-Mex., Sept. 14, 1993, 32 I.L.M. 1480; Convention for the Conservation of Southern Bluefin Tuna, May 10, 1993, 1994 ATS No. 16; Convention for the Protection of the Marine Environment of the North-East Atlantic, Sept. 22, 1992, 2354 U.N.T.S. 67; Rio Declaration on Environment and Development, Aug. 12, 1992, 31 I.L.M. 874; Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests, June 3–14, 1992, U.N., A/CONF.151/26 (Vol. III); United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, *Agenda 21*, A/CONF.151/26 (Vol. I–III), Annex II (Aug. 12, 1992); Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79; United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107; Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Mar. 17, 1992, 1936 U.N.T.S. 269 (amended 1985); Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, 1513 U.N.T.S. 293; Convention on the Conservation of Antarctic Marine Living Resources, May 20, 1980, 33 U.S.T. 3476; Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, 1302 U.N.T.S. 217; Convention for the Prevention of Marine Pollution from Land-Based Sources, June 4, 1974, 1546 U.N.T.S. 119; International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 12 I.L.M. 1319 (amended 1978); Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243; Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Feb. 2, 1971, 996 U.N.T.S. 245; International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, Nov. 29, 1969, 970 U.N.T.S. 211.

2. Convention on Biological Diversity, *supra* note 1.

3. Dep't of Sustainability, Env't, Water, Population and Communities, *Biodiversity Hotspots*, http://www.environment.gov.au/biodiversity/hotspots/index.html#megadiverse (last visited Jan. 28, 2012) (identifying megadiverse countries: Australia, The Democratic Republic of the Congo, Madagascar, South Africa, China, India, Indonesia, Malaysia, Papua New Guinea, Philippines, Brazil, Colombia, Ecuador, Mexico, Peru, United States, and Venezuela).

pharmaceuticals is enormous.[4] Given its economic importance, the international community saw fit to gather in 2010 to further clarify and develop this aspect of the CBD. The result of this effort was the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (NP).[5]

Adopted in October 2010 in Nagoya, Japan by the Parties to the CBD, the NP opened for signature on February 2, 2011 and will, according to Article 33 of the NP, come into force after its fiftieth ratification.[6] The Protocol was conceived to respond to the many criticisms voiced concerning the Access and Benefits-Sharing (ABS) provisions in the CBD. One of the most frequent critiques concerned the protection afforded to indigenous traditional knowledge, a great deal of which regards sustainable methods of natural resource management.

The basic reproach is that ABS provisions have simply not been realized. There have been some success stories, but overall, almost two decades after the CBD came into force, indigenous peoples are still waiting for legal protection of the genetic resources that underlie their traditional knowledge and to share in the benefits therefrom. Current estimates for herbal products exceed 60 billion dollars and are projected to reach 5 trillion dollars by 2020.[7] Furthermore, where pharmaceuticals are concerned, Alikhan states that "Eli Lilly['s] extraction of the rosy periwinkle plant and traditional knowledge from Madagascar and commercialisation [sic] of the resultant drug total[ed] US$ 100 million [in profits] with no returns to the local people."[8]

This paper examines the NP, focusing on how this protocol impacts indigenous peoples' rights and, more specifically, addresses any further

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4. Konstantia Koutouki, *A Legal Placebo: The Role of International Patent Law in the Protection of Indigenous Traditional Knowledge of Medicinal Plants*, 26 CANADIAN INTELL. PROP. REV. 19 (2010).

5. Convention on Biological Diversity, *supra* note 1; 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, Oct. 29, 2010, UNEP/CBD/COP/DEC/X/1 of 29. [hereinafter Nagoya Protocol]; *COP 10 Decision X/1: X/1.Access to genetic resources and the fair and equitable sharing of benefits arising from their utilization*, CONVENTION ON BIOLOGICAL DIVERSITY, http://www.cbd.int/decision/cop/?id=12267 (last visited Feb. 16, 2012).

6. *The Nagoya Protocol on Access and Benefit-sharing*, CONVENTION ON BIOLOGICAL DIVERSITY, http://www.cbd.int/abs/ (last visited Feb. 16, 2012); *Article 33. Entry Into Force*, CONVENTION ON BIOLOGICAL DIVERSITY, http://www.cbd.int/abs/text/articles/?sec=abs-33 (last visited Feb. 16, 2012).

7. SHAHID ALIKHAN & RAGHUNATH MASHELKAR, INTELLECTUAL PROPERTY AND COMPETITIVE STRATEGIES IN THE 21ST CENTURY 81 (2004).

8. *Id.* at 82.

protection beyond that of the CBD that is afforded to indigenous peoples, local communities, and their sustainable traditional knowledge practices under international law.

I. ABS AND THE CBD

ABS, as an international legal concept, was first introduced in 1992 in the CBD. Article 15 states:

> Article 15. Access to Genetic Resources
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> 1. Recognizing 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.
> 2. 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.
> 3. 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.
> 4. Access, where granted, shall be on mutually agreed terms and subject to the provisions of this Article.
> 5. Access to genetic resources shall be subject to prior informed consent of the Contracting Party providing such resources, unless otherwise determined by that Party.
> 6. 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.
> 7. 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.[9]

Thus, the main idea is that in recognition of the sovereign rights of states over their natural resources, states can regulate access to genetic resources within their jurisdiction. Thereby the CBD defines genetic resources as genetic material of actual or potential value[10] Furthermore, access to genetic resources shall be subject to the prior informed consent (PIC) of the Contracting Party providing such resources. Article 15 of the CBD also provides that access shall be based on mutually agreed terms (MAT) in order to ensure the fair and equitable sharing of benefits arising from the commercial or other utilization of these genetic resources with the Contracting Party providing such resources. In addition to regulating access to genetic resources and the sharing of the benefits arising out of the utilization of their use, Article 8(j) of the CBD addresses ABS with regard to traditional knowledge (TK). [11] The provision promotes a wider application of TK associated with genetic resources, with the approval and involvement of the holder, and encourages the equitable sharing of the benefits arising from its utilization. However, Article 8(j) does not require the PIC of indigenous TK holders.

Article 8(j) of the CBD earned a lot of criticism for its soft language.[12] It stipulates:

> Each Contracting Party shall, as far as possible and as appropriate: j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from

9. Convention on Biological Diversity, *supra* note 1, at art. 15.
10. *Id.* at art. 2.
11. *Id.* at art. 8.
12. *Id.*

> the utilization of such knowledge, innovations and practices[13] . . . .

Moreover, parties and stakeholders debated whether the provision contained an obligation for users to require PIC of Indigenous Local Communities (ILC) to access TK as well as an obligation to share the benefits from the utilization of TK.[14] In response to this debate, the Fifth Meeting of the Conference of the Parties (COP5) in 2000 established a general principle that access to TK of ILC should be subject to the PIC of its holders.[15] However, the text of the CBD was never amended to require such consent, and thus the debate continues as to whether this is a suggestion or a requirement under international law.

This is partly because the adoption of the CBD in 1992 as one of the three "Rio Conventions" introduced a paradigm shift. For the first time an international agreement with conservation as the overall goal not only addressed environmental issues, but also recognized the importance of other issues including social, economic, scientific, educational, cultural, recreational, and aesthetic values for conservation.[16] In the spirit of the Rio Earth Summit and the Brundtland Report, the different goals and interests were thereby not seen as contrary, but as mutually reinforcing or complementing.[17] In this regard, the parties stated in the preamble of the CBD that Contracting Parties are "[a]ware that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose access to and sharing of both genetic resources and technology are essential."[18]

Parties also recognized that, "economic and social development and poverty eradication are the first and overriding priorities of developing

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13. *Id.*

14. Evanson Chege Kamau, Bevis Fedder, & Gerd Winter, *The Nagoya Protocol on Access to Genetic Resources and Benefit Sharing: What Is New and What Are the Implications for Provider and User Countries and the Scientific Community?* 6/3 L. ENV'T & DEV. J. 246 (2010), *available at* www.lead-journal.org/content/10246.pdf (last visited July 16, 2012).

15. Gurdial Singh Nijar, *Incorporating Traditional Knowledge in an International Regime on Access to Genetic Resources and Benefit Sharing: Problems and Prospects*, 21:2 EUROPEAN. J. OF INT'L L. 457, 459 (2010).

16. *See generally* G. Kristin Rosendal, *Balancing Access and Benefit Sharing and Legal Protection of Innovations From Bioprospecting*, 15 J. ENV'T & DEV. 428, 431 (2006) (illuminating CBD's comprehensive scope).

17. REP. OF THE WORLD COMM'N ON ENV. AND DEV.: OUR COMMON FUTURE (1987).

18. Convention on Biological Diversity, *supra* note 1, at art. 8.

countries[.]"[19] The legal approach to taking into account all the different interests was the introduction of the concept of access and benefits-sharing.[20] In response to the concern raised by developing countries that industrialized countries would exploit their natural wealth, provider countries of genetic resources (and thus mainly developing countries) were empowered to regulate access to their genetic resources with the aim of benefits-sharing arising out of their utilization. At the same time, Parties were encouraged to create conditions to facilitate access to genetic resources for environmentally sound uses[21] as ABS was not seen as an instrument of exclusion of users, but as an instrument to generate and share benefits from genetic resources in order to incentivize conservation and sustainable use.[22]

Hence, the CBD equipped genetic resource providers (mainly nations in the Southern Hemisphere) with new powers to control and benefit from access to these resources. It is argued, however, that the tense nature of the relationship between states and indigenous peoples makes it unlikely that states would give indigenous people access to an international arena in an unfettered manner in order to assert their rights over the very same genetic resources. Sovereignty over natural resources is attributed to national governments and the CBD is unable to deal with the volatile nature of the relationship between indigenous peoples and their respective national governments, both in the developed and developing worlds. Khor, in assessing the CBD, suggests that "reflecting the uncomfortable political deal which was struck in bringing the CBD to conclusion, the language of the Convention is unfortunately vague. The positive affirmation of principles in a number of areas is qualified by vague transcendental values."[23]

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19. *Id.*

20. *See* International Treaty on Plant Genetic Resources for Food and Agriculture, *ratified on* June 29, 2004 (providing an example of another multilateral system); CLAUDIO CHIAROLLA & STEFAN JUNGCURT, THE BERNE DECLARATION & DEVELOPMENT FUND, OUTSTANDING ISSUES ON ACCESS AND BENEFIT SHARING UNDER THE MULTILATERAL SYSTEM OF THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE (2011).

21. Convention on Biological Diversity, *supra* note 1, at art. 15.2.

22. Rosendal, *supra* note 16, at 433.

23. MARTIN KHOR, INTELLECTUAL PROPERTY, BIODIVERSITY AND SUSTAINABLE DEVELOPMENT: RESOLVING THE DIFFICULT ISSUES 40 (2002); Chidi Oguamanam, *Genetic Resources & Access and Benefit Sharing: Politics, Prospects and Opportunities for Canada after Nagoya*, 22 J. ENVTL. L. & PRAC. 87, 103–04 (2011) (also according to Oguamanam:

> Without question, for these countries, the requirement of an equitable ABS in their dealings with genetic resources is an irritation, to the extent that it is also a call to an accounting that may redress the unbalanced unidirectional transfers of

Giving all control over natural resources to the State severs the all-important connection between community and biodiversity. This results in a lack of control for indigenous peoples over the ecosystems that they have developed and maintained since time immemorial. There is ample evidence to suggest that cultural diversity, and the unique natural resource management techniques that ensue therefrom, are elemental to a healthy ecosystem. As Parajuli explains, "[t]he field of politics for ecological ethnicities is the community, and not necessarily the civil society or the nation-state as one would usually suppose . . . the seeds of regeneration need the firm soil of community and culture, vernacular technology and agriculture, collectivities and memories."[24]

Furthermore, the implementation of the CBD proved slow due to the complexity of the issues addressed as well as a lack of guidance from the CBD as a framework convention.[25] After almost no or insufficient domestic implementation efforts were undertaken to accomplish "fair and equitable benefit sharing," and a call stressing the necessity for a harmonized global

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valuable genetic resources and the knowledge of indigenous and local communities in this era of rapid biotechnology progress. Leading biotechnology countries would prefer that the genetic resources and associated indigenous knowledge remain, as they had been: that is, outside the realm of real or intellectual property claims and, consequently, to be freely accessible to them without any restraints. Ironically, while these countries desire to have unrestricted access to vital genetic materials and, in some cases, the associated indigenous knowledge, they deploy intellectual property, particularly the patent system, to exercise proprietary control over the out-come or benefits of their dealings with freely obtained materials. In many narratives of biopiracy, the providers of genetic resources and associated indigenous knowledge are outraged that not only are they denied basic compensation and legal recourse; as well, that they are unable to afford the resulting drugs, seeds or agricultural products, as the case may be, that emerge from the genetic resources they provided, often in trust and good faith, for the common good. *Id.*).

24. Pramod Parajuli, *Learning from Ecological Ethnicities: Toward a Plural Political Ecology of Knowledge*, *in* INDIGENOUS TRADITIONS AND ECOLOGY: THE INTERBEING OF COSMOLOGY AND COMMUNITY, 559, 574 (John A. Grim ed., 2001).

25. Bram De Jonge & Niels Louwaars, *The Diversity of Principles Underlying the Concept of Benefit Sharing*, *in* GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND THE LAW: SOLUTIONS FOR ACCESS AND BENEFIT SHARING, 37, 42 (Evanson C. Kamau & Gerd Winter eds., 2009); MIRIAM DROSS & FRANZISKA WOLFF, GERMAN FEDERAL AGENCY FOR NATURE CONSERVATION, NEW ELEMENTS OF THE INTERNATIONAL REGIME ON ACCESS AND BENEFIT-SHARING OF GENETIC RESOURCES—THE ROLE OF CERTIFICATES OF ORIGIN 12 (2005); GURDIAL SINGH NIJAR, THE NAGOYA PROTOCOL ON ACCESS AND BENEFIT SHARING OF GENETIC RESOURCES: ANALYSIS AND IMPLEMENTATION OPTIONS FOR DEVELOPING COUNTRIES 7 (South Centre 2011); KATHRYN GARFORTH ET AL., OVERVIEW OF THE NATIONAL AND REGIONAL IMPLEMENTATION OF MEASURES ON ACCESS TO GENETIC RESOURCES AND BENEFIT-SHARING 4 (3rd ed. 2005) (pointing out that some developing countries were frustrated by the slow rate of implementation of the CBD).

instrument on ABS at the 2002 Johannesburg World Summit on Sustainable Development, Parties adopted the non-binding Bonn Guidelines on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising out of Their Utilization in 2002 in an attempt to guide and foster implementation of ABS in domestic legislation.[26]

The interaction of the ABS regime with other international regimes, especially the Agreement on Trade Related Aspects of International Property Rights (TRIPS) under the World Trade Organization (WTO), is also regarded as critical in achieving fair and equitable benefits-sharing and in achieving negotiations on harmonizing different legal regimes, and has been ongoing since the adoption of the CBD.[27] The most prominent call has thus been to require the disclosure of the origin of genetic resources or associated TK in patent applications as a compliance measure for ABS.[28] Also, it is argued that TRIPS needs to specifically address TK, which it currently does not.[29]

II. THE BONN GUIDELINES

Although the CBD was adopted in 1992 and entered into force at the end of 1993, the operationalization and thus the implementation of

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26. Rep. of the Sixth Meeting of the Conference of the Parties to the Convention on Biological Diversity, April 7–19, 2002, U.N. Doc. UNEP/CBD/COP/6/20, at 253–254, *available at* http://www.cbd.int/decision/cop/?id=7198 (last visited July 17, 2012) [hereinafter Sixth Meeting].

27. JORGE CABRERA MEDAGLIA, THE POLITICAL ECONOMY OF THE INTERNATIONAL ABS REGIME NEGOTIATIONS: OPTIONS AND SYNERGIES WITH RELEVANT IPR INSTRUMENTS AND PROCESSES (2010); Jorge Cabrera Medaglia, *The Relationship Between The Access and Benefit Sharing International Regimen and Other International Instruments: The World Trade Organization and the International Union for the Protection of New Varieties of Plants*, 10:3 SUSTAINABLE DEV. L. & POL'Y (2010); J.C. Medaglia, *Trade, Particular Free Trade Agreements and Access to Genetic Resources and Benefit-Sharing: Exploring the Linkages*, 10 ASIAN BIOTECH. & DEV. REV. 19, 29 (2008); ELAN ABRELL ET AL., TRIGGERING THE SYNERGIES BETWEEN INTELLECTUAL PROPERTY RIGHTS AND BIODIVERSITY 51 (Jess Nierenberg & Alejandro García Alvarez eds., Deutsche Gesellschaft für Technische Zusammenarbeit 2010).

28. International Centre for Trade and Sustainable Development, *Megadiverse Countries Call for Legally Binding ABS Regime*, BRIDGES TRADE BIORES, Vol. 5, No. 2, Feb. 4, 2005, *available at* http://ictsd.org/i/news/biores/63359/ (last visited Mar. 2, 2012) [hereinafter ICTSD]; CARLOS M. CORREA, GEOGRAPHICAL INDICATIONS AND THE OBLIGATION TO DISCLOSE THE ORIGIN OF BIOLOGICAL MATERIALS: IS A COMPROMISE POSSIBLE UNDER TRIPS? 6 (2010); BIODIVERSITY AND THE LAW: INTELLECTUAL PROPERTY, BIOTECHNOLOGY AND TRADITIONAL KNOWLEDGE 107 (Charles R. McManis ed., 2007) [hereinafter BIODIVERSITY AND THE LAW]; DROSS & WOLFF, *supra* note 25, at 104.

29. KATHARINA R. VON BIEBERSTEIN & KONSTANTIA KOUTOUKI, THE NAGOYA PROTOCOL: STATUS OF INDIGENOUS AND LOCAL COMMUNITIES 6 (2011).

provisions related to ABS were slow.[30] Starting with the Philippines in 1995, select provider countries started enacting ABS legislation. But as its approaches to access were mainly restrictive and thus contrary to the CBD objective of facilitating ABS, COP 5 in 2000 established the Ad Hoc Open-ended Working Group on ABS with the mandate to develop guidelines.[31] The result was the Bonn Guidelines, adopted unanimously by some 180 countries.[32]

The Bonn Guidelines are voluntary, and according to I.A.1., "may serve as inputs when developing and drafting legislative, administrative or policy measures . . . under Articles 8(j), 10(c), 15, 16 and 19; and contracts and other arrangements under mutually agreed terms for access and benefit-sharing."[33] The Guidelines identify the steps in the ABS process, with an emphasis on the obligation for users to seek PIC of providers. They also identify the basic requirements for MAT and define the main roles and responsibilities of users and providers.[34] With regard to PIC, the Bonn Guidelines distinguish between ILC and the TK of ILC regarding the genetic resources being accessed. In both cases PIC should be obtained with respect to established legal rights.[35]

Furthermore, the Guidelines introduce a proposed list of elements that could be considered guiding parameters in contractual agreements as well as basic requirements for MAT, particularly with regard to ILC and TK:

> a. Regulating the use of resources in order to take into account ethical concerns of the particular Parties and stakeholders, in particular indigenous and local communities concerned;
> b. Making provision to ensure the continued customary use of genetic resources and related knowledge;
> c. Provision for the use of intellectual property rights include joint research, obligation to implement rights on inventions obtained and to provide licences by common consent;

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30. De Jonge & Louwaars, *supra* note 25, at 37; DROSS & WOLFF, *supra* note 25, at 12 (explaining that some issues took several years to resolve); NIJAR, *supra* note 24 at 2; GARFORTH ET AL., *supra* note 25; Kamau et al., *supra* note 14, at 248.

31. Kamau et al., *supra* note 14, at 249.

32. Sixth Meeting, *supra* note 26, at 4, 5.

33. Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of Their Utilization ¶ 1, *available at* http://www.cbd.int/decision/cop/?id=7198 (last visited July 17, 2012) [hereinafter Bonn Guidelines].

34. *Id.* at ¶ 23.

35. *Id.* at ¶ 31.

d. The possibility of joint ownership of intellectual property rights according to the degree of contribution.[36]

Finally, the Bonn Guidelines state that "benefits should be shared fairly and equitably with all those who have been identified as having contributed to the resource management, scientific and/or commercial process. The latter may include governmental, non-governmental or academic institutions and ILC."[37] Besides the voluntary nature of the Guidelines, representatives of indigenous peoples have criticized that they do not distinguish between their role and the role of any other stakeholder who might be involved in resource management.[38] As a result, their participation in ABS is not a question of rights enforcement but rather a question of national recognition of ILC rights.[39]

In addition, the Guidelines have been criticized for focusing too much on the access side and thus on provider country measures as opposed to user country measures.[40] Whereas access and the agreement to share benefits take place in the country providing the genetic resources, the actual utilization of the genetic resources and thus the benefits-triggering moment usually happens in another jurisdiction—the one of the user country. Commentators stress the need for user-country measures in order to ensure compliance with domestic ABS legislation of the provider country and to monitor the utilization of genetic resources and associated TK to enforce benefits-sharing agreements.[41]

Different groups of developing countries, including the Group of 77 and China as well as the Group of Like-Minded Megadiverse Countries (LMMC),[42] thus pushed for a protocol on ABS.[43] At COP 7 (2004) the Working Group on Access and Benefit-Sharing was given the mandate to

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36. *Id.* at ¶ 43.

37. *Id.* at ¶ 48.

38. VON BIEBERSTEIN, *supra* note 29, at 10; DROSS & WOLFF, *supra* note 25, at 19.

39. VON BIEBERSTEIN, *supra* note 29, at 10.

40. *Id.*

41. THE POLITICAL ECONOMY OF THE INTERNATIONAL ABS REGIME NEGOTIATIONS, *supra* note 27.

42. The LMMCs include Bolivia, Brazil, China, Colombia, Costa Rica, Democratic Republic of Congo, Ecuador, India, Indonesia, Kenya, Madagascar, Malaysia, Mexico, Peru, the Philippines, South Africa, and Venezuela. ICTSD, BIODIVERSITY AND THE LAW, *supra* note 28.

43. Krystyna Swiderska, *What Happened at Nagoya?*, INT'L INST. ENV'T & DEV. (Nov. 2010), http://www.iied.org/natural-resources/key-issues/biodiversity-and-conservation/what-happened-nagoya (Nov. 19, 2010); ICTSD, *supra* note 28.

elaborate and negotiate an international regime on ABS in cooperation with the Working Group on Article 8(j).[44]

III. THE NAGOYA PROTOCOL

In its preamble, the NP recalls Article 15 of the CBD (Access to Genetic Resources) and Article 8(j) of the CBD (In-situ Conservation). It also references the 3rd objective of the CBD:

> [T]he fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.[45]

In addition, the NP affirms the linkage of this objective of the CBD to the other two objectives by adding the following phrase: "thereby contributing to the conservation of biological diversity and the sustainable use of its components."[46] Many have perceived the adoption of a new Protocol under the CBD[47] as a milestone, even though reactions, in particular with regard to the interests of developing countries as well as ILC, have been diverse.[48]

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44. *Working Group on Access & Benefit Sharing*, CONVENTION ON BIOLOGICAL DIVERSITY, http://www.cbd.int/abs/wgabs/ (last visited July 17, 2012).

45. Convention on Biological Diversity, *supra* note 1, at art. 1.

46. Nagoya Protocol, *supra* note 5, at art. 1; *cf.* Bonn Guidelines, E. Objectives 11 (a), paragraph 24, 48, Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of Benefits Arising Out of Their Utilization, Decision VI-24.A., *available at* http://www.cbd.int/doc/meetings/cop/cop-06/official/cop-06-20-en.pdf (last visited July 17, 2012); Nagoya Protocol, *supra* note 5, at 3; Bonn Guidelines, *supra* note 33, at ¶ 24, 48.

47. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity was adopted on January 29, 2000, and entered into force on September 11, 2003, and the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety was adopted together with the Nagoya Protocol in October 2010 in Nagoya. Cartagena Protocol on Biosafety, *supra* note 1; Nagoya-Kuala Lumpur Supplementary Protocol, Oct. 15, 2010, Decision BS-V/11, *available at* http://bch.cbd.int/protocol/NKL_decision.shtml.

48. *Compare* Swiderska, *supra* note 43, *with* Priscilla Jebaraj, *Nagoya Protocol, A Big Victory for India*, HINDU, Oct. 31 2010, *available at* http://www.thehindu.com/news/national/article859977.ece (last visited July 17, 2012), *and* Kamau et al., *supra* note 14, at 262 (taking a more critical view), *and* Joint Statement of North American Indigenous Organizations on the Nagoya ABS Protocol of the Convention on Biological Diversity, Ellen Gabriel, Native Women of Quebec (Dec. 14, 2010), *available at* http://www.faq-qnw.org/old/documents/pressrelease-14dec.pdf (last visited July 17, 2012).

According to different observers, the final adoption of the Protocol at the meeting in Nagoya was not certain until the last minute.[49] The critical points were the scope of the NP, the design of compliance or user-country measures, as well as the involvement of ILC when access to TK associated with the genetic resources is not requested.[50] The NP is structured into 27 preambular paragraphs, 36 articles, and one annex. In the following, the core provisions will be summarized and analyzed.

The preamble first repeats some of the preambular paragraphs of the CBD and further clarifies the importance of ABS for conservation by stating that the "economic value of ecosystems and biodiversity and the fair and equitable sharing of this economic value with the custodians of biodiversity are key incentives for the conservation of biological diversity and the sustainable use of its components . . . ." [51] Furthermore, the preamble refers to some of the difficulties in the implementation of the CBD so far, thus recognizing the importance of promoting equity and fairness in negotiations of MAT between providers and users of genetic resources.[52] The last seven points are concerned with TK, highlighting, amongst others, Article 8(j) of the CBD, the importance of TK for the conservation of biological diversity, the diversity of circumstances in which TK associated with genetic resources is held or owned by ILC, and their right to identify the rightful holder of their TK. In addition, and for the first time in an international treaty, the preamble refers to the UN Declaration on the Rights of Indigenous People (UNDRIP) adopted in 2007.[53]

The Protocol starts with the provisions on benefits-sharing before moving on to the regulation of access, clearly separating the two. Furthermore, Article 5 of the NP (Fair and Equitable Benefit-sharing) also clearly distinguishes between benefits arising from the utilization of genetic resources, benefits that are arising from genetic resources that are held by ILC, and benefits arising from the utilization of TK associated with genetic resources:

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49. Kamau et al., *supra* note 14, at 250.

50. NIJAR, *supra* note 25, at 11; *see also* Kamau et al., *supra* note 14, at 253–54 (overviewing controversial issues and outcome of negotiations).

51. Nagoya Protocol, *supra* note 5, at preamble.

52. *Id.*

53. After the Canadian government initially blocked reference to the UNDRIP, Canada only accepted to include in the preamble: "Noting the United Nations Declaration on the Rights of Indigenous Peoples" after widespread international criticism. Joint Statement of North American Indigenous Organizations, *supra* note 48.

> [B]enefits arising from the utilization of genetic resources as well as subsequent applications and commercialization shall be shared in a fair and equitable way with the party providing such resources that is the country of origin of such resources or a Party that has acquired the genetic resources in accordance with the Convention.[54]
>
> Each party shall take legislative, administrative or policy measures, as appropriate, with the aim of ensuring that benefits arising from the utilization of genetic resources that are held by indigenous and local communities, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over these genetic resources, are shared in a fair and equitable way with the communities concerned . . . .[55]
>
> [B]enefits arising from the utilization of traditional knowledge associated with genetic resources are shared in a fair and equitable way with indigenous and local communities holding such knowledge.[56]

In accordance with the CBD, the NP requires that all such sharing shall be upon MAT and benefits may include monetary and non-monetary benefits, including but not limited to those listed in the Annex of the Protocol, which mainly reiterates the list of the Bonn Guidelines.[57] The Protocol also deals separately with access to genetic resources in Article 6 and access to TK associated with genetic resources in Article 7.

Article 6 reiterates that, under reaffirmation of sovereign rights over natural resources, access to genetic resources for their utilization is subject to PIC of the providing party.[58] With regard to previous implementation efforts, the Protocol is very elaborate on the procedural facilitation of access.[59] At this point it should be highlighted that Article 6.3(e) requires each Party to provide for the issuance at the time of access of a permit or its equivalent as evidence of the decision to grant PIC and of the establishment of MAT, and to notify the Access and Benefit-Sharing Clearing-House (established by Article 14 of the NP) accordingly.[60]

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54. Nagoya Protocol, *supra* note 5, at art. 5, sec. 1.
55. Id. at sec. 2.
56. *Id.* at sec. 5.
57. *Id.* at annex.
58. *Id.* at art. 6.
59. Kamau et al., *supra* note 14, at 250.
60. Nagoya Protocol, *supra* note 5.

Article 6.2 requires each Party to take measures that the PIC or approval and involvement of ILC is obtained for access to genetic resources where they have the established right to grant access to such resources.[61] Article 7 only consists of one paragraph and states that, "in accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that [TK] associated with genetic resources that is held by [ILC] is accessed with the prior and informed consent or approval and involvement of these [ILC], and that [MAT] have been established."[62] Utilization of genetic resources is defined as "research and development on the genetic and/or biochemical composition of genetic resources, including through the application of biotechnology as defined in Article 2(c) of the Convention."[63] Whereas the CBD defined genetic resources as genetic material of actual or potential value,[64] the term utilization of genetic resources has not been defined before and experts and national legislations offered different interpretations on the types of activities covered by the term.[65] The new definition thus aims at creating more legal certainty by including biochemical compositions under the scope of ABS. According to Kamau, Fedder, and Winter, this is of high importance because, for example, drugs based on the extraction of chemicals from biological resources are now subject to benefits-sharing.[66] The NP also contains a definition of "derivative," which was also a central concern of developing countries, but the implications of this incorporation are not clear.[67]

Article 3 of the NP states that the NP shall apply to genetic resources within the scope of Article 15 of the CBD, to the benefits arising out of the utilization of such resources, to TK associated with genetic resources within the scope of the Convention, and to the benefits arising from the utilization of such knowledge.[68] The provision was one of the most critical points in the negotiations. Developing countries wanted the NP to apply to existing collections of genetic resources and thus to genetic material accessed prior

61. *Id.* at art. 6.
62. *Id.* at art. 7.
63. *Id.* at art. 2.
64. Nagoya Protocol, *supra* note 5, at art. 2.
65. Union for Ethical BioTrade, *Nagoya Protocol on Access and Benefit Sharing—Technical Brief*, http://ethicalbiotrade.org/news/wp-content/uploads/UEBT_ABS_Nagoya_Protocol_TB.pdf (Berne, Switzerland: Union for Ethical BioTrade, 2010).
66. Kamau et al., *supra* note 14, at 251–52.
67. Union for Ethical BioTrade, *supra* note 65.
68. Nagoya Protocol, *supra* note 5, at art. 3.

to the adoption of the NP and prior to the adoption of the CBD.[69] But industrialized countries (mainly found in the European Union) argued that this would go against legal clarity and certainty, and eventually they successfully limited the scope of the CBD to genetic material accessed after the CBD's adoption.[70]

However, some commentators have argued that the provision does not imply that benefits-sharing only relates to benefits from genetic resources and TK accessed post-CBD or even post-NP. Drawing on general principles of international law, the position is that new benefits arising from prior or on-going uses may be considered as new situations for benefits-sharing requirements and thus that the NP would be applicable.[71] In addition, the NP, as a way to bridge the different positions on temporal scope, refers to a Global Multilateral Benefit Sharing Mechanism that shall apply in situations where PIC from provider countries cannot be obtained.[72] This mechanism could potentially cover collections made before the protocol is implemented.[73] Article 10 states in part:

> Parties shall consider the need for and modalities of a global multilateral benefit-sharing mechanism to address the fair and equitable sharing of benefits derived from the utilization of genetic resources and [TK] associated with genetic resources that occur in transboundary situations or for which it is not possible to grant or obtain [PIC]. The benefits . . . through this mechanism shall be used to support the conservation of biological diversity and the sustainable use of its components globally.[74]

The establishment of a multilateral benefits-sharing fund has already been proposed by the Africa Group.[75] The wording "not possible to grant or obtain [PIC]" is broad and could thus cover genetic resources or associated TK whose origin is not clear or that was obtained prior to the entering into force of the NP and the CBD, for instance for ex situ collections. As such,

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69. Swiderska, *supra* note 43.

70. NIJAR, *supra* note 25, at 13; Swiderska, *supra* note 43.

71. *See* Kamau et al., *supra* note 14, at 255 (suggesting that some legal theories may support the sharing of new benefits that can be traced to prior uses); Union for Ethical BioTrade, *supra* note 65.

72. Nagoya Protocol, *supra* note 5, at art. 10.

73. Union for Ethical BioTrade, *supra* note 65.

74. Nagoya Protocol, *supra* note 5, at art. 10.

75. Swiderska, *supra* note 43.

the fund provides a potential means of addressing the concerns of developing countries over the temporal scope.[76]

Aside from a global benefits-sharing mechanism, the NP also encourages regional cooperation. Article 11 of the NP (Transboundary Cooperation) foresees cooperation between Parties and involvement of ILC if the same genetic resources are found in situ within the territory of more than one Party, or where the same TK is shared by one or more ILC in several Parties. In their assessment, Kamau, Fedder, and Winter come to the conclusion that Articles 10 and 11 of the NP constitute a weak "derogation of absolute state sovereignty," and draw the comparison with the multilateral ABS of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).[77] Furthermore, the Union for Ethical BioTrade observes that:

> In the [NP], the need to share the benefits derived from the use of genetic resources appears to have been detached from access to these resources. Fair and equitable sharing of benefits must still take place on the basis of [MAT], but it is not clear that benefit sharing requires, or only takes place ensuing, access procedures.[78]

Therefore, compliance measures are rather complex under the NP. According to Article 15, each Party shall take measures to provide that genetic resources utilized within its jurisdiction have been accessed in accordance with PIC, and that MAT have been established "as required by the domestic [ABS] legislation or regulatory requirements of the other Party."[79] In addition, Parties shall take measures to address situations of non-compliance and cooperate in cases of alleged violation of domestic ABS legislation or regulatory requirements.[80]

Article 16 of the NP reinforces the compliance measures for the use of TK associated with genetic resources.[81] These compliance measures are a development beyond the obligations imposed by the CBD. Although Article 15.7 CBD requires each contracting Party to ensure fair and equitable benefits-sharing and thus also addresses user countries, for the first time the NP explicitly addresses and specifies compliance measures to

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76. *Id.*; Kamau et al., *supra* note 14, at 258; Union for Ethical BioTrade, *supra* note 65.
77. Kamau et al., *supra* note 14, at 253, 257.
78. Union for Ethical BioTrade, *supra* note 65.
79. Nagoya Protocol, *supra* note 5, at art. 15.
80. *Id.*
81. Nagoya Protocol, *supra* note 5, at art. 16.

be implemented by user-countries.[82] Because little progress has so far been made on compliance or user-country measures and also because this is widely perceived as one of the biggest obstacles for fair and equitable benefits-sharing, the issue was one of the most critical points of the negotiations.[83]

Whereas Articles 15 and 16 of the NP leave it primarily to Parties to decide on "appropriate, effective and proportionate legislative, administrative or policy measures" for compliance, Article 17 of the NP requires Parties to support compliance by monitoring and enhancing transparency about the utilization of genetic resources.[84] A corresponding provision on TK is missing, which could have far reaching consequences taking into account the clear distinction the NP draws between the utilization of genetic resources and the utilization of TK.[85] The most important requirement for Parties listed in Article 17.1(a) of the NP is the designation of one or more checkpoints. Checkpoints shall receive or collect information related to PIC, the source and utilization of the genetic resource, and the establishment of MAT, and then submit the information to relevant authorities, the provider party, and the ABS Clearing-House Mechanism.[86] To facilitate monitoring, the Protocol introduces internationally recognized certificates of compliance that "shall serve as evidence that the genetic resource which it covers has been accessed in accordance with [PIC] and that [MAT] have been established."[87] Thereby, the already mentioned permit issued in accordance with Article 6.3(e) of the NP shall constitute such a certificate.[88]

The demand, mainly from developing countries, to include a list of mandatory checkpoints was not successful.[89] Nevertheless,

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82. NIJAR, *supra* note 25, at 12.

83. Christine Godt, *Enforcement of Benefit-Sharing Duties in User Countries*, *in* GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND THE LAW: SOLUTIONS FOR ACCESS AND BENEFIT SHARING, 419 (Evanson C. Kamau & Gerd Winter eds. 2009); NIJAR, *supra* note 25, at 11; Union for Ethical BioTrade, *supra* note 65.

84. Kamau et al., *supra* note 14, at 252; CONVENTION ON BIOLOGICAL DIVERSITY, NAGOYA PROTOCOL ON ACCESS TO GENETIC RESOURCES AND THE FAIR AND EQUITABLE SHARING OF BENEFITS ARISING FROM THEIR UTILIZATION 12 (2011), *available at* http://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf (last visited July 17, 2012).

85. *See* Kamau et al., *supra* note 14, at 253 (pointing out that the Protocol distinguishes between the use of genetic material and TK).

86. Nagoya Protocol, *supra* note 5, at arts. 15–17.

87. *Id.* at art. 17.

88. *Id.*

89. *See* Kamau et al., *supra* note 14, at 257 (pointing out that checkpoints under Article 17 are not mandatory); Union for Ethical BioTrade, *supra* note 65.

Article 17.1(a)(iv) specifies that "[c]heckpoints must be effective and should have functions relevant to implementation of this subparagraph (a). They should be relevant to the utilization of genetic resources, or to the collection of relevant information, at, inter alia, any stage of research, development, innovation, pre-commercialization or commercialization."[90]

Possible checkpoints could, for example, include the patent application process (in response to the already mentioned critical relationship with IP protection), application processes for government funding for biodiversity-based research and development, or market approval processes.[91] Whereas Article 17 of the NP only monitors the establishment of MAT, Article 18 aims at achieving *compliance* with MAT by requiring Parties to encourage providers and users to include provisions in MAT to cover dispute resolution.[92] Below, examples are listed specifying what those provisions should encompass. Article 18 of the NP makes clear that the enforcement of MAT, and thus benefits-sharing, is an issue of contract enforcement.[93]

This leads Kamau, Fedder, and Winter to their conclusion about the main problem and material issue:

> There is no specified obligation of user states to ensure benefit sharing. As before, the enforcement of benefit-sharing duties is left to contractual means, with all the difficulties of forum, litigation costs, and prosecution of titles. The fact that the Protocol does not go further in that direction constitutes a major disappointment for the provider side.[94]

Nevertheless, Parties shall take measures regarding access to justice and the utilization of mechanisms regarding mutual recognition and enforcement of foreign judgments and arbitral awards. Paragraph 4 specifically requires the review of the effectiveness of this article.[95]

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90. Nagoya Protocol, *supra* note 5, at art. 17.
91. Union for Ethical BioTrade, *supra* note 65.
92. Nagoya Protocol, *supra* note 5, at arts. 17–18.
93. Kamau et al., *supra* note 14, at 252.
94. *Id.* at 257.
95. Nagoya Protocol, *supra* note 5, art. 18.

IV. OTHER PROVISIONS

The NP introduces simplified conditions on PIC for basic research without either a further definition of the latter or an emergency clause.[96] It also encompasses comprehensive measures on improving capacities with a special focus on ILC as well as complementing funding provisions.[97]

In regard to ILC, Article 12 of the NP (TK Associated with Genetic Resources) should also be mentioned. Article 12 requires Parties to take into consideration ILCs' customary laws, community laws, and procedures with respect to TK associated with genetic resources; establish mechanisms to inform potential users of TK associated with genetic resources about their obligations; support the development by ILC of (a) community protocols in relation to ABS in TK, (b) minimum requirements for MAT, and (c) model contractual clauses for benefits-sharing; and to not restrict the customary use and exchange of genetic resources and associated TK within and amongst ILC in their implementation of the Protocol.[98]

In addition, and in the footsteps of the Bonn Guidelines, the NP requires each Party to designate a national focal point on ABS as well as to designate one or more competent national authorities on ABS which are, among others, responsible for granting access.[99] Last, but not least, the NP establishes an ABS Clearing-House as part of the clearing-house mechanism under Article 19, paragraph 3 of the CBD, which shall serve as a means for sharing of information related to ABS.[100]

V. NP AND SUSTAINABLE DEVELOPMENT IN INDIGENOUS COMMUNITIES

The place of indigenous TK in the administration of ABS regulation impacts several sustainable development issues for indigenous communities. Capacity building, health and well-being, sustainable economic growth, cultural diffusion, et cetera all have strong links with indigenous knowledge as well as the genetic resources found on indigenous lands.[101] With the

96. *Id.* at art. 8.
97. *Id.* at arts. 22, 25.
98. *Id.* at art. 12.
99. *Id.* at art. 13.
100. *Id.* at art. 14.
101. *See generally* Kamau et al., *supra* note 14, at 251 (presenting the importance of capacity building under the NP); Jane Kimbwarata, *Want Sustainable Development? Try Indigenous Knowledge*,

adoption of the NP as an international binding treaty, which implements the ABS provisions of the CBD, the Parties of the CBD succeeded in addressing many of the perceived obstacles to implementation so far, including the role of ILC.

Nevertheless, the Protocol is the outcome of compromise between all the different Parties of the CBD and thus national governments, and that is the entry point for most of the criticism expressed by indigenous people or by others on their behalf. From the critics' point of view, state sovereignty clearly overrules the rights of indigenous peoples throughout the whole Protocol.[102] The main arguments brought forward are the following:

> First of all, the language creates a double standard between ILC rights and those of state parties by using the terms "in accordance with domestic law," "established rights," "as appropriate," "as applicable," and "with the aim of ensuring" whenever it dealt with ILC rights throughout the whole NP.[103] Second, and in particular with regard to Article 12.1 of the NP, references to customary laws are undermined when Parties shall only take them into account in accordance with domestic law.[104] Another point of criticism is, of course, still that the Protocol does not address the issue of intellectual property rights of Indigenous peoples' TK. This is critical, as Koutouki states: The discovery-invention distinction and the importance of the collective are central to a discussion of Indigenous traditional knowledge of medicinal plants and patent law. Many patent owners feel that Indigenous traditional knowledge is not proprietary-type knowledge, but knowledge that belongs to all and hence not patentable. Indigenous traditional knowledge . . . therefore falls into the category of discovery, whereas products manufactured by patent owners based on this knowledge fall into the category of invention and are therefore patentable.

BAOBAB, Jan. 2010, at 1, 2, 4 (asserting the positive impact of indigenous knowledge on health, growth, and cultural diversity).

102. Joint Statement of North American Indigenous Organizations, *supra* note 48.

103. *See* Kamau et al., *supra* note 14, at 262 (asserting that the NP suffers from poor wording); Native Women of Quebec, *supra* note 48; *See also* Nagoya Protocol, *supra* note 5, at art. 6.2, 7, 11, 12, 16.1.

104. Brendan Tobin, *Setting Protection of TK to Rights – Placing Human Rights and Customary Law at the Heart of TK Governance*, *in* GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND THE LAW: SOLUTIONS FOR ACCESS AND BENEFIT SHARING, 101, 111 (Evanson C. Kamau & Gerd Winter eds., 2009).

> Collective rights do not really exist in patent law either; instead, there is a stark preference for individualism. In other words, a community as a whole could not apply for a patent based on its collective knowledge and use of a particular plant.[105]

Instead, the majority of states deferred the issue to the World Intellectual Property Organization, despite the fact that the Organization's mandate does not cover the protection of TK.[106] The main concern therefore is that the CBD, and now the complementing NP, only increase the pressure the indigenous peoples already faced in protection of TK through the commodification of their knowledge and by making it subject to domestic law if no sui generis system of protection is acknowledged.[107]

The next COP as well as the established Interim Committee will primarily deal with cooperation procedures and institutional mechanisms to promote compliance with the NP as well as a Multilateral Benefit-Sharing Fund as proposed by the Africa Group.[108] In addition to the development and outcome of these meetings, much will depend on the implementation of provider and user-countries—since the CBD, despite all criticism, is foremost an international treaty between sovereign states.

Focusing on indigenous peoples' rights under the NP has broad implications given the shortcomings of the CBD. As Oguamanam reminds us:

> By some accounts well over 70 per cent [sic] of global biological or genetic resources are located in indigenous and local communities across the globe. These communities are the centres of global biodiversity. Analysts find a correlation between biological diversity and cultural diversity. Hence, centres of biological diversity are also centres of cultural and epistemic diversity. For many indigenous and local communities, dealings with biological resources constitute a fundamental reality of their lived experience. These dealings are a site for the exploration of community knowledge and innovation systems, and for practical translations of the community's worldview and cultural expressions. Despite the excessive romanticism

105. Koutouki, *supra* note 4, at 23.
106. Joint Statement of North American Indigenous Organizations, *supra* note 48.
107. *Id.* Tobin, *supra* note 104, at 102.
108. Kamau et al., *supra* note 14, at 252; Swiderska, *supra* note 43.

> prevalent in many of the narratives of indigenous and local communities' relationship with biological resources, it is undeniable that such relationships are premised on the imperative for a sustainable ecological order.[109]

CONCLUSION

The Nagoya Protocol did much to improve many shortcomings found throughout the CBD. This is especially true of the access and benefits-sharing provision. The protocol emphasizes the importance of preserving biodiversity and highlighting the tremendous economic value of the natural world. However, when it comes to ensuring protection for indigenous peoples' traditional knowledge and control of the genetic resources found in their territories, the Nagoya Protocol disappoints.

This is unfortunate, given that much of the cutting edge discussions taking place in international environmental law of late are based on traditional theories of indigenous peoples and local communities. The rationale behind such concepts as intergenerational justice and crimes against future generations are based on the notion of the seven generations. Basically, before acting we must consider the implications of our actions for the next seven generations.

The Nagoya Protocol is still very new. We would hope that future legal opinions would ensure an interpretation of its many articles that considers and reinforces the sustainable development methods of natural resource management underlying indigenous traditional knowledge and acknowledges the fundamental role indigenous and local communities have had in the creation, preservation, and understanding of the world's biological diversity. At the very least, we hope that priority be given to indigenous and local community interests in access to and benefits-sharing from the genetic resources found on their lands and the traditional knowledge associated with this biological diversity.

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109. Oguamanam, *supra* note 23, at 89–90.