PROTECTING TRADITIONAL KNOWLEDGE AND INDIGENOUS PEOPLES’ RIGHTS: THE KEY TO DEVELOPING INTERNATIONAL ENVIRONMENTAL LAWS THAT PROMOTE HARMONIOUS RELATIONSHIPS WITH NATURE

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INTRODUCTION

A central tenet of traditional knowledge in many indigenous communities is the importance of establishing reciprocal relationships between humans and all living beings.\(^1\) Reciprocal relations nourish mutual benefits and are imbued with mutual responsibility and care for the other, thereby creating a bond no reasonable being would want to exploit.\(^2\) With this foundational approach to inhabiting the Earth, indigenous communities have established close cultural and spiritual relationships with and reliance on the land they live in.\(^3\) By contrast, most of humanity, motivated by ideas of power, wealth, and mass globalization, is far from embracing reciprocal relations with nature, and instead, continues to threaten all life on Earth.\(^4\)

With indigenous communities inhabiting around 22% of Earth’s land surface, which corresponds to areas holding over 80% of Earth’s biodiversity,\(^5\) indigenous peoples are disproportionately impacted by biodiversity loss and other environmental harms because they rely on resources from the local land.\(^6\) However, indigenous peoples are essential to restoring the health of the planet. Studies show that when given land rights, indigenous people substantially better conserve their territories compared to neighboring lands,\(^7\) demonstrating that

\(^{4}\) Id. at 8.
\(^{5}\) Id. at 3.
\(^{7}\) U.N. ENV’T PROGRAMME & OFF. OF THE U.N. HIGH COMM’R ON HUM. RTS., *supra* note 3, at 3; see also Kelsey Simpkins, *When Indigenous Communities Have Legal*
humanity depends on indigenous communities and their traditional knowledge to protect and preserve biodiversity.

Cognizant that traditional knowledge can be important for better understanding and safeguarding the environment, several international environmental instruments include provisions to promote and regulate the use of traditional knowledge. Despite this, the use of traditional knowledge is decreasing. For example, studies reveal that between 2000 and 2009, traditional knowledge related to the use of plants among Tsimane’ Amerindians (an Amazonian community) decreased as communities were forced out of their territories.

Meanwhile, in 2010, at the tenth meeting of the Conference of the Parties (COP-10) to the Convention on Biological Diversity (CBD), members agreed to a vision of “Living in Harmony with Nature” where “biodiversity is valued, conserved, restored, and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people” by 2050. However, this vision was established without requiring any serious commitments to protect traditional knowledge or the rights of indigenous peoples who have embodied that vision since time immemorial.

On December 18, 2022, the fifteenth meeting of the Conference of Parties (COP-15) adopted the post-2020 Global Biodiversity Framework, which sought to address the shortfalls of COP-10 by encouraging the protection of indigenous peoples, traditional knowledge, and human rights. While it is a step in the right direction, forging a path towards living in harmony with nature requires the establishment of reciprocal relationships with indigenous communities where Western society develops legal mechanisms to protect indigenous peoples’ rights and traditional knowledge in exchange for learning from them.


10. Id.

11. UNEP/CBD/COP/DEC/X/2, at 6-7 (Oct. 29, 2010).

12. See id.

As such, this article argues that the international environmental law regime should guarantee the protection of traditional knowledge and the rights of those who hold it while simultaneously maintaining its core environmental objectives. This article further argues that harmonization is the best mechanism for international environmental law and international human rights law to protect traditional knowledge, indigenous peoples’ rights, and the environment. At its core, this article highlights the need for reciprocity between legal systems that mirrors the reciprocal relations between humans and nature that are vital to protecting the environment.

To develop those arguments, Section II explains what traditional knowledge is, provides examples of its harmonious use in nature, and demonstrates why it should inform environmental laws. Section III outlines international environmental instruments that recognize the importance of traditional knowledge and critiques international environmental law’s current understanding and regulation of traditional knowledge. Addressing the concerns expressed in Section III, Section IV explores the implications of implementing a human rights-based approach and harmonization to incorporate human rights principles into international environmental law using the CBD as an example. Section IV then proposes the harmonization of international environmental law and international human rights law as the best mechanism for implementing legal structures that protect both the environment and traditional knowledge to possibly reach COP-10’s 2050 goal of living in harmony with nature.

I. UNDERSTANDING TRADITIONAL KNOWLEDGE, ITS ROLE IN NATURE, AND THE BENEFITS OF USING THIS KNOWLEDGE TO MAKE LAWS

In contrast to Western science, the terms “traditional knowledge,” “indigenous knowledge,” and “local knowledge” are used interchangeably in international instruments to refer to knowledge and knowledge production processes that are specific to the communities and individuals that hold it. However, there is no clear definition of “traditional

14. Use of the term “Western” throughout this article encompasses Eurocentric-informed knowledge and ideas.
15. Savaresi, supra note 8, at 36.
knowledge” under international law. Dr. Fikret Berkes, an expert on traditional knowledge, defines traditional ecological knowledge as “a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment.”

Adopted by the Intergovernmental Panel on Biodiversity and Ecosystem Services, this definition identifies and delineates four key components of traditional knowledge: (1) local knowledge of land, animals, plants, landscape, and soil; (2) knowledge of land and resource management systems; (3) social institutions that frame processes of social memory and learning; and (4) a foundational worldview that gives meaning to and shapes traditional knowledge holders’ perception of the environment. All four components mutually reinforce and rely on each other, creating a knowledge-practice-belief complex that allows indigenous communities to survive.

The previously mentioned definition of traditional knowledge also demonstrates that the cultural and spiritual aspects of traditional knowledge cannot be divorced from the technical knowledge of nature. Indigenous communities’ descriptions of their knowledge exemplify this concept. For example, members of the Inuit community describe traditional knowledge as “[a] way of life... as opposed to knowledge as content.”

16. Id.
18. Savaresi, supra note 8, at 37.
19. BERKES, supra note 17, at 17-18.
20. Id. at 18.
21. A knowledge-practice-belief complex is one that connects empirical knowledge with the religious traditions of indigenous societies. For example, the idea that all living beings are interconnected is embedded within many indigenous Creation stories and is the foundation for community’s sustainable cultural practices. See Fulvio Mazzocchi, Why “Integrating” Western Science and Indigenous Knowledge Is Not an Easy Task: What Lessons Could Be Learned for the Future of Knowledge?, J. FUTURE STUD. 22 (Mar. 2018).
22. BERKES, supra note 17, at 77 (noting that “[s]urvival is the ultimate criterion for verification of traditional ecological knowledge” because indigenous communities solely rely on local resources for their survival).
23. Id. at 18.
Unlike Western principles, many indigenous communities believe that humans are a part of nature and ought to act alongside it. It is from this foundation that a traditional knowledge holder’s perspective provides meaningful insights and reveals the possibility of reciprocal relationships between humans and nature and the environmental benefits of such relationships. For example, swidden systems used by indigenous communities, in distinction with slash-and-burn agriculture, are an illustration of how human use and natural disturbance are compatible with sustainability and conservation. In semi-arid areas, local peoples use traditional knowledge related to soil conservation techniques. For instance, the activities of the Ngisonyoka Tukana (nomadic pastoralists of Kenya) resulted in the growth of forests at the edge of semi-arid lands, disproving claims that pastoralists are to blame for desertification. Studies show that their large-scale migration patterns and the rotation of grazing areas coincided with the growth of *Acacia tortillis*, the dominant tree species in the dry woodlands of Kenya, during the first rainy season after they abandoned their corral site.

Furthermore, in coastal lagoons and wetlands, indigenous and local communities developed coastal management systems that implemented good conservation practices and were sustainable for thousands of centuries. Beginning in the fifteenth century and still in practice today, people in the Venice region of the Adriatic Sea designed the *valli* system so that only young fish enter pools with the tide. Local people in Indonesia, use the *tambak* system and rice-fish culture fields, which are a connected network where nutrient-rich wastes from the rice-field fishery system flow downstream to a brackish water aqua-culture system (*tambak*) and then into the coast to support the coastal fish. These are just a few examples of how traditional knowledge has been used by indigenous and local communities to allow humans to co-exist with nature.

24. *Id.* at 51.
25. Swidden systems in tropical climates entail clearing, planting, harvesting, and fallowing small areas over a multi-year cycle. *Id.* at 79-81 (providing an example of *jhum*, an indigenous system in Northeastern India, where the mixing and planting of agriculture is made in accordance with nutrient levels of the soil).
26. *Id.* at 84-86.
27. *Id.* at 86.
28. *Id.* at 98-99.
29. *Id.* at 98.
30. *Id.*
Recognizing the possibility and benefits of reciprocal relations between humans and the environment is only half of it. To create an environment conducive to reciprocal relations between humans and nature, laws must be both holistically informed by traditional knowledge and structured to promote and protect the use of traditional knowledge by indigenous and local communities. Otherwise, there is a risk that environmental laws will not achieve their intended goals. Robin Wall Kimmerer, a botanist and member of the Citizen Potawatomi Nation, best highlights this risk. She relied on native basket makers’ traditional knowledge to craft her hypothesis when researching sweetgrass depletion from its natural locale. She hypothesized that “if we use a plant respectfully, it will flourish; if we ignore it, it will go away.” Despite the theory being supported by “millennia of observations of plant response to harvest [and] subject to peer review by generations of [indigenous basket makers and herbalists],” scientists doubted the validity of the theory and questioned the project altogether because they assumed plants survive when left alone. Contrary to Western principles, the results of Dr. Kimmerer’s experiment proved that the failing plots were the unharvested controls and picking sweetgrass stimulated growth because it relied on humans to create disturbances.

This example demonstrates the tension between science and traditional knowledge and the risk associated with environmental laws being shaped primarily by Western scientific paradigms and principles. The scientists learned that the best way to protect a diminishing plant species was to leave it alone; and in this case, they were comfortable leaving that assumption unchallenged. However, the sweetgrass

31. See WALL KIMMERER, supra note 2, at 161-65.
32. Sweetgrass is an herb native to Eurasia and North America and has been used by indigenous communities in Canada and the United States for ceremonial purposes. Molly Roe, What is Sweetgrass and How is it Used?, SWEETGRASS TRADING (Mar. 22, 2023), https://sweetgrasstradingco.com/2022/03/23/what-is-sweetgrass-and-how-is-it-used/.
33. WALL KIMMERER, supra note 2, at 157.
34. Id. at 159.
35. Id.
36. Id. at 162, 164.
37. The author would like to recognize that scientists are generally eager to question assumptions but may fail to question certain assumptions because they lack
teaches that humans are essential to its survival, perfectly aligning with the hypothesis supported by traditional knowledge.\(^{38}\) As a result, if lawmakers drafted a law to combat the depletion of sweetgrass in North America based solely on a Western paradigm of natural processes, the law would likely further contribute to the depletion of the sweetgrass population.

Fortunately, lawmakers in the late twentieth century began to recognize the importance of using traditional knowledge in implementing solutions to environmental crises by including provisions in instruments to promote its use.\(^{39}\) Although no international environmental law defines traditional knowledge, the following section demonstrates what lawmakers interpret it to mean through its regulation. However, knowing that traditional knowledge is a knowledge-practice-belief complex, not just knowledge of content, allows one to identify the gaps in international environmental laws’ current understanding of what traditional knowledge is. From there, it is easy to identify the negative impacts a limited understanding of traditional knowledge has on the approaches to its regulation and the subsequent protection of traditional knowledge. This negative impact demonstrates that including a human rights-based approach that regulates the use of traditional knowledge under international environmental law is necessary.

II. FALLING SHORT OF LIVING HARMONIOUSLY WITH NATURE

Traditional knowledge holders carry generations of information about their local environment,\(^{40}\) including stories of how the natural world behaved when their ancestors walked those lands and how it has changed. As a result, traditional knowledge can be used to understand the degree of environmental harm that humans create, and it assists in the development of solutions to restore environments to their original states.\(^{41}\) For example, traditional knowledge was used to understand the

\(^{38}\) WALL KIMMERER, supra note 2, at 163.

\(^{39}\) See Savaresi, supra note 8, at 33.

\(^{40}\) WALL KIMMERER, supra note 2, at 159.

\(^{41}\) See Anthony Moffa, International Ecological Knowledge in Environmental Decisionmaking, 4 U. ME. SCH. OF L. 1, 2 (2019).
ecology that existed in Prince William Sound after the Exxon Valdez oil spill. 42 Similarly, traditional knowledge held by Alaskan natives is being used to understand the impact of climate change on the United States Arctic. 43

However, only six international environmental instruments recognize the vital role traditional knowledge plays in understanding and protecting the environment. 44 The first international environmental treaty to acknowledge the benefits of using traditional knowledge was the 1992 Convention on Biological Diversity (CBD), 45 adopted at the 1992 United Nations Conference on Environment and Development (the Rio “Earth Summit”) as a means of supporting biodiversity innovation by local peoples. 46 The preamble recognizes indigenous communities’ dependence on “biological resources” and the “desirability” of sharing benefits arising from the use of traditional knowledge. 47 Additionally, Article 8(j) on in-situ conservation provides that Contracting Parties

[S]hall, as far as possible and as appropriate: 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. 48

These provisions indicate that the drafters of the CBD recognized the crucial role of traditional knowledge in protecting biodiversity and sought to promote its use, albeit without explicitly recognizing the need to protect traditional knowledge. 49

42. Id.
43. Id.
44. See Savaresi, supra note 8, at 39.
45. Id. at 33.
48. Id.
49. See id.
In 1994, the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, followed suit by incorporating the use and protection of traditional knowledge into three articles on scientific and technical cooperation of the treaty. Article 16 of the Convention provides that State parties should, in accordance with their laws and capabilities, exchange information on local and traditional knowledge, ensure its adequate protection and equitable provision of returns derived from its benefits with regards to assessing, understanding, and planning for desertification. Article 17 requires parties to support research activities that protect, integrate, enhance, and validate traditional and local knowledge in accordance with their capabilities. Similarly, Article 18 requires parties to protect, promote, and use traditional technology and knowledge, in accordance with their capabilities and national legislation, to make inventories of such information and its usage, as well as encourage the dissemination of such information.

Since the start of the twenty-first century, two international environmental instruments recognizing the importance of traditional knowledge in environmental solutions have been adopted each decade. In 2001, the Food and Agriculture Organization (FAO) adopted the International Treaty on Plant Genetic Resources for Food and Agriculture. Drafted to be in harmony with the CBD while substantiating sustainable agriculture and food security goals, Article 5.1 of the treaty requires Contracting Parties to promote in situ conservation of wild crop relatives and plants for food production by supporting the efforts of indigenous communities in accordance with national legislation and cooperating with other Contracting Parties. Additionally, Article 9.2 provides that States should, “as appropriate,”

51. Id. art. 16(g).
52. Id. art. 17(c).
53. Id. art. 18(2)(a)-(d).
54. See Savaresi, supra note 8, at 33.
and subject to national legislation,” protect “traditional knowledge relevant to plant genetic resources for food and agriculture.”56 With an aim of supporting sustainable development UNESCO adopted the Convention on the Promotion and Protection of the Diversity of Cultural Expressions in 2007, recognizing the importance of traditional knowledge as “a source of intangible and material wealth . . . and its positive contribution to sustainable development,” in addition to its promotion and protection.57

In 2010, at COP-10 to the CBD, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization was adopted after six years of negotiations.58 The preamble notes (1) the connection between genetic resources and traditional knowledge, (2) indigenous communities’ reciprocal relations with genetic resources, (3) the importance of traditional knowledge for the conservation of biodiversity and its sustainable use, and (4) the rights of indigenous peoples established in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).59 Most of the protocol concerns itself with laying out clear obligations to seek the prior informed consent of indigenous communities when accessing traditional knowledge and to share benefits from the use of traditional knowledge and genetic resources on mutually agreed terms, so long as the obligations follow domestic laws.60

In 2015, the United Nations Framework Convention on Climate Change (UNFCCC) adopted the Paris Agreement to limit global warming by requiring States to reduce greenhouse gas emissions and encouraging the development and sharing of technology to improve

56. Id. art. 9.2(a).
60. Id. arts. 5.2, 5.5, 6.2, 6(f), 7, 12.2, 12.3, 13, 16.
community resilience to climate change. Its preamble acknowledges the impacts of climate change on all of humanity. As such, it recommends that States “respect, promote, and consider their respective obligations on human rights,” including the rights of indigenous peoples when addressing climate change. Article 7.5 expands on the preamble by recommending that State adaptation actions be “guided by the best available science and, as appropriate, traditional knowledge.”

The aforementioned instruments demonstrate an increasing recognition of the vital role traditional knowledge plays within international environmental law when aiming to solve today’s environmental crises. However, more international environmental laws on traditional knowledge will not benefit the environment or society if laws continue to be drafted without an accurate understanding of what traditional knowledge is or without holistic safeguarding mechanisms. Currently, all binding provisions of the above-mentioned instruments are only concerned with certain aspects of traditional knowledge to solve the targeted issues of each respective instrument. In other words, the use of traditional knowledge is perceived simply as a means to an end. For example, the CBD only concerns itself with traditional knowledge of non-human genetic resources to protect biodiversity, and the International Treaty on Plant Genetic Resources for Food and Agriculture only focuses on traditional knowledge relevant to plant genetic resources for food and agriculture.

This legal practice is problematic because international environmental laws are drafted based on a Western colonial-capitalistic understanding of traditional knowledge that is actively eroding traditional knowledge. As discussed in Section II, traditional knowledge is comprised of four symbiotic components; however,
international environmental instruments are primarily interested in the empirical and resource management components of traditional knowledge. This preference for empirical and resource management knowledge has resulted in extractive lawmaking that strips away from legal environmental solutions the social, cultural, and spiritual components of traditional knowledge that are central to preserving indigenous communities’ holistic sustainable practices. For example, take the lesson that picking sweetgrass can stimulate the plant’s growth if only what is needed is picked. Without the social and cultural components of traditional knowledge, it may be hard for an individual to know how much sweetgrass they need to harvest. But appreciating sweetgrass as a living being, indigenous basket makers regulate the harvest of sweetgrass by offering gifts to the plant and asking for its permission, knowing to never take the first plant they see nor more than half of the plant. Thus, the sacred relationships that bind the well-being of humans with nature risk erasure when legal mandates reduce traditional knowledge to mere content.

Moreover, the ability to use traditional knowledge to restore sustainable environmental relations is further inhibited by international environmental instruments’ propensity to grant deference to domestic State laws. All international environmental instruments that seek to promote the use of traditional knowledge do so with great caution to avoid stepping on the toes of sovereign States by baking in qualifying language within their “binding” provisions, such as: “subject to its national legislation,” “according to their respective capabilities,” “in

69. See Savaresi, supra note 8, at 37-38.
70. WALL KIMMERER, supra note 2, at 157.
71. Id.
72. Savaresi, supra note 8, at 40.
73. The UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions is the only treaty that does not use qualifying language related to the protection of traditional knowledge, but it only mentions traditional knowledge in its preamble, which is not legally binding on State Parties. See Convention on the Protection and Promotion of the Diversity of Cultural Expressions, supra note 57, pmbl.
74. CBD, supra note 47, art. 8(j); see also Convention to Combat Desertification, supra note 50, art. 18.2(b); International Treaty on Plant Genetic Resources, supra note 55, arts. 5.1, 9.2(A); Nagoya Protocol, supra note 59, arts. 6(f), 7 (using similar language).
75. Convention to Combat Desertification, supra note 50, art. 18.2(b).
accordance with their needs and priorities,” and “where appropriate.” Some treaties even go as far as including multiple qualifiers to provisions that seek the protection, and not just the promotion, of traditional knowledge. For example, Article 9.2(A) of the International Treaty on Plant Genetic Resources requires States “in accordance with their needs and capabilities, to protect traditional knowledge, as appropriate, and subject to its national legislation.” This legal formulation is problematic because it neglects thousands of years of history that shows that national legislation has, and continues to be, used for States’ exploitation of indigenous peoples.

Additionally, only half of the laws explicitly recognize that there is a need to protect traditional knowledge, without making any strict commitments to protect traditional knowledge or the rights of its holders. The Nagoya Protocol is claimed to be “the first international instrument of particular relevance to indigenous and local peoples since the adoption of the UNDRIP,” yet it neglects to require the protection of indigenous peoples’ traditional knowledge. Instead, it requires users of traditional knowledge to seek holders’ prior informed consent in accordance with the whims of domestic law.

However, even if the Nagoya Protocol required States to protect traditional knowledge related to genetic resource materials, that would not be enough. Aside from the challenges of implementing these instruments due to the great deference granted to States’ national laws,

76. International Treaty on Plant Genetic Resources, supra note 55, art. 9.2(A).
77. Id. art. 5.1; Nagoya Protocol, supra note 59, art. 5 (using “as appropriate”); Paris Agreement, supra note 62, art. 7.5 (using “as appropriate”).
78. See International Treaty on Plant Genetic Resources, supra note 55, art. 9.2(A).
79. Id.
80. See Moffa, supra note 41, at 7.
81. See International Treaty on Plant Genetic Resources, supra note 55; Convention to Combat Desertification, supra note 50; Convention on the Protection and Promotion of the Diversity of Cultural Expressions, supra note 57.
82. Convention on Biological Diversity, Nagoya Protocol on Access and Benefit-sharing and Traditional Knowledge, supra note 58.
83. See CBD, supra note 47.
84. Kuei-Jung Ni, Traditional Knowledge and Global Lawmaking, 10 NW. J. INT’L HUM. RTS. 85, 99 (2011); Koutouki & Rogalla von Bieberstein, supra note 6, at 533.
only the empirical and resource management components of traditional knowledge would likely be protected because those instruments’ binding provisions treat traditional knowledge as a means to an end. However, like a tree, there is a complex network of cultural and spiritual roots below the surface that must be considered to ensure the survival of an entire community. Indigenous communities risk losing the sustainable practices that allowed their forebearers to survive when they are deprived of the guidance supplied by spiritual and cultural traditions tied to the land.

At its core, international environmental laws cannot holistically comprehend traditional knowledge because they are predicated on Western relations with the natural world, where humans are seen as being distinct from nature. The idea that the environment is separate from human society traces back to the post-Enlightenment period and Cartesian dualism, which was premised on the notion that the mind dominates matter. Similarly, with Cartesian dualism as its philosophical foundation, Western science is based on “[hum]an’s dominion over nature.” Western science, in turn, fundamentally informs international environmental laws, which implicitly or explicitly carry and perpetuate the same anthropogenic assumptions about nature into their legal frameworks.

Like the sweetgrass example illustrated in Section II, the result here is that the few international environmental laws that recognize the benefits of using traditional knowledge to address environmental harm, are themselves informed by a Western understanding of human-environment relations. This understanding results in laws that are ill-equipped to regulate the use of traditional knowledge in a way that is

85. See Moffa, supra note 41, at 7.
86. See id.
87. BERKES, supra note 17, at 51.
88. Id; see also WALL KIMMERER, supra note 2, at 158.
beneficial to the entire knowledge-practice-belief complex. As such, international environmental laws must address these concerns by treating the protection of traditional knowledge as an end, which is in alignment with international human rights laws as discussed in the next section.

III. FORGING A PATH TO LIVING IN HARMONY WITH NATURE

To effectively address the extractive and deferential lawmaking that results from international environmental laws’ current Western understanding of and approach to regulating the use of traditional knowledge, international environmental law should prioritize protecting traditional knowledge for its own sake. However, because traditional knowledge is deeply tied to the language and cultures of indigenous peoples, environmental legal mandates to protect traditional knowledge will not be effective if the people who hold and practice that knowledge remain threatened by the same human practices that threaten the environment. As Minnie Degawan, a member of the Kankanaey-Igorot from the Philippines, explains, “[w]hen we talk about protecting knowledge, it’s not simply the knowledge, but also those who practice that knowledge.” Therefore, for international environmental laws to be effective in protecting traditional knowledge, the field should also seek to protect indigenous peoples and their rights.

Critics may argue that protecting traditional knowledge and indigenous peoples is beyond the scope of international environmental law and would duplicate efforts made by international human rights law. However, determining what the “environment” is has yet to be clearly defined by international environmental law. Instead, international environmental agreements address environmental concerns differently based on shifts in awareness and thinking around the meaning of “environment,” suggesting a rather broad understanding of what “environment” encompasses. Additionally, with the United Nations General Assembly adopting a resolution declaring

90. See Moffa, supra note 41, at 7.
91. See U.N. Climate Change, supra note 89; U.N. Env’t Program, supra note 89.
92. Id.
the right to a healthy environment\textsuperscript{94} and an emerging trend of applying a human rights-based approach to international environmental laws,\textsuperscript{95} there is a window of opportunity to explore how best to incorporate human rights principles into international environmental laws. This section will engage in this exploration using the CBD as an example and will advocate for the harmonization of international environmental law and international human rights law as the best means of protecting both the environment and traditional knowledge.

A. The Protection of Traditional Knowledge Under International Human Rights Law

Before exploring the available mechanisms to incorporate human rights principles into international environmental law, it is necessary to understand how international human rights law addresses the protection of traditional knowledge and indigenous peoples’ rights. In contrast to international environmental law, protecting traditional knowledge within international human rights law is an end in and of itself as part of the protection of culture.\textsuperscript{96} The human right to culture is enshrined in both the International Covenant on Civil and Political Rights (ICCPR)\textsuperscript{97} and the International Covenant on Economic, Social and Cultural Rights (ICESCR),\textsuperscript{98} and is the foundation for other human rights such


\textsuperscript{96} Savaresi, \textit{supra} note 8, at 41-42.

\textsuperscript{97} United Nations International Covenant on Civil and Political Rights, art. 27, Dec. 12, 1966, 6 I.L.M 368, 999 U.N.T.S. 171 [hereinafter ICCPR] (“[i]n those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language”).

as the freedom of expression, the right to non-discrimination, and the freedom of thought, conscience, and religion.99

Because international human rights law values the protection of traditional knowledge for its own sake as a form of cultural expression, it can recognize, promote, and protect traditional knowledge’s four components.100 For example, in its Concluding Observation to the Russian Federation’s fifth periodic report to the Committee on Economic, Social, and Cultural Rights, the Committee expressed concern over the State’s failure to legally protect Northern and Eastern Siberian indigenous peoples’ rights to their ancestral lands and the traditional use of their natural resources.101 In response, the Committee urged the State to implement laws requiring the protection of Siberian indigenous peoples’ rights, including protecting their traditional knowledge and culture.102

The protection of indigenous knowledge and culture is further enhanced by indigenous peoples’ right to self-determination.103 Several international human rights bodies such as the Human Rights Committee and the Committee on the Elimination of Racial Discrimination (CERD) rely on Articles 1 of the ICCPR and ICESCR on self-determination to stress indigenous peoples’ rights to practice, protect, and develop their cultural heritage and traditional knowledge.104 In addition to the right of indigenous peoples to practice, maintain, control, and develop their traditional knowledge,105 the UNDRIP enumerates indigenous peoples’ “right to maintain and strengthen their

99. Savaresi, supra note 8, at 41.
100. Id. at 42.
102. Id.
103. ICCPR, supra note 96, art. 1, ICESCR, supra note 97, art. 1.
distinctive spiritual relationship” with their traditional land,106 and the right to use, develop, and control the lands they possess by means of traditional ownership.107 States also have a duty to provide effective redress mechanisms when indigenous peoples’ “cultural, intellectual, religious and spiritual property is taken without their free, prior and informed consent or in violation of their laws, traditions, and customs.”108 Although the UNDRIP is not a binding instrument, with 150 States endorsing it, it has the potential to become binding under international customary law.109 Altogether, this section demonstrates that international human rights law has a relevant role in holistically protecting traditional knowledge and indigenous peoples’ rights for international environmental law to draw from.

B. Applying a Human Rights-Based Approach to International Environmental Laws and its Detriment

Recognizing the relevance of international human rights law, one emerging mechanism used to incorporate human rights principles into international environmental law is the application of a human rights-based approach.110 Such an approach requires that environmental laws, policies, and governance be structured to adhere to human rights and actively promote human rights in their design and implementation.111 The first two legally binding environmental instruments to incorporate this approach were the Aarhus Convention and the Escazú Agreement.112 Both instruments link environmental rights with human rights and seek to promote government transparency, accountability, and responsiveness regarding their positive and negative obligations.113

106. Id. art. 25.
107. Id. art. 26.1.
108. Id. art. 11.2.
110. See, e.g., HUM. RTS. IN BIODIVERSITY WORKING GRP., IMPLEMENTING A HUMAN RIGHTS-BASED APPROACH, supra note 94.
111. Id. at 5.
112. See Geneva Environment Network, supra note 93.
A human rights-based approach was also the basis for the U.N. General Assembly’s decision to adopt the right to a healthy environment on July 28, 2022.\textsuperscript{114} Using the right to a healthy environment as a springboard, Volker Türk, U.N. High Commissioner for Human Rights, advocated for the inclusion of a human rights-based approach in the post-2020 Global Biodiversity Framework in his open letter to COP-15 by stating that human rights have “the potential to be a catalyst for the transformative change required for humanity to survive and thrive in harmony with nature.”\textsuperscript{115} Advocacy by members of the Human Rights in Biodiversity Working Group established in 2020 also led the way toward incorporating a human rights-based approach into the Framework by responding to various drafts of the Framework in publications that included recommendations and concrete language changes to reflect a human rights-based approach.\textsuperscript{116} After four years of negotiations, the aforementioned efforts resulted in the adoption of the Kunming-Montreal global biodiversity framework (“Post-2020 Global Biodiversity Framework”) requiring that its implementation follow a human rights-based approach.\textsuperscript{117}


\textsuperscript{115} Id.


\textsuperscript{117} CBD Convention of the Parties 15, Kunming-Montreal Global Biodiversity Framework, Dec. 18, 2022, intro., § C, para. 14, CBD/COP/15/L.25 (“[t]he implementation of the framework should follow a human rights-based approach respecting, protecting, promoting[,] and fulfilling human rights. The framework acknowledges the human right to a clean, healthy and sustainable environment”).
With regard to the protection of traditional knowledge and the rights of indigenous peoples, the framework’s introduction reaffirms an expectation that State parties ensure the rights of indigenous peoples in the implementation of the framework. In doing so, Section C of the document further suggests that the vision, mission, and targets of the framework be implemented and evaluated consistent with the recognition of the contribution and rights of indigenous groups as custodians of biodiversity and partners in its conservation. It explicitly states that the implementation must ensure “their rights, knowledge, including traditional knowledge associated with biodiversity, innovations, [and] worldviews,” in accordance with international instruments, UNDRIP, and human rights law. The framework’s targets also mention the need to respect indigenous peoples’ rights over their traditional territories and to protect and encourage indigenous peoples’ customary sustainable use of wild species.

Although the post-2020 Global Biodiversity Framework is soft law, it signifies an important transition in international environmental laws’ understanding of traditional knowledge and their interest and ability to protect traditional knowledge and indigenous peoples’ rights. Unlike the CBD and Nagoya Protocol, the framework recognizes traditional knowledge as a knowledge-practice-belief complex by including the need to protect indigenous peoples’ traditional knowledge, worldview, and practices. It also recognizes that the traditional knowledge it seeks to safeguard is tied to groups of marginalized peoples whose rights need to be protected and does so by requiring that the implementation of the framework comply with UNDRIP and human rights law.

While using a human rights-based approach leads international environmental lawmakers to the desired result of protecting traditional knowledge and indigenous peoples’ rights, it does so at the cost of

118. *Id.* intro., § C, para. 6.
119. *Id.* § C, paras. 7-8.
120. *Id.* § C, para. 8.
121. *Id.* at Target 3.
122. *Id.* at Target 9.
123. See *id.* § C, para. 8.
124. *Id.*
environmental concerns. Because a human rights-based approach aims to defend the environment with the ultimate goal of “protecting, promoting, and fulfilling human rights,”\textsuperscript{125} laws incorporating a human rights-based approach do not protect the environment for its own sake; leading to the same problem traditional knowledge faced in the field before. This challenge may seem like a semantic difference; however, international environmental laws that feature a human rights-based approach may limit or delay the field’s ability to regulate environmental harms whose detriments to humanity are not easily cognizable. Time, however, is a luxury that society can no longer afford when it comes to restoring the planet. Therefore, it seems that international environmental law is struggling to balance its regulation of human activity harming the environment and human concerns tied to the environment, resulting in “either-or” lawmaking. To address these issues, international environmental laws need to incorporate a much more balanced approach to protecting the environment and human rights that mirror the reciprocal relations between humans and nature sought in the post-2020 Global Biodiversity Framework. As such, the next section will explore and advocate for the harmonizing of international environmental and human rights law using the CBD Article 8(j) Working Group’s efforts as an example.

\textbf{C. Harmonization is the Best Means to Achieve the 2050 Goal of Living in Harmony with Nature}

As opposed to utilizing a human rights-based approach, harmonization is another mechanism to embed human rights principles into international environmental law. Unlike a human rights-based approach, harmonization does not supplant environmental objectives with an overall aim of safeguarding human rights; instead, it finds opportunities to build linkages between two legal fields so that they can work together while appreciating the other’s distinct characteristics.\textsuperscript{126} Since indigenous people are stewards of the environment and critical partners in its conservation who have also suffered at the hands of the

\begin{itemize}
  \item \textsuperscript{125} See Cambridge Dictionary, \textit{Harmonize}, https://dictionary.cambridge.org/us/dictionary/english/harmonize (last visited Mar. 5, 2023) (defining “harmonize” as “to make systems or laws the same or similar in different companies, countries, etc. so that they can work together more easily”).
\end{itemize}
same political and economic interests that threaten the health of the planet, the protection of traditional knowledge and indigenous peoples’ rights is where both international environmental law and human rights law equally converge. In other words, when it comes to protecting traditional knowledge and indigenous peoples’ rights, there is an opportunity for international environmental law and international human rights law to harmonize beautifully. Both the environment and humanity stand to benefit from their protection, especially regarding biodiversity conservation. While a human rights-based approach is the choice du jour to incorporate human rights principles into the CBD, Article 8(j) Working Group’s advocacy and guidelines have recognized the role traditional knowledge and indigenous peoples’ rights play in bridging environmental and human rights concerns by developing tools that are in line with the harmonization of the CBD with international human rights laws.127

The COP, as the ultimate decision-making body of the CBD, is responsible for monitoring the implementation of the CBD and supporting States in their implementation of the CBD.128 To fulfill this role, the CBD grants the COP the ability to establish subsidiary bodies to guide State Parties.129 In accordance with the CBD, at their fourth annual meeting in 1998, the COP established the Ad Hoc Open-Ended Inter-sessional Working Group on Article 8(j) and Related Provisions.130 In 2000, the Working Group proposed a program of work on Article 8(j) that considered the vital role of indigenous peoples in protecting traditional knowledge and made it a priority to include the participation of indigenous communities in the implementation of the CBD.131

With the Working Group’s program of work adopted at COP-5, they were tasked with establishing voluntary guidelines for States featuring best practices to protect traditional knowledge while maintaining the CBD’s core objective of protecting biodiversity.132 An analysis of the Working Group’s guidelines increasingly demonstrates

127. See Kuei-Jung Ni, supra note 84, at 94-95.
128. Id. at 93.
129. Id.
130. Id.
131. Id.
132. Id.
elements that are in line with the harmonization of the CBD with international human rights laws. The Working Group’s guidance expands the CBD’s understanding of traditional knowledge by including cultural and spiritual aspects of traditional knowledge already recognized within human rights law.\textsuperscript{133} Further, the guidelines link the protection of traditional knowledge with the protection of indigenous peoples’ rights enumerated within human rights laws.\textsuperscript{134} For example, the 2000 Akwé: Kon Guidelines propose the use of cultural, environmental, and social impact assessments to monitor the effects on social cohesion, traditional land tenure systems, and community health of developments proposed to take place on or likely to impact sacred sites or land and water traditionally occupied by indigenous communities.\textsuperscript{135} In 2010, the Tkarihwaié:ri Code of Ethical Conduct also promoted respect of cultural and intellectual heritage by urging States to preserve traditional languages used by indigenous communities as a source of traditional knowledge and to take into account “the holistic concept of traditional knowledge and its multi-dimensional characteristics.”\textsuperscript{136}

Furthermore, the 2018 Rutzolijirisaxik Voluntary Guidelines on repatriation explicitly note that they take into account various international bodies and instruments, and it notes the importance of harmonization and complementarity with UNDRIP.\textsuperscript{137} Recognizing the various components of traditional knowledge built into traditional sustainable practices, the Rutzolijirisaxik Voluntary Guidelines are predicated on human rights principles such as self-determination and cultural rights because they call for the restoration of control and

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\textsuperscript{134} See Kuei-Jung Ni, supra note 84, at 95.
\textsuperscript{136} SECRETARIAT OF THE CONVENTION ON BIOLOGICAL DIVERSITY, TKARIHWAIÉ:RI CODE OF ETHICAL CONDUCT, supra note 132, at 5.
\end{flushleft}
ownership of traditional knowledge to its original holders. In so doing, the guidelines essentially promote reciprocal relations between Western society and indigenous communities.

Additionally, on November 21, 2019, the Article 8(j) Working Group issued a recommendation to COP-15 to adopt a post-2020 Global Biodiversity Framework that recognizes the “links between biological and cultural diversity” and encourages States’ adoption of the voluntary guidelines. Unlike the COP’s human rights-based approach, which adopts anthropogenic goals, the techniques employed by the Article 8(j) Working Group retain the CBD’s core objective of protecting biodiversity while recognizing the importance of protecting traditional knowledge and indigenous peoples’ rights to achieve biodiversity conservation, which are in line with harmonization.

At first glance, the harmonization of international human rights law and the CBD may seem to run counter to this article’s argument that the protection of traditional knowledge should be an end within international environmental law. However, protecting biodiversity is also essential to protecting traditional knowledge and indigenous peoples’ rights because indigenous communities rely on biodiversity to survive. In other words, harmonizing the CBD with international human rights law allows the CBD to be an instrument for protecting biodiversity and protecting traditional knowledge without competing objectives.

138. See id. § II, para. 3.
139. See id. § IV, para. (d).
140. Ad Hoc Open-Ended Inter-Sessional Working Group on Article A(J) and Related Provisions, Recommendation Adopted by the Working Group, paras. 1, 2, Nov. 21, 2019, CBD/WG8J/REC/11/1.
141. Konstantia Koutouki et al. The Nagoya Protocol, supra note 6 at 514.
Chart 1: Illustrates the CBD’s goals and means sought to reach each respective goal and the approach implemented.

The mutual relationship between the protection of biodiversity and traditional knowledge is noted in the Working Group’s explicit use of the phrases “links between biological and cultural diversity”\textsuperscript{142} and “links between nature and culture.”\textsuperscript{143} These phrases recognize nature and biology as being distinct from culture—each meriting individual focus and attention while appreciating the connection between the two. Legally, this understanding allows practitioners to draw from international environmental laws—specifically the CBD and Nagoya Protocol in this case—and international human rights laws to protect biodiversity, traditional knowledge, and indigenous peoples’ rights by extension. In so doing, opportunities arise for advocates to hold States accountable for the failure to provide contractual oversight related to ensuring access and use of traditional knowledge as the result of equitable negotiations,\textsuperscript{144} for the failure to engage in regional


\textsuperscript{143} \textit{Id.} at 29.

\textsuperscript{144} Savaresi, \textit{supra} note 8, at 43.
cooperation to ensure the full realization of human rights,¹⁴⁵ and for the failure to provide legal remedies for indigenous communities deprived of their ability to develop, maintain, and regulate the use of their traditional knowledge, among other issues.¹⁴⁶

In sum, while the protection of traditional knowledge and indigenous peoples’ rights fares well by utilizing either a human rights-based approach or harmonization to embed human rights principles into international environmental law, protecting the environment ceases to be the primary goal of environmental laws that incorporate the former. Reflecting anthropogenic tendencies, a human rights-based approach risks underestimating poorly understood environmental concerns that may have severe impacts on human rights. Harmonization, on the other hand, can recognize distinct environmental and human rights objectives and bridge both international environmental laws and human rights laws to achieve both objectives. This concept is best illustrated in the context of protecting biodiversity and traditional knowledge because of the reciprocal relations established between local environments and their respective indigenous communities. Understanding the relationship between nature and indigenous communities, the Article 8(j) Working Group to the CBD has taken steps in line with the harmonization of the CBD and international human rights laws in its voluntary guidelines and recommendations. Currently, the COP has opted for a human rights-based approach. What remains is greater advocacy from the Article 8(j) Working Group and environmental advocates to inform the COP of the shortfalls associated with using a human rights-based approach and to promote the harmonization of the CBD with international human rights law through a formal protocol to the CBD.

CONCLUSION

Humanity’s vision of living in harmony with nature requires changing human and societal relationships with nature. The traditional knowledge of many indigenous communities teaches about the value of all life and the responsibility to give back to those who have and continue to give. Sharing versions of these teachings through various

¹⁴⁶. See Savaresi, supra note 8, at 43.
cultural and spiritual practices, indigenous peoples survived for millennia by establishing and maintaining reciprocal relations with nature.

The rest of society must follow indigenous peoples’ lead – not by taking from them as accustomed – by developing reciprocal relations with indigenous peoples. Reciprocal relations are established in this context by Western society appreciating cultural diversity and the teachings of indigenous peoples’ traditional knowledge and ensuring the protection of that knowledge and its holders’ human rights. However, international environmental instruments, as written, cannot currently nurture this kind of relationship.

The international environmental instruments that recognize the value of traditional knowledge in solving environmental crises were drafted with a Western understanding of what constitutes traditional knowledge and fail to recognize the various components that comprise traditional knowledge. Contrary to its goal of promoting traditional knowledge, international environmental instruments exhibit extractive tendencies by regulating only certain portions of traditional knowledge best suited to achieve the goals of each respective instrument. This failure to recognize the cultural and spiritual components of traditional knowledge that tie indigenous peoples to the information, practices, and systems their ancestors held encourages the erosion of traditional knowledge. The risk of cultural disassociation is further exacerbated because international environmental instruments grant great deference to States’ national laws related to the use and regulation of traditional knowledge, despite a long history of genocide experienced by indigenous communities at the hands of State power.

Understanding the benefits of using traditional knowledge to address today’s environmental crises, this article outlined how traditional knowledge and indigenous peoples’ rights are protected under international human rights law to show how international environmental law stands to benefit from incorporating human rights principles into its legal regime. Since the CBD pertains to the protection of biodiversity, which is intertwined with the need to protect traditional knowledge and indigenous peoples’ rights, and because various CBD bodies have utilized different approaches to embed human rights principles into the treaty, this article explored the implications of implementing a human rights-based approach versus harmonization. Findings from this exploration suggest that harmonization is better
suited to protect traditional knowledge and biodiversity because harmonization serves as a form of legal reciprocity. Harmonization creates a mutually beneficial relationship between international environmental law and international human rights law because it creates balanced conditions for protecting traditional knowledge and biodiversity without any detriment to the other. It succeeds due to nature’s reliance on indigenous peoples and their traditional knowledge and vice versa. This result brings the narrative of this article full circle by showing that the reciprocal relations needed between society and the environment to live in harmony require legal structures that mirror that relationship, namely that reciprocal relations be established between international environmental law and international human rights law to equally protect both the environment and the human rights of indigenous peoples and their traditional knowledge.