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Investigating the Convention on Biological Diversity's Protections for Traditional Knowledge

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ARTICLE

**INVESTIGATING THE CONVENTION ON BIOLOGICAL DIVERSITY'S
PROTECTIONS FOR TRADITIONAL KNOWLEDGE**

*Jennifer Amriott**

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I. INTRODUCTION

There is an ageless history of biological harmony between indigenous peoples and their environment, a history going back uncounted thousands of years. This benign balance was grounded in use, spirituality, and long-term survival. As such, it transcends industrialized peoples' constant need to find justifications for the protection of that environment.¹

Indigenous and local peoples throughout the world have developed economic, social, and cultural systems that are supported by the sustainable use of natural resources. Many of these societies have depended upon continued relationships with local ecosystems for their physical and cultural survival, and have gained exceptional insights into how best to preserve and sustainably use the world's biological diversity. Nevertheless, environmental degradation and the destruction of natural resources are placing many traditional societies at risk, and the knowledge, innovations, and practices of indigenous and local communities are disappearing at an "accelerating rate."²

¹ Annecoos Wiersema, *Sharing Common Ground: A Cautionary Tale on the Rights of Indigenous Peoples and the Protection of Biological Diversity in Linking Human Rights and Environment*, (Romina Picolotti & Jorge Daniel Taillant eds., Univ. of Ariz. Press 2003).

² Convention on Biological Diversity (CBD), Second Meeting on the Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8 (j) and Related Provisions of the Convention on Biological Diversity, *Outline of the Composite Report on the Status and Trends Regarding the Knowledge, Innovations and Practices of Indigenous and Local Communities Relevant to the Conservation and Sustainable Use of Biodiversity, and the Plan and Timetable for its Preparation* (UNEP/CBD/WG8J/2/5) <<http://www.biodiv.org/doc/meetings/tk/wg8j-02/official/wg8j-02-05-en.pdf>> (last updated Oct. 24, 2003) [hereinafter *Composite Report*]; CBD, Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8 (j) and Related Provisions of the Convention on Biological Diversity, *Review of Progress in the Implementation of the Priority Tasks of the Programme of Work on Article 8(j) and Related Provisions* (UNEP/CBD/WG8J/2/3) <<http://www.biodiv.org/doc/meetings/tk/wg8j-02/official/wg8j-02-03-en.pdf>> (last updated Oct. 24, 2003) [hereinafter *Progress in the*

The international community has begun to acknowledge the vital role that biological resources play in the lives and livelihoods of indigenous and local peoples, and the important contributions that traditional knowledge systems make to both these communities and to global environmental protection efforts.³ The 1992 Convention on Biological Diversity (CBD) and its 182 Parties are “[c]onscious of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components.”⁴ Thus, the CBD unites concerns for biological and cultural diversity—including traditional knowledge systems—into its efforts to conserve the world’s biodiversity.⁵ In particular, Article 8(j) of the CBD, the Convention’s most important traditional knowledge provision, requires Parties to “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.”⁶

Parties to the CBD have taken steps to protect the knowledge, innovations, and practices of indigenous and local communities. The decisions of the CBD’s Conferences of the Parties (COPs) have provided guidance to States on the implementation of Article 8(j), and have called for information gathering and case studies on existing efforts to protect traditional knowledge.⁷ In addition, the Parties have established the Ad Hoc Open-ended Inter-sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological

Implementation of Priority Tasks]. In addition, the Secretariat of the CBD has concluded that there are “no international legal instruments or standards which adequately recognize indigenous and local communities’ rights over their knowledge, innovations or practices.” CBD, *Introduction to Critical Linkages* <<http://www.biodiv.org/programmes/socio-eco/traditional/linkages.asp>> (last updated Dec. 12, 2002) [hereinafter *Introduction to Critical Linkages*] (quoting CBD, *Knowledge, Innovations and Practices of Indigenous and Local Communities* (UNEP/CBD/COP/3/19)).

³ United Nations Environment Programme, *Biodiversity Meeting Seeks Ways To Preserve Traditional Knowledge* (Jan 2002) <<http://www.unep.org/Documents/Default.asp?DocumentID=234&ArticleID=3003>> (accessed Nov. 3, 2003). Two-thirds of the world’s biological resources are found in seventeen countries: Australia, Brazil, China, Colombia, the Democratic Republic of the Congo, Ecuador, India, Indonesia, Madagascar, Malaysia, Mexico, Papua New Guinea, Peru, the Philippines, South Africa, the United States of America, and Venezuela. United Nations High Commissioner for Human Rights, *Leaflet No 10: Indigenous Peoples and the Environment 2001* <www.unhchr.ch/html/racism/indileaflet10.doc> (accessed Nov. 3, 2003). In addition, these countries, also known as the “Biological 17,” are home to most of the world’s indigenous peoples. *Id.* The sustainable use of natural resources by indigenous local peoples, and these communities’ dependence on resources has been exceptionally well documented. See, e.g., *Agenda 21, Report on the United Nations Conference on Environment and Development* (Rio de Janeiro, June 3-14, 1992) ¶ 26.1 (stating that “[i]n view of the interrelationship between the natural environment and its sustainable development and the cultural, social, economic and physical well-being of indigenous people, national and international efforts to implement environmentally sound and sustainable development should recognize, accommodate, promote and strengthen the role of indigenous people and their communities”); Aaron Sachs, *Eco-Justice: Linking Human Rights and the Environment* 17 (Worldwatch 127 1995) (noting that “when human rights and ecology are given equal weight and local people not only participate in the development decisions that are going to affect them but also have a strong ecological knowledge base, communities end up acting as stewards of the local environment” and discussing the example of the Amazon rubber tappers in particular); Starla Kay Roels, *Borrowing Instead of Taking: How the Seemingly Opposite Threads of Indian Treaty Rights and Property Rights Activism Could Intertwine to Restore Salmon to the Rivers*, 28 *Envtl. L.* 375, 375 (Summer 1998) (discussing the sustainable use by and cultural and economic importance of salmon to the indigenous peoples of the Northwestern United States).

⁴ CBD, *Convention on Biological Diversity*, 31 I.L.M. 818 (June 5, 1992), entered into force in December 1993, at Preamble, ¶ 1, <www.biodiv.org/convention/articles.asp> (last updated Dec. 11, 2002) [hereinafter *Convention on Biological Diversity*].

⁵ Wiersema, *supra* n. 1.

⁶ CBD, *Convention on Biological Diversity*, *supra* n. 4, at art. 8(j).

⁷ See generally CBD, <<http://www.biodiv.org>> (last updated Oct. 6, 2003).

Diversity (Working Group) to address the implementation of Article 8(j) and related provisions of the CBD.⁸ The Working Group has held two meetings, made preliminary assessments of the status of traditional knowledge protections, included representatives of indigenous and local communities in their work, promoted consultation with indigenous and local peoples on issues addressed by the Working Group, and drafted guidelines for cultural, environmental and social impact assessments to be conducted for developments affecting indigenous communities.⁹ Parties, often in cooperation with indigenous and local peoples, have also developed a range of national, regional, and local strategies for protecting traditional knowledge, including: establishing traditional knowledge registers and other programs to recover or maintain traditional languages, indigenous land tenure systems, and ecosystem health; traditional knowledge protection legislation and legislation governing access to genetic resources; involving indigenous and local communities in decision-making; and constitutional recognition of the rights of indigenous and local communities.¹⁰

However, the failure of many Parties to comply with their obligations under Article 8(j) and related provisions has limited the Convention's efforts to effectively protect traditional knowledge. For example, many Parties have failed to carry out their duties to report on their efforts to implement Article 8(j).¹¹ Of those that have reported, few Parties have indicated that they consider the protection of traditional knowledge to be a "high priority."¹² Moreover, while just over half the submitted reports have shown that Parties were taking or considering some action to address the implementation of Article 8(j), about a third of the responding Parties indicated that they were taking no measures to address the protection of traditional knowledge.¹³

Weaknesses in the CBD's framework for protecting traditional knowledge have also limited the Convention's effectiveness. In particular, the CBD's reliance on State sovereignty over biological resources and State efforts to carry out its traditional knowledge protections have frustrated the CBD's efforts to safeguard the knowledge, innovations, and practices of indigenous and local communities.¹⁴ Critics have also pointed to the failure of Parties to involve indigenous peoples effectively in the CBD's work, and the CBD's failure to take any steps to protect territorial rights—an issue of critical importance to many indigenous communities.¹⁵ In addition, both the CBD's "narrow reliance"¹⁶ on developing the commercial value of biodiversity to further its protection and the CBD's reflection of Northern world views that value knowledge and technology as property further limit the Convention's capacity to effectively protect traditional knowledge.

Thus, while the CBD has been a groundbreaking acknowledgement of the urgent need to halt the rapid global loss of biodiversity and traditional knowledge systems, and some Parties have begun to implement the Article 8(j) and related provisions, the Convention's traditional knowledge protections are meager accomplishments for over ten years of effort. For the CBD to be more effective in safeguarding vanishing

⁸ *Id.*, citing Decision IV/9, ¶ 1 <<http://www.biodiv.org/decisions/default.asp?lg=0&m=cop-04>> (last updated May 21, 2003).

⁹ CBD, *Progress in the Implementation of Priority Tasks*, *supra* n. 2.

¹⁰ See CBD, *Composite Report*, *supra* n. 2, at 10; United Nations Environment Programme, *supra* n. 3.

¹¹ CBD, *Progress in the Implementation of Priority Tasks*, *supra* n. 2, at 2. Though approximately two thirds of the Convention's 182 Parties had submitted their first national reports by the end of September 2001, only eighty-seven countries (75% of the reports submitted) had provided information about the implementation of Article 8(j) and related provisions. In addition, only fifty-eight countries, about one third of the Parties, have submitted their second national reports. *Id.*

¹² *Id.* Twenty-five Parties indicated that Article 8(j) was a "high priority," and only four of fifty-eight Parties have consistently provided responses indicating that they have effectively addressed the CBD's requirements for the implementation of Article 8(j). *Id.*

¹³ *Id.*

¹⁴ Wiersema, *supra* n. 1; *Convention on Biological Diversity*, *supra* n. 4, at Preamble ¶ 4; art. 3.

¹⁵ Manuel Ruiz M., *Protección Sui Generis de Conocimientos Indígenas en la Amazonia* 17 (2002).

¹⁶ Wiersema, *supra* n. 1.

sources of traditional knowledge, Parties must put forth more effort to implement the Convention's requirements. First, because relevant information about the status of traditional knowledge retention and existing protection efforts is necessary for the CBD to develop appropriate and effective traditional knowledge conservation efforts, Parties must comply with their obligations to report their progress under the Convention. In addition, to ensure that the CBD's efforts are taken seriously, Parties must enforce the CBD's provisions when other Parties fail to meet their traditional knowledge protection obligations. In addition, to ensure that the CBD is responsive to the challenges and concerns of traditional knowledge holders, Parties must involve indigenous and local communities in all levels of the CBD's decision-making processes more effectively by funding the participation of representatives of these groups in COPs and consulting stakeholders on policy and decision-making that affects them.

Finally, Parties must attempt to counter the CBD's reliance on State sovereignty with international efforts to promote awareness of the importance of protecting traditional knowledge—and of State obligations to indigenous and local communities under human rights and customary international law. Parties should also facilitate the exchange of information about innovative strategies for the protection of traditional knowledge. If Parties carry out these suggestions over the CBD's second decade, the CBD can mature into a successful and effective tool for protecting the world's invaluable and at-risk systems of traditional knowledge.

This paper explores the CBD's provisions relating to protection of traditional knowledge, the progress of the CBD and its Parties toward the protection of traditional knowledge, and the strengths and weaknesses of these efforts. Part II discusses the definition of "traditional knowledge" and explores whose knowledge is protected under the CBD. Part III examines the importance of traditional knowledge to both indigenous and local communities and the world at large, discusses existing threats to traditional knowledge, and argues for the need for effective traditional knowledge protections. Part IV describes the CBD's provisions that protect traditional knowledge, particularly Article 8(j), and the CBD's progress toward the implementation of Article 8(j). Part V critiques the CBD's successes, and the paper concludes that several changes are necessary to improve upon the CBD's current traditional knowledge protection efforts.

II. WHAT IS TRADITIONAL KNOWLEDGE AND WHOSE KNOWLEDGE IS PROTECTED?

While the CBD itself does not define "traditional knowledge," the Parties have interpreted the term to refer to

*the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry.*¹⁷

While this definition outlines what types of knowledge the CBD considers traditional, it does not address the contentious question of *whose* knowledge warrants protection. Though the CBD states that its traditional knowledge provisions apply to "indigenous and local communities embodying traditional lifestyles,"¹⁸ the CBD has never defined that phrase.¹⁹ It is possible that the CBD has failed to define

¹⁷ CBD, *Traditional Knowledge and the Convention on Biological Diversity* (UNEP/CBD/TKBD/1/2) <<http://www.biodiv.org/programmes/socio-eco/traditional>> (last updated Sept. 6, 2002) [hereinafter *Traditional Knowledge and the Convention on Biological Diversity*] (emphasis added).

¹⁸ CBD, *Convention on Biological Diversity*, *supra* n. 4, at art. 8(j).

“indigenous people” because a universally accepted definition of the term has not yet been developed. Nevertheless, descriptions tend to be similar to the following:

Often called the guardians or caretakers of the earth, indigenous people share a profound attachment to and stewardship of their environment, which encompasses many of the world’s most valuable and vulnerable ecosystems . . . In order to survive for millennia on these fragile environments, native people have developed a holistic knowledge of their land and resources that many contemporary societies lack. Where most of humankind tends to seek dominion over the natural world, the approach of indigenous people is the very essence of sustainable development.²⁰

In addition, by limiting its protections to “indigenous communities” and ignoring the more generally accepted term “indigenous peoples,” the CBD fails to protect the traditional knowledge of indigenous individuals that do not live within an indigenous community.²¹ The CBD has also narrowed the definition of indigenous communities by including the terms “embodying traditional lifestyles.”²² The use of this modifying phrase tends to promote the notion that indigenous cultures must remain fixed in the past to warrant the CBD’s protections, rather than respecting indigenous peoples’ rights to self-determination and cultural evolution.²³

¹⁹ CBD, *Composite Report*, *supra* n. 2, at 2. However, this issue is set to be addressed as part of task 12 of the Convention’s programme of work. For more about the Convention’s programme of work, *see* Parts IV, V *infra*.

²⁰ Nancy Seufert-Barr, *The Development Dilemma: Sustaining Resources, Improving Livelihoods*, UN Chron. 45 (June 1993); *see also* ILO Convention No. 169, *Concerning Indigenous and Tribal Peoples in Independent Countries* (June 27, 1989), 28 I.L.M. 1382, art. 1 § 1 (stating that the Convention’s provisions apply to “tribal peoples . . . whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations” and to peoples “who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization . . . and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.” ILO Convention No. 169 also states that “[s]elf-identification as indigenous or tribal shall be regarded as a fundamental criterion for determining the groups to which the provisions of this Convention apply”). *Id.* at art. 1 § 2. Despite the controversial issues associated with the CBD’s choice of language discussed below, this paper will continue to use the terms “indigenous and local communities” when referring to the Convention’s protections to be consistent with the language of the Convention, and the terms “indigenous peoples” or “indigenous communities” in other instances.

²¹ It is not clear whether the drafters of the CBD intended this result. However, because the drafters may have believed that it is easier for individual to protect their own knowledge, innovations, or practices from appropriation, the CBD’s language may have been deliberate.

²² *Convention on Biological Diversity*, *supra* n. 4, at art. 8(j).

²³ Wiersema, *supra* n. 1. International instruments have acknowledged the rights of indigenous peoples to self-determination—to decide for themselves whether, how, when, and to what extent to adapt to the world’s ever-changing conditions. For example, the *Declaration on the Right to Development*, adopted by the United Nations (UN) General Assembly in 1986, confirms that the human right to development “implies the full realization of the right of peoples to self-determination.” Human Rights and Equal Opportunity Comisión, *Human Rights Based Approach to Mining on Aboriginal Land* <http://www.hreoc.gov.au/social_justice/corporateresponsibility/hr_approach.html> (last updated Nov. 7, 2003) (citing *Declaration on the Right to Development*). In addition, Article 1 of the International Covenant on Civil and Political Rights guarantees that “[a]ll peoples have a right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.” *International Covenant on Civil and Political Rights*, U.N.G.A. Res. 2200A (XXI) (Dec. 16, 1966), 21 U.N.G.A.O.R. Supp. (No.16) at 52, U.N. Doc. A/6316 (1966), 99 U.N.T.S. 171.

It is unclear why the CBD has failed to identify what constitutes a “local community.” However, the CBD should protect extractive communities that have developed resource-dependent cultures and sustainable extractive practices, such as the “seringueiros” of Brazil’s Amazon rainforest, who have sustainably extracted rubber from the forest’s trees for generations (but whose livelihoods and cultures are being increasingly threatened by forest clearing for cattle ranching and road projects),²⁴ and the “chicleros,” or native workers of Mexico, who collected the latex sap of the chicozapote tree for chewing gum.²⁵ In addition, the term “local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity”²⁶ should also apply to non-indigenous communities such as Brazil’s “quilombos,” (tightly-knit communities that have lived deep within the Amazon region for over 200 years)²⁷ because their traditional cultures are closely linked with and dependent upon local resources. Nevertheless, because the CBD includes protection for the knowledge systems of “local communities” without further definition of the term, the Convention’s provisions may be applicable to communities that “have no connection whatever with the land in the way that indigenous peoples are generally understood to have . . . [including] people with an economic interest in extractive industries, having moved there in search of work. Without the indigenous tie to land, culture and community, there will be far less pull on them to avoid irrevocably destroying the land and its resources.”²⁸

III. WHY PROTECT TRADITIONAL KNOWLEDGE?

The world is slowly learning to appreciate traditional relationships with the natural world and to recognize that the knowledge developed through these relationships is a critical international resource.²⁹ Efforts such as the CBD’s traditional knowledge provisions are underway to protect these knowledge systems. This section will outline the value of traditional knowledge and discuss why traditional knowledge systems warrant protection.

A. *Traditional Knowledge is Valuable*

For many cultures, traditional systems of land and resource use “are a necessary condition for their survival, social organization, development and their individual and collective well-being.”³⁰ Over countless generations and around the world, indigenous and local communities embodying traditional lifestyles have developed

²⁴ See, e.g., *The Internationalization of the Brazilian Rubber Tapper Movement* <<http://www.geocities.com/CapitolHill/6027/Brazil.html>> (accessed Oct. 23, 2003) (for a history of the rubber tapper movement); Joelle Diderich, *Legacy of Brazil's Chico Mendes at Risk 10 Years On*, (Reuters Dec. 21, 1998) <<http://www.forests.org/archive/brazil/chicoleg.htm>> (last updated Dec. 22, 1998) (discussing the work of Chico Mendes and the status of today’s rubber tappers).

²⁵ See El Eden Ecological Reserve, *Chicleros (1880-1950)* <http://maya.ucr.edu/pril/el_eden/research/papers/heaton/Chicleros.html> (accessed Oct. 23, 2003) (discussing the history of the chicleros).

²⁶ *Convention on Biological Diversity*, *supra* n. 4, at art. 8(j).

²⁷ Glen Switkes, *Traditional Black Amazon Community Fights for Recognition of Land Rights* <<http://www.hartford-hwp.com/archives/42/002.html>> (last updated June 6, 1995).

²⁸ Wiersema, *supra* n. 1.

²⁹ See Alejandro Argumedo, *Indigenous Knowledge Conservation and International Processes* <http://ucjeps.berkeley.edu/Endangered_Lang_Conf/Argumedo.html> (accessed Nov. 3, 2003).

³⁰ Inter-American Commission on Human Rights, *Proposed American Declaration on the Rights of Indigenous Peoples*, Preamble § 5 <<http://www.cidh.oas.org/Indigenous.htm>> (last updated Feb. 26, 1997) (discussing the contributions of indigenous communities in the Amazon).

holistic view[s] of the world to the extent that their values, customs and traditions are tightly focused on and connected to the natural world which they inhabit. For many such communities, all life is interconnected . . . [and] many aspects of their cultures are interwoven, with the consequence that changes in one aspect of their lives will invariably lead to changes in other aspects. Their cultures and societies are very much tuned to the local environments they inhabit, and their association with particular species, for example, is such that these species have significance far beyond economic considerations.³¹

For example, for some indigenous peoples of North America, like indigenous peoples throughout the world, “[o]ne of the most important relationships . . . has been with the land. Traditionally the natural environment provided them with the means for survival as well as an ever-present connection to their ancestors who came before them.”³² For these Native Americans, the spirit world is present on earth in the form of the plants, animals, and landmarks that have shared their land since time immemorial. The indigenous peoples of North America have traditionally used plants and animals for food, medicine, shelter, clothing, and tools, and passed traditional knowledge of these skills down from generation to generation.³³ Thus, the evolved, adapted, holistic wisdom that constitutes traditional knowledge systems are immeasurably valuable, and warrant international protection.

I. Moral Values

One basic justification for protecting the traditional knowledge of indigenous and local communities is moral. Several studies have shown that many of the regions with the highest biological diversity are also home to high levels of cultural and linguistic diversity, a correlation that indicates that a mutually dependent relationship exists between biological, cultural, and linguistic diversity.³⁴ Thus, because traditional knowledge is crucial for the economic and cultural survival of knowledge-holders as distinct peoples, indigenous and local communities should be permitted to live how and where they presently live—and to maintain the cultural and

³¹ CBD, *Background to the Draft Guidelines or Recommendations for the Conduct of Cultural, Environmental and Social Impact Assessments Regarding Developments Proposed to Take Place on Sacred Sites and on Lands and Waters Occupied or Used by Indigenous and Local Communities*, § 6 <<http://www.biodiv.org/doc/meetings/tk/wg8j-02/official/wg8j-02-06-add1-en.doc>> (last updated Nov. 27, 2001). See also *Draft of the Inter-American Declaration on the Rights of Indigenous Peoples*, *supra* n. 30, at Preamble § 5 (acknowledging “the respect for the environment accorded by the cultures of indigenous peoples of the Americas” and the “special relationship between indigenous peoples” and the lands and resources on which they live).

³² Heritage Community Foundation, *Indigenous People and the Environment* <http://www.albertasource.ca/treaty8/eng/1899_and_After/Implications_and_Contentions/indigenous_people_environment.html> (last updated May 13, 2002).

³³ *Id.*

³⁴ “Most indigenous and local communities are situated in areas where the vast majority of the world’s plant genetic resources are found.” *Traditional Knowledge and the Convention on Biological Diversity*, *supra* n. 17, at ¶ 3. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has estimated that 70-80% of the world’s approximately 6,000 cultures are indigenous, and that indigenous peoples speak most of the world’s estimated 6,700 languages. *Composite Report*, *supra* n. 2 at ¶ 10. According to UNESCO, almost 2,500 languages are in danger of extinction, while countless others “are losing the ecological contexts that keep them as vibrant languages, resulting in mass extinction of cultural and linguistic diversity and incalculable consequences for the conservation and sustainable use of many of the world’s ecosystems.” *Id.*

economic systems and relationships with the land that they and their ancestors have developed over countless generations.³⁵

Not only is it “right” to protect traditional knowledge in order to protect the unique cultures that have created it, but protecting traditional knowledge is also necessary to sustain the lives of the world’s poor. In economic terms, traditional knowledge-holders are some of the world’s poorest people.³⁶ Traditional knowledge and its crops feed half of the world’s population and provide for 85 percent of their food, medicine, shelter, and fuel needs, and farm-saved seeds and local agricultural knowledge feed approximately 1.4 billion rural people daily.³⁷ Thus, the moral imperative to protect traditional knowledge extends to maintaining the lives and livelihoods of those most in need.

2. *International Human Rights and Environmental Legal Instrument Guarantees*

International human rights and environmental law provide a second justification for the protection of traditional knowledge. Several international legal instruments guarantee and protect the environmental and human rights underlying traditional systems of knowledge, particularly for indigenous peoples.³⁸ For example, the Draft United Nations Declaration on the Rights of Indigenous Peoples provides that “[i]ndigenous peoples have the right to maintain and strengthen their distinctive spiritual and material relationship with the lands, territories, waters and coastal seas and other resources which they have traditionally owned or otherwise occupied or used, and to uphold their responsibilities to future generations in this regard.”³⁹

In addition, Article 27 of the International Covenant on Civil and Political Rights (ICCPR) provides that “[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 practise their own religion, or to use their own language.”⁴⁰ The U.N. Human Rights Committee, in its General Comments to Article 27, further clarified that

With regard to the exercise of the cultural rights protected under article 27, the Committee observes that culture manifests itself in many forms, including a particular way of life associated

³⁵ Argumedo, *supra* n. 29. See also Rosemary J. Coombe, *The Recognition of Indigenous Peoples’ and Community Traditional Knowledge in International Law*, 14 St. Thomas L. Rev. 275, 279 (Winter 2001) (stating that it is clear that “the areas of greatest biological diversity are areas occupied by people with distinctive cultures and in those occupied by indigenous peoples whose languages and traditional lifeways are threatened. Contemporary linguistic studies demonstrate that as languages disappear so does traditional knowledge, and that when traditional knowledge is supported, rewarded, and encouraged, we actually see a revitalization of local languages and an increase in local biological diversity. These things are interrelated such that we can say that there is a relationship between biological diversity and cultural diversity; maintenance of the former helps to preserve the latter and vice-versa. The CBD recognizes this.”).

³⁶ Coombe, *supra* n. 35, at 278.

³⁷ *Id.*

³⁸ However, according to one commentator, most “existing international instruments have failed to provide a supportive legal environment for local resource dependent populations that would enable these populations to manage in a sustainable manner forests and other components of biodiversity which they utilize or over which they exercise effective control. *This state of affairs has devalued the worth of resources to local communities and has acted as a disincentive for them to promote sustainable development*” and has “interfered with the overall effectiveness of conservation regimes.” Gregory F. Maggio, *Recognizing the Vital Role of Local Communities in International Legal Instruments for Conveying Biodiversity*, 16 UCLA J. Env’tl. L. & Policy 179, 179-80 (1997-98) (emphasis added).

³⁹ *The Draft United Nations Declaration on the Rights of Indigenous Peoples*, U.N. Doc. E/CN.4/Sub.2/1994/2/Add.1, at art. 25 <http://www.law.nyu.edu/kingsburyb/spring03/indigenousPeoples/basicdocs/1_draft_declarartsofindigppls.htm> (accessed Nov. 3, 2003).

⁴⁰ *International Covenant on Civil and Political Rights*, *supra* n. 23, at art. 27.

with the use of land resources, especially in the case of indigenous peoples. That right may include such traditional activities as fishing or hunting and the right to live in reserves protected by law. The enjoyment of those rights may require positive legal measures of protection and measures to ensure the effective participation of members of minority communities in decisions which affect them.⁴¹

Moreover, several international legal instruments outline State duties related to the protection of traditional knowledge. For example, Principle 22 of the Rio Declaration on Environment and Development “recognizes the need for States to support the identity, culture, and participatory role of indigenous peoples in decisions which affect them.”⁴² Similarly, ILO Convention No. 169 stipulates that “[s]pecial measures shall be adopted as appropriate for safeguarding the persons, institutions, property, labour, cultures and environment of the [indigenous] peoples concerned . . . Governments shall take measures, in cooperation with the [indigenous] peoples concerned, to protect and preserve the environment of the territories they inhabit.”⁴³ The Draft Declaration of the Inter-American Declaration on the Rights of Indigenous Peoples also provides that “[i]ndigenous peoples have the right to assistance from their states for purposes of environmental protection, and may receive assistance from international organizations.”⁴⁴ Agenda 21, created at the 1992 Earth Summit to implement sustainable development, also outlines special environmental protections for indigenous peoples, stating,

In full partnership with indigenous people and their communities, Governments and, where appropriate, intergovernmental organizations should aim at fulfilling the following objectives: Establishment of a process to empower indigenous people and their communities through measures that include: . . . Recognition that the lands of indigenous people and their communities should be protected from activities that are environmentally unsound or that the indigenous people concerned consider to be socially and culturally inappropriate.⁴⁵

Finally, the Inter-American Commission on Human Rights (IACHR) has also “long recognized the need of indigenous peoples for ‘special protection,’” and has consistently advocated for such special protection for indigenous peoples in its reports and resolutions.⁴⁶

⁴¹ U.N.G.A. Res. 2200A (XXI) (Dec. 16, 1966) at General Comment 23, ¶ 7., 21 U.N.G.A.O.R. Supp. (No.16) at 52, U.N. Doc. A/6316 (1966), 99 U.N.T.S. 171 <<http://www1.umn.edu/humanrts/gencomm/hrcom23.htm>> (accessed Nov. 3, 2003).

⁴² U.N. Conference on Environment and Development, Rio de Janeiro, U.N. Doc. A/CONF.151/26 (June 13, 1992).

⁴³ ILO Convention No. 169, *supra* n. 20, at art. 4(1); art. 7(4).

⁴⁴ *Draft of the Inter-American Declaration on the Rights of Indigenous Peoples*, Approved by the Inter-American Commission on Human Rights, O.A.S. Doc. OEA/Ser.L/V/II.90, Doc. 9 rev. 1 (Sept. 18, 1995), at art. 13, ¶ 5 <<http://www.cidh.oas.org/Indigenous.htm>> (accessed Nov. 3, 2003).

⁴⁵ *Agenda 21*, *supra* n. 3 <<http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter26.htm>> (last updated March 24, 2003).

⁴⁶ The Center for Human Rights & Environment (CEDHA) & The Center for International Environmental Law (CIEL), *Amici Curiae: Association of Lhaka Honhat Aboriginal Communities (Nuestra Tierra/Our Land) v. The State of Argentina, Inter-American Commission on Human Rights* <<http://www.cedha.org.ar/curiae2.htm>> (accessed Nov. 3, 2003) [hereinafter *Lhaka Honhat Aboriginal Communities Amici Curiae*]. According to this brief, the IACHR has determined that indigenous peoples are entitled to special legal protection “because they suffered severe discrimination.” *Id.* The IACHR has also adopted a resolution recognizing that ““for historical reasons and because of moral and humanitarian principles, special protection for indigenous populations constitutes a sacred commitment of the states.”” *Id.* (citing IACHR, *On the Problem of Special Protection for Indigenous Populations*, OEA/Ser.L/V/II.29, Doc. 38 rev.,

3. *Contributions to Biodiversity Protection*

The knowledge and practices of local peoples, and particularly indigenous peoples, have been responsible for creating and sustaining much of the world's biological diversity.⁴⁷ Because indigenous and local communities have “cultivated and used biological diversity in a sustainable way for thousands of years, their skills and techniques provide valuable information to the global community and a useful model for biodiversity policies.”⁴⁸ Traditional knowledge about natural resources thus warrants protection because it provides valuable information about the preservation of biological diversity:

Contemporary research suggests that there are no pristine tropical forests teeming with natural species and interspecies diversity, but rather that all qualities in the environment are conditioned by and at the human cultural interface with a sustaining ecology. . . . Even so-called non-domesticated plant and animal species are not “wild” but the results of generations of selective crop-breeding and landscape management practices by peoples whose activities did not fit traditional Western understandings of farming or husbandry. These traditional means of resource management are vulnerable to the pressures of logging, mining, modern agriculture, large-scale development projects, and state assimilation policies.⁴⁹

It therefore follows that just as environmental destruction is likely to “lead to a loss of traditional knowledge and therefore diminish humanity’s capacity to conserve and sustainably use many of the Earth’s

1972). In addition, in its 1997 Report on Ecuador, the IACHR elaborated on the need of indigenous peoples for special protection, stating that the

situation of indigenous peoples in the Oriente [region of Ecuador] illustrates, on the one hand, the essential connection they maintain to their traditional territories, and on the other hand, the human rights violations which threaten when these lands are invaded and when the land itself is degraded...For many indigenous cultures, continued utilization of traditional collective systems for the control and use of territory are essential to their survival, as well as to their individual and collective well-being. Control over the land refers both to its capacity for providing the resources which sustain life, and to ‘the geographical space necessary for the cultural and social reproduction of the group.’ Within international law generally, and inter-American law specifically, special protections for indigenous peoples may be required for them to exercise their rights fully and equally with the rest of the population. Additionally, special protections for indigenous peoples may be required to ensure their physical and cultural survival—a right protected in a range of international instruments and conventions.

Id. (citing 1997 Ecuador Report, at ch. IX, Conclusions).

⁴⁷ Argumedo, *supra* n. 29.

⁴⁸ United Nations Environment Programme, *supra* n. 3. According to the CBD, indigenous and local communities are most directly involved with conservation and sustainable use. *Traditional Knowledge and the Convention on Biological Diversity*, *supra* n. 17. The fact that traditional knowledge can enhance efforts to manage and sustainably use our world’s scarce remaining natural resources has also been recognized in other international instruments. For example, Principle 22 of the Rio Declaration states that “Indigenous peoples and their communities . . . have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.” U.N. Conference on Environment and Development, *supra* n. 42.

⁴⁹ Coombe, *supra* n. 35, at 280. For example, many of the native peoples of North America used fire to improve cropland and to drive and encircle animals during the hunt, practices that substantially modified the natural environment. Gary Kroll, *The Myth of the Ecological Indian* <http://faculty.plattsburgh.edu/gary.kroll/courses/his%20132/myth_of_the_ecological_indian2.htm> (accessed Nov. 3, 2003).

vital ecosystems,”⁵⁰ a decrease in cultural and linguistic diversity could have devastating impacts on the world’s remaining biodiversity.

4. *Valuable Developments*

Traditional knowledge systems have also provided the world with numerous and priceless medicines, food crops, genetic resources, industrial products, agricultural techniques, handicrafts, and countless other tangible and intangible cultural heritage products.⁵¹ For example, people in India have used products from the neem tree for several purposes, including cleaning teeth, curing skin disorders, and controlling parasitic infections, and as a spermicide and insecticide.⁵² Based on this traditional knowledge, one of the tree’s active substances has been commercially developed into an effective pesticide that does not harm human health.⁵³

The failure to protect the indigenous and local wisdom underlying invaluable traditional developments will certainly deprive the world of the benefit of further innovations.⁵⁴ In addition, many claim that the preservation of genetic resources “for future research and development needs is imperative,” particularly as dependence on genetically modified organisms and foods grows.⁵⁵

B. *Traditional Knowledge is at Risk*

Despite their fundamental importance, the knowledge, innovations, and practices of indigenous and local communities are disappearing at an “accelerating rate.”⁵⁶ According to the Working Group, Many communities fear that much of this precious knowledge will be lost with the passing of the current generation of Elders. The erosion of this knowledge creates an irrevocable loss to our storehouse of knowledge of the Earth’s biological diversity, its conservation, management and sustainable use[,] and represents a grave threat to world food and medicinal security and indigenous and local community livelihoods.⁵⁷

⁵⁰ *Composite Report*, *supra* n. 2, at 7.

⁵¹ Argumedo, *supra* n. 29.

⁵² David Hunter et. al, *International Environmental Law & Policy* 987 (Foundation Press 1998).

⁵³ *Id.* Nevertheless, this Western commercial “success story” is a “horror story of inequity in the eyes of some traditional peoples.” *Id.*

⁵⁴ According to one expert,

It is increasingly recognized that biodiversity is created through the interaction between human communities and local ecosystems; it is the dynamism of this nexus that needs to be preserved, not a static body of knowledge or a single group of species, or the amount of interspecies variation that exists at any given moment. In other words, we need to create the conditions under which biological diversity continues to be created, and that means securing conditions that will enable those people who have traditionally nurtured and created biological diversity to continue to do so.

Coombe, *supra* n. 35, at 279.

⁵⁵ *Id.* at 278.

⁵⁶ *Composite Report*, *supra* n. 2, at ¶ 12; *Progress in the Implementation of Priority Tasks*, *supra* n. 2, at ¶ 26. In addition, the Secretariat of the CBD has concluded that there are “no international legal instruments or standards which adequately recognize indigenous and local communities’ rights over their knowledge, innovations or practices.” *Introduction to Critical Linkages*, *supra* n. 2, (quoting CBD, *Knowledge, Innovations and Practices of Indigenous and Local Communities* (UNEP/CBD/COP/3/19)).

⁵⁷ *Composite Report*, *supra* n. 2, at ¶ 12. The example of Andean peasant farmers demonstrates both the value of and threats to the innovations, knowledge, and practices of indigenous and local communities. In the Andes, the majority of

The decline of traditional knowledge systems is due in part to the annihilation of the populations that create and maintain the knowledge. History and “[e]xperience repeatedly show that the failure of States to protect indigenous lands, and prevent incursions by external forces, has hastened the extinction of the indigenous peoples and communities.”⁵⁸

Even today, the “widespread eradication of indigenous peoples [is] a dire and ongoing reality.”⁵⁹ In addition to direct acts of violence, many indigenous communities suffer “displacement from their traditional territories, malnutrition, poverty and cultural decimation” that contribute to community—and traditional knowledge—disintegration.⁶⁰ Further, development efforts that involve resource exploitation (mining, oil extraction, fishing, logging, agriculture, etc.) and the construction of public works and industrial facilities lead to habitat loss and species extinction in and around the homelands of indigenous peoples.⁶¹ These threats to

farmers are small-scale producers that use complex traditional methods, developed over centuries, to derive subsistence from the region’s challenging topography. Miguel Altieri, *Indigenous Knowledge Re-valued in Andean Agriculture*, 12(1) ILEIA Newsletter 7 <<http://www.oneworld.org/ileia/newsletters/12-1/12-1-7.htm>> (accessed Nov. 3, 2003). These “productive, sustainable, ecologically sound” farming systems are adapted to the social, economic, and cultural features of the Andean landscape, and meet local needs without mechanization, chemical inputs, or other technologies of modern agricultural science. *Id.* Examples of these adapted practices include the use of waru-warus (raised fields) in Altiplano (high plains) regions, and the use of terraces throughout the Andean slopes to prevent erosion and make land suitable for agriculture. *Id.* Scientists seeking to improve modern agricultural practices are beginning to show interest in these ancient Andean farming systems—and to recognize that they “may hold messages of hope for the future of Andean agriculture.” *Id.* Nevertheless, science’s belated acknowledgement of the value of these rural peoples’ knowledge of plants, soils, and animals may have come too late: external political and economic forces “fueled by capital and market penetration” are threatening the traditional cultures of Andes, while “[b]iodiversity is decreasing in farms, soil degradation is accelerating, community and social organisation is breaking down, [and] genetic resources are being eroded and traditions lost.” *Id.*

⁵⁸ *Lhaka Honhat Aboriginal Communities Amici Curiae*, *supra* n. 46 (citing Richard Arens, *Genocide in Paraguay* (Temple University Press, 1976)). Moreover, the “overwhelming evidence of these hostile state-sanctioned incursions, and the consequent extinction of indigenous peoples, has driven scholars of indigenous communities and other concerned parties to refer to the problem as being genocidal in nature.” *Id.*

⁵⁹ Wiersema, *supra* n. 1. “Many of the processes that may continue to threaten the maintenance and survival of traditional knowledge have their roots in the histories of many countries, for example, in the processes of colonization involving conflict, introduced diseases, dispossession of territories, resettlement, forced assimilation, and marginalization of indigenous and local communities.” *Composite Report*, *supra* n. 2.

⁶⁰ Nilo Cayuqueo, *Convention on Biodiversity: Protection or Threat to the Environment and Indigenous Territories*, Abya Yala Fund Newsletter (Spring 1999) <<http://ayf.nativeweb.org/convbiod.htm>> (accessed Nov. 3, 2003). Nilo Cayuqueo is a Mapuche Indian from Argentina, and is co-director of the Abya Yala Fund. He has been active in the Indigenous Movement for thirty years, and in the Global Network of Indigenous People on Biodiversity for five. He also helped to coordinate the book, *Protecting What’s Ours, Indigenous Peoples and Biodiversity*, published by the South and Meso American Indian Rights Center (SAIIC). *Id.*

⁶¹ *Background to the Draft Guidelines or Recommendations for the Conduct of Impact Assessments*, *supra* n. 31, at ¶ 3; Wiersema, *supra* n. 1. For example, several indigenous and local communities have discontinued traditional conservation and sustainable resource use practices due to “loss of land, disappearance of subsistence species from local ecosystems, and national programmes for modernization and resettlement.” *Composite Report*, *supra* n. 2, at Annex (A)(2). In addition, studies have shown that

national development programmes and policies, modernization of agricultural production and other natural resource-based industries, education and training programmes, and employment strategies often do not take into sufficient account the needs of indigenous and local communities. Similarly, there has been a lack of effective indigenous and local community involvement in the design of the necessary

biodiversity in turn threaten the cultural integrity and the knowledge, innovations and practices of cultures linked to the disappearing natural resources.⁶² Thus, environmental harm “by its very nature is as irreversible and ultimately as life-threatening as the threats to the immediate health and safety of individuals.”⁶³

Finally, there are significant local threats to traditional knowledge systems.⁶⁴ For example, though some indigenous and local communities possess significant natural resources and the traditional knowledge necessary to sustainably use and conserve these resources, these assets may not bring sufficient benefits to the community in today’s marketplace—and the knowledge-holders may therefore be forced to abandon traditional practices in favor of more profitable and modern methods.⁶⁵ In addition, because some communities fail to recognize or value the importance of traditional knowledge, the transmission of cultural traditions, skills, and language may be disrupted—or disappear.⁶⁶ Local cultural disintegration may also be caused by such factors as “changes to patterns of settlement; the movement of young people to cities for employment, education and lifestyle opportunities; introduction of new technologies, foods and medicines, making people less reliant on traditional ways; low levels of life expectancy brought about by changes in lifestyle and new epidemics such as HIV-AIDS; and a host of new cultural influences disseminated through modern media.”⁶⁷

IV. THE CBD’S LOCAL KNOWLEDGE PROTECTIONS

The CBD is a comprehensive, “umbrella” framework convention that “recognizes the sovereign rights of states over the biological resources found within their territories and seeks to promote the conservation of biodiversity, the sustainable use of the components of biodiversity, and the fair and equitable sharing of the benefits arising from genetic resources.”⁶⁸ Because biodiversity plays such a central role in the lives and livelihoods of many traditional and indigenous societies, and because these communities “have gained exceptional insights into how best to preserve and sustainably use the world’s invaluable biological resources, the ongoing erosion and loss of traditional knowledge, practices and technologies is of crucial concern” to the CBD.⁶⁹ In addition to recognizing traditional knowledge as a crucial concern, the Parties to the CBD have begun to implement the Convention’s traditional knowledge protections, as the following discussion will show.

policies and programmes to enable such communities to protect their traditional knowledge or to capitalize on their innovative capacities for the conservation and sustainable use of biological diversity within the national and global economies.

Id. at Annex (A)(4).

⁶² *Background to the Draft Guidelines or Recommendations for the Conduct of Impact Assessments*, *supra* n. 31, at ¶ 6; Wiersema, *supra* n. 1.

⁶³ *Lhaka Honhat Aboriginal Communities Amici Curiae*, *supra* n. 46.

⁶⁴ Biopiracy and the patenting of traditional knowledge also threaten both the knowledge and food security of indigenous and local communities, but these issues are beyond the scope of this paper. Cayuqueo, *supra* n. 60.

⁶⁵ Wiersema, *supra* n. 1.

⁶⁶ Cayuqueo, *supra* n. 60.

⁶⁷ *See id.*; *Composite Report*, *supra* n. 2, at Annex § 5; Nevertheless, though traditional practices may no longer be carried out in some areas, it is important and encouraging to note that the *knowledge* of such practices may persist, making their reintroduction possible. *Id.* at Annex § 2.

⁶⁸ Wiersema, *supra* n. 1; United Nations Environment Programme, *supra* n. 3. *See also* International Institute for Sustainable Development, *Summary of the Fourth Meeting of the Conference of the Parties to the Convention on Biological Diversity*, 9 *Earth Negotiations Bull.* 1 (May 18, 1998), <<http://www.iisd.ca/linkages/download/pdf/enb0996e.pdf>> (last updated May 18, 1998) (describing the identity crisis of the “umbrella” Convention).

⁶⁹ United Nations Environment Programme, *supra* n. 3 (quoting Hamdallah Zedan, the Convention’s Executive Secretary).

A. *The Text of the CBD Relevant to Traditional Knowledge*

The bulk of the CBD's traditional knowledge provisions are found in Article 8, which outlines the Convention's provisions for in-situ conservation.⁷⁰ Article 8(j) provides that each contracting party must, as far as possible and as appropriate, and

⁷⁰ Linkages between Article 8(j) and other provisions of the CBD are also important to understanding the Convention's protections for traditional knowledge. For example, at least three other CBD provisions deal with the interests of indigenous and local communities: Articles 10(c), 17.2, and 18.4. *Traditional Knowledge and the Convention on Biological Diversity*, *supra* n. 17. First, Article 10(c) requires Parties to "as far as possible and as appropriate: [p]rotect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements." *Convention on Biological Diversity*, *supra* n. 4, at art. 10(c). These customary uses may be "considered to be synonymous with the 'practices' referred to in Article 8(j), when both are relevant to or compatible with the conservation and sustainable use of biological resources." *Traditional Knowledge and the Convention on Biological Diversity*, *supra* n. 17. Article 17, which provides for the exchange of information, "obliges the Parties to facilitate the exchange of information on, inter alia, indigenous and traditional knowledge as such and in combination with the technologies referred to in Article 16, ¶ 1." *Convention on Biological Diversity*, *supra* n. 4, at art. 17. In addition, Article 17.2 "provides for the repatriation or return of information, which is of importance to indigenous and local communities embodying traditional lifestyle relevant for the conservation and sustainable use of biological diversity." *Id.* at art. 17.2. Article 18.4 sets forth requirements for technical and scientific cooperation, and states that "Parties shall . . . encourage and develop methods of cooperation for the development and use of technologies, including indigenous and traditional technologies, in pursuance of the objectives of this Convention." *Id.* at art. 18.4.

Other crosscutting issues related to Article 8(j) include such topics as environmental impact assessments, tourism, intellectual property and access to genetic resources, and gender. *See, e.g. Convention on Biological Diversity*, *supra* n. 4, at art. 14.1(a) (stating that "Indigenous and local community knowledge is relevant to the conduct of environmental impact assessments and its beneficial role in the conservation and sustainable use of biodiversity should also be the subject of public education and awareness program within Article 13"); CBD, Ad Hoc Open-Ended Inter-sessional Working Group on Article 8(j), *Draft Guidelines for Activities Related to Sustainable Tourism Development in Vulnerable Terrestrial, Marine and Coastal and Mountain Ecosystems* (UNEP/CBD/WG8J/2/INF/3) <<http://www.biodiv.org/programmes/socio-eco/tourism/documents.asp>> (last updated March 27, 2003) (include provisions seeking the full participation of indigenous and local communities at all stages of the tourism development process); *Convention on Biological Diversity*, *supra* n. 4, at art. 15.5 (dealing with prior informed consent with respect to access to genetic resources and stating that "[a]ccess to genetic resources and benefit sharing arising out of the use of genetic resources cannot be separated from the traditional knowledge of indigenous and local communities"); *id.* at Preamble ¶ 13 (recognizing the "vital role that women play in the conservation and sustainable use of biological diversity and affirming the need for the full participation of women at all levels of policy-making and implementation for biological diversity conservation").

In addition, several CBD programmes of work relate to traditional knowledge. *See, e.g.,* CBD, Decision IV/5, annex, ¶ 9 and Decision II/10, annex II, ¶ 3(d) (calling on Parties to "use and draw upon scientific, technical and technological knowledge of local and indigenous communities" in the work programme on marine and coastal biological diversity); *id.* at Decision III/11, ¶ 15 (f) (encouraging Parties "to develop national strategies, programmes and plans which . . . [e]mpower their indigenous and local communities and build their capacity for in situ . . . management of agricultural biological diversity"); *id.* at Decision V/5, ¶ 29 (the work programme on the conservation and sustainable use of agricultural biological diversity emphasizes the importance for of respecting the knowledge, innovations and practices derived from traditional farming systems and requests the Executive Secretary "to discuss with . . . indigenous and local communities . . . [t]he impact of the use of . . . GURTs . . . and Farmers' Rights."). The CBD's work on forest biological diversity is also closely related to traditional knowledge. *See, e.g., id.* at Decision IV/7, annex, ¶ 3(d)-(e) (the objectives of the work programme on forest biological diversity include identifying "traditional forest systems of conservation and sustainable use of forest biological diversity and to promote the wider application, use and role of traditional forest-related

[s]ubject 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 the utilization of such knowledge, innovations and practices.*⁷¹

Thus, Article 8(j) contains three essential objectives related to traditional knowledge: (1) to respect, preserve and maintain traditional knowledge, innovations, and practices; (2) to promote and encourage the application and increased use of traditional knowledge, innovations, and practices with the approval and participation of indigenous and local communities; and (3) to ensure that the benefits derived from the use of traditional knowledge, innovations, and practices are fairly shared with the corresponding communities.⁷²

B. *The Implementation of the CBD's Traditional Knowledge Protections*

The Parties to the CBD, through the COPs,⁷³ have begun to implement the CBD's traditional knowledge protections. Parties have created policy⁷⁴ and provided guidance on many elements necessary for the protection

knowledge in sustainable forest management” and identifying “mechanisms that facilitate the financing of activities for the conservation, incorporation of traditional knowledge and sustainable use of forest biological diversity”); *id.* at Decision IV/7, annex, ¶ 14 (including the “[d]evelopment of methodologies to advance the integration of traditional forest-related knowledge into sustainable forest management” in the work programme); *id.*, at Decision IV/7, annex, ¶ 34. (the improvement of “dissemination of research results and synthesis of reports of the best available scientific and traditional knowledge on key forest biological diversity issues”); *id.* at Decision IV/7, annex, ¶ 38 (Proposed outcomes of elements of the work programme include “an enhanced . . . [understanding] of the role of traditional knowledge in ecosystem management to minimize or mitigate negative influences, and to promote the positive effects”); *id.* at Decision IV/7, annex, ¶ 39 (an “[e]xpansion of research capacity to develop and assess options incorporating the applications of traditional knowledge to minimize or mitigate negative influences, and to promote the positive effects.”).

⁷¹ *Convention on Biological Diversity*, *supra* n. 4, at art. 8(j) (emphasis added). Other subsections of Article 8 provide for the establishment and management of a system of protected areas (8(a) and 8(b)); the regulation and management of biological resources (8(c)); the promotion of protection of ecosystems and natural habitats (8(d)); the promotion of “environmentally sound and sustainable development in areas adjacent to protected areas” (8(e)); the rehabilitation and restoration of degraded ecosystems (8(f)); the regulation of living modified organisms resulting from biotechnology (8(g)); the control of alien species (8(h)); the provision of compatible conditions for conservation and sustainable use of components of biodiversity (8(i)); legislation to protect threatened species (8(k)); the management of adverse effects on biological diversity (8(l)); and cooperation in providing financial and other support (8(m)). *Id.* at art. 8; *see generally Traditional Knowledge and the Convention on Biological Diversity*, *supra* n. 17 (discussing the key terms contained in Article 8(j) and other key provisions within the Convention that deal with knowledge, innovations and practices of indigenous and local communities).

⁷² Ruiz M., *supra* n. 15, at 16.

⁷³ The COP is the decision-making body of the CBD and is composed of representatives of the Parties to the Convention.

⁷⁴ CBD, Ad Hoc Open-ended Inter-sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, *Participatory Mechanisms for Indigenous and Local Communities* (UNEP/CBD/WG8J/2/4) (Nov. 27, 2001) <<http://www.biodiv.org/doc/meetings/tk/wg8j-02/official/wg8j-02-04-en.pdf>> (accessed Nov. 3, 2003); *see also* the preambles to COP Decisions III/14 and IV/9. For example, the Parties have recognized that traditional knowledge “should be given the same respect as any other form of knowledge in the implementation of the Convention,” *id.*, and that the CBD is “the primary international instrument with the mandate to address issues regarding the respect, preservation and maintenance of knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to the conservation and sustainable use of biological diversity.” *See* CBD, Ad Hoc Open-Ended Inter-

of traditional knowledge. Parties, often in cooperation with indigenous and local communities, have also developed and implemented a range of measures designed to protect traditional knowledge.⁷⁵ Though these strategies “differ from country to country and among communities, a mix of appropriate initiatives is emerging that can facilitate the revival and maintenance of traditional knowledge and cultural practices.”⁷⁶

In addition, in perhaps the CBD’s most important accomplishment toward the protection of traditional knowledge, COP 4 established the Working Group to address the implementation of the CBD’s traditional knowledge provisions.⁷⁷ The Working Group is open to all Parties, and has invited representatives of indigenous and local communities to play a full and active role in its work. The Working Group performs several key functions. The first is advisory: the Working Group advises Parties about legal and other protections for traditional knowledge, about how to strengthen cooperation among indigenous and local communities relating to the conservation and sustainable use of biological diversity, and about how to implement Article 8(j) and related provisions.⁷⁸ In addition, the Working Group identifies, organizes, and prioritizes the Parties’ objectives for the protection of traditional knowledge, as well as opportunities for collaboration with other international bodies.⁷⁹ Finally, the Working Group is charged with developing a programme of work for the actual implementation of the CBD’s traditional knowledge protections.⁸⁰

The Working Group held its first meeting in Seville, Spain in March 2000, where it formulated recommendations for a programme of work for the implementation of Article 8(j) and related provisions.⁸¹ The

Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, *Assessment of the Effectiveness of Existing Subnational, National and International Instruments, Particularly Intellectual Property Rights Instruments, that may have Implications on the Protection of the Knowledge, Innovations and Practices of Indigenous and Local Communities* (UNEP/CBD/WG8J/2/L.7) <<http://www.biodiv.org/doc/meetings/tk/wg8j-02/official/wg8j-02-07-en.pdf>> (accessed Nov. 3, 2003) [hereinafter *Assessment of the Effectiveness of Existing Subnational, National and International Instruments*].

⁷⁵ United Nations Environment Programme, *supra* n. 3. The Working Group’s report also indicated that “a number of measures and activities relevant to the programme of work on article 8(j) had already been under way before the programme of work had been endorsed by the Conference of the Parties.” *Report on Progress in the Integration of Relevant Tasks*, *infra* n. 81, at 10. The Executive Secretary has also reported that Parties have made progress on the implementation of their tasks under the programme of work. *Id.*

⁷⁶ *Id.* at 21; *Composite Report*, *supra* n. 2, at 10.

⁷⁷ CBC, Decision IV/9, ¶ 1 <<http://www.biodiv.org/decisions/default.asp?lg=0&dec=IV/9>> (last updated May 21, 2003).

⁷⁸ See generally CBD, Ad-Hoc Open-ended Inter-sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, *Annotated Provisional Agenda*, UNEP/CBD/WGJ/1/1/Add.1 (Jan. 10, 2000) <<http://www.biodiv.org/doc/meetings/tk/wg8j-01/official/wg8j-01-01-add1-en.pdf>> (accessed Nov. 9, 2003).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ CBD, Decision V/16, ¶¶ 1-2 <<http://www.biodiv.org/decisions/default.asp?lg=0&dec=V/16>> (last updated May 21, 2003). COP 5 adopted these recommendations. The Working Group conveyed its reports and conclusions from its second meeting, held in Montreal, Canada in February 2002 to COP 6 in April 2002. See generally CBD, COP Decisions; see also Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, *Organizational Matters: Adoption of the Agenda* (UNEP/CBD/WG8J/2/1/Add.1) (Nov. 26, 2001) <<http://www.biodiv.org/doc/meetings/tk/wg8j-02/official/wg8j-02-01-add1-en.doc>> (accessed Nov. 3, 2003). In addition to the reports discussed below, the Working Group has drafted recommendations for the integration of the relevant tasks of its work programme into the thematic programs of the Convention. See Ad Hoc Open-ended Inter-sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, *Report on Progress in the Integration of Relevant Tasks of the Programme of Work on Article 8(j) and Related Provisions into the Thematic Programmes of the Convention on Biological Diversity* (UNEP/CBD/COP/6/7) (Feb. 14, 2002) <<http://www.biodiv.org/doc/meetings/cop/cop-06/official/cop-06-07-en.doc>> (accessed Nov. 3, 2003) [hereinafter *Report on Progress in the Integration of Relevant Tasks*]. This report emphasized the need for methods to integrate traditional

Working Group assigned the Parties, the COP Secretariat, and the Working Group specific tasks for the work programme, which consists of seven elements: (1) the exchange and dissemination of information; (2) status and trends in relation to Article 8(j) and related provisions; (3) participatory mechanisms for indigenous and local communities; (4) traditional cultural practices for conservation and sustainable use; (5) the equitable sharing of benefits; (6) monitoring; and (7) legal elements.⁸² As the following discussion explains, these elements have been implemented with varying degrees of success.⁸³

1. *The Exchange and Dissemination of Information*

The Parties to the CBD have continuously emphasized the need for the exchange of information—both among Parties and with the biodiversity-related work programs of other international organizations.⁸⁴ For example, the agenda for the Working Group's Montreal meeting included the establishment of mechanisms for information exchange, cooperation, and capacity-building.⁸⁵ In addition, the COP has invited governments, international agencies, the Global Environment Facility, non-governmental organizations (NGOs), and representatives of indigenous and local communities to submit case studies outlining any measures they have taken to protect traditional knowledge to the CBD.⁸⁶ Finally, all Parties to the CBD are required to submit national reports outlining their efforts to carry out the Convention, and these national reports include twenty-two questions on the implementation of Article 8(j).⁸⁷

Though the COP has urged Parties to include information about the implementation of Article 8 (j) and related provisions in their national reports,⁸⁸ over half have failed to report on their traditional knowledge protections—and several Parties have not reported to the CBD at all.⁸⁹ Of the Parties that have reported on their traditional knowledge protection efforts, only twenty-five have indicated that Article 8(j) is a “high priority,”

knowledge into the sustainable management of forests and marine and coastal biodiversity, and to document and disseminate existing scientific, indigenous and local resource management strategies for these resources. *Id.* at 9, 16. In addition, the Working Group reported that guidelines should be implemented to strengthen indigenous and local community participation in the management of wetlands, and to promote the exchange of information to make agricultural practices more sustainable and productive. *Id.* at 16. Finally, the Working Group recommended making financial resources available to train government decision-makers on the recuperation of degraded ecosystems and to support educational institutions that can provide such training. *Id.*

⁸² CBD, Decision V/16 <<http://www.biodiv.org/decisions/default.asp?lg=0&dec=V/16>> (last updated May 21, 2003).

⁸³ *Id.*

⁸⁴ For example, the COP has stressed the need to understand the interrelationships between the implementation of Article 8(j) and Intellectual Property Rights (IPRs) and the World Trade Organization (WTO) Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPs Agreement). See CBD, COP Decisions, <<http://www.biodiv.org/decisions/>> at Decision IV/15, ¶ 10. The COP has sought the cooperation of the WTO and WIPO on this issue. See e.g. *id.* at Decision V/16, ¶ 14 and Decision V/26 B, ¶ 2 (inviting the WTO to explore the interrelationship between the CBD and the TRIPs Agreement); Decision IV/9, ¶ 15 (asking that compilations of case studies submitted to it on implementation of Article 8(j) be transmitted to WIPO); Decision IV/9, ¶ 16 (inviting WIPO to consider “the lifestyles and traditional systems of access and use of the knowledge, technologies and practices of indigenous and local communities” in its work).

⁸⁵ United Nations Environment Programme, *supra* n. 3.

⁸⁶ CBD, Decision III/14 <<http://www.biodiv.org/decisions/default.asp?lg=0&dec=III/14>> (last updated May 21, 2003).

⁸⁷ *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81.

⁸⁸ *Id.* (citing Decision III/14; Decision IV/9, ¶ 10; Decision V/16, ¶ 15).

⁸⁹ *Id.* Approximately two-thirds of the CBD's 182 Parties had submitted their first national reports by the end of September 2001, and of these, only eighty-seven (approximately 75% of the reports submitted and 48% of Parties) had provided information about the implementation of Article 8(j) and related provisions. *Id.* Only fifty-eight countries, about one third of the Parties, have submitted their second national reports. *Id.*

seventeen responded that Article 8(j) is a “medium priority,” and traditional knowledge is a “low priority” for thirteen Parties.⁹⁰ Moreover, only four Parties have consistently provided responses indicating that they have effectively addressed the CBD’s requirements for the implementation of Article 8(j).⁹¹ Generally, just over half of the reports indicated that some actions were being taken or considered to address the implementation of Article 8(j), while about a third of the responses indicated that no measures have been taken on the issue.⁹² For example, only three Parties reported that they had reviewed the programme of work, while twenty-eight Parties indicated that the work programme was under review.⁹³ In addition, only eleven Parties submitted the required case studies on methods for and approaches to the preservation and sharing of traditional knowledge.⁹⁴

These data show that while many parties are failing to meet their reporting obligations and only a small number of Parties have acted to fully implement Article 8(j), a number of Parties have begun the process. However, several Parties have noted that many of the work programme’s tasks require them to develop guidelines that they were waiting to finalize before implementing Article 8(j) programs.⁹⁵ Other national responses have indicated that “much more still needs to be done in relation to increasing the participation of women in the work of the Convention,” that “issues of funding need to be further addressed,” and that “the levels of indigenous and local community participation in country delegations could be improved.”⁹⁶

2. *Status and Trends in Relation to Article 8(j) and Related Provisions*

Two of the tasks outlined in the Working Group’s programme of work seek to assess the status of existing traditional knowledge protections.⁹⁷ First, the Working Group is charged with preparing an outline for a composite report on the status and trends in indigenous and local community traditional knowledge. Second, the Working Group is required to assess existing instruments that may have implications for the protection of traditional knowledge.

- a. Preparation of an outline for a composite report on the status and trends in indigenous and local community traditional knowledge

The COP has recognized that a comprehensive report is necessary for the COP, Parties, governments, and other interested organizations to carry out “informed decision-making, policy formulation and implementation, and strategic planning for the conservation and sustainable use of world biological diversity,”⁹⁸ including traditional knowledge protections. Task 5 of the programme of work therefore required the Working Group to prepare an outline for a composite report on the status and trends in indigenous and local community traditional knowledge.⁹⁹ The Working Group has prepared an outline for this composite report and, with the

⁹⁰ *Id.* The report noted, however, that the “number indicating a low priority also reflects the number of Parties for whom the implementation of Article 8(j) is not relevant to their national circumstances.” *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ United Nations Environment Programme, *supra* n. 3.

⁹⁸ *Id.* The Working Group made a preliminary report to COP 6 about the status of and trends in traditional knowledge protections. *Id.*

⁹⁹ *Report on Progress in the Integration of Relevant Tasks, supra* n. 81.

assistance of a consultative team, will also compile the report from national reports, existing published reports, and other information supplied by parties, indigenous and local communities, and other organizations.¹⁰⁰

During Phase 1, which is scheduled to be completed by December 31, 2003 and then presented to COP 7, the Working Group will assess retention levels of traditional biodiversity-related knowledge, particularly in relation to food, medicine, and the conservation and sustainable use of flora and fauna.¹⁰¹ The Working Group will also assess the status of national programs designed to protect, promote, and facilitate the use of traditional knowledge, including legislation, national and regional land use practices, incentive systems, capacity-building measures, repatriation programs, and community conservation plans.

In Phase 2, the Working Group will analyze issues associated with the loss of biological, cultural, and linguistic diversity, including topics such as poverty, migration, declining indigenous populations, and the loss of ancestral lands. In addition, the Working Group will also examine national and local processes that threaten traditional knowledge, including demographic factors, development policies, education, technology transfer, policies that discourage respect for and maintenance of traditional knowledge, and the impact of HIV-AIDS and organized religion on traditional knowledge systems. During this phase, the Working Group will also explore national and international trends among intergovernmental agencies, non-governmental organizations, and the private sector in the recognition and implementation of Article 8(j) and related provisions; the role of the World Bank and regional development banks in the protection of traditional knowledge; and best practices for the maintenance, preservation and application of traditional knowledge.¹⁰²

- b. Assessment of existing instruments that may have implications for the protection of traditional knowledge

The Working Group is also assessing existing instruments—particularly intellectual property rights instruments—that may have implications for the protection of traditional knowledge.¹⁰³ Though intellectual property protections are beyond the scope of this paper, it is important to note that several strategies, including the development of formal intellectual property rights systems and the use of trade secrets, geographic indications, trademarks, agreements, and contracts have been used to protect local knowledge in relation to intellectual property.¹⁰⁴ In addition, the Working Group has asked Parties to evaluate the effectiveness of existing intellectual property rights regimes, contractual methods, and other traditional knowledge protections, and has encouraged Parties to establish links between their national governmental intellectual-property bodies, national focal points of the Convention on Biological Diversity, and the indigenous and local communities in order to better coordinate and institute measures for protecting traditional knowledge.¹⁰⁵

3. *Participatory Mechanisms for Indigenous and Local Communities*

The Parties, the Working Group, and indigenous and local communities have all stressed the importance of local stakeholder participation in both the CBD's processes and national efforts to protect traditional knowledge. For example, one goal of COP 5's work programme was the "full and effective participation of indigenous and local communities in all stages of the implementation of the elements of the programme of

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Report on Progress in the Integration of Relevant Tasks, supra* n. 81.

¹⁰⁴ *Assessment of the Effectiveness of Existing Subnational, National and International Instruments, supra* n. 74.

¹⁰⁵ *Id.*

work.”¹⁰⁶ The COP has also asked Parties “to include representatives of indigenous and local communities in their delegations for the Working Group, and to promote consultations among indigenous and local communities on issues to be dealt with in the Working Group.”¹⁰⁷ In addition, the Working Group has recommended that funding be sought and secured “to facilitate the full and effective participation of indigenous and local communities of all geographical regions in meetings organized within the framework of the Convention and to report thereon to the Conference of the Parties.”¹⁰⁸ The following sections show that the responsibilities and accomplishments of the Working Group, the Secretariat, and Parties are failing to meet their responsibilities to enhance indigenous and local community participation in the CBD and other traditional knowledge protection efforts.

a. Communication

Enhancing indigenous and local community participation in the CBD’s processes requires effective communication. Task 8 of the programme of work requires the Parties to establish a focal point within the CBD’s clearing-house mechanism “to liaise with indigenous and local communities.”¹⁰⁹ The Secretariat has also been “exploring informally with indigenous and local communities how best to meet their needs in terms of communication.”¹¹⁰ Finally, the COP has requested that where necessary, Parties illustrate and translate provisions of the CBD into local languages “to promote public education and awareness-raising of relevant sectors, including local communities.”¹¹¹

b. Mechanisms to promote the full participation of indigenous and local communities in all elements of the programme of work, and in decision-making, policy planning and development and implementation of the conservation and sustainable use of biological diversity

The work programme seeks to promote effective indigenous and local community participation in all elements of the programme of work,¹¹² as well as in “decision-making, policy planning and development and

¹⁰⁶ CBD, Decision V/16, annex I, ¶ 1.

¹⁰⁷ CBD, Decision IV/9, ¶¶ 3, 4, 12; Decision V/16, ¶¶ 5, 18. In addition, the Parties have decided that both the CBD’s Ad Hoc Open-ended Working Group on Access and Benefit-sharing and the Panel of Experts on Access and Benefit-sharing should include representatives of indigenous and local communities. CBD, Decision IV/8, ¶ 3; Decision V/26 A, ¶ 11. The COP has also asked Parties to develop national legislation and strategies for implementing Article 8(j), in consultation with representatives of their indigenous and local communities, and to include this information in their national reports. CBD, Decision III/14, ¶ 1.

¹⁰⁸ *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81. In addition, the agenda for the Working Group’s Montreal meeting included the creation of mechanisms to encourage the participation of indigenous and local communities in policy planning and implementation. United Nations Environment Programme, *supra* n. 3.

¹⁰⁹ *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81. The CBD’s Executive Secretary has appointed Marcos Silva, Head of the Clearing-House Mechanism Unit, to serve as this contact. *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.* (citing Decision IV/10 B, ¶ 1(d); Decision IV/10 B, ¶ 4).

¹¹² Though the work programme requires Parties to develop “mechanisms to promote the full participation of indigenous and local communities, with specific provisions for the participation of women, in all elements of the programme of work,” with the exception of India, Panama and the Republic of Korea, few Parties “have identified specific measures and activities to enhance the participation of women.” *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81.

implementation of the conservation and sustainable use of biological diversity at all levels.”¹¹³ According to the Working Group, international, regional, and national measures have been implemented carry out this task in the context of both the CBD and other environment-related conventions and processes. For example, several international biodiversity-related activities have involved or provided for indigenous and local community involvement, including the Economic and Social Council of the United Nations’ Permanent Forum on Indigenous Issues, the Ramsar Convention on Wetlands’ Guidelines for Establishing and Strengthening Local Communities’ and Indigenous Peoples’ Participation in the Management of Wetlands, the UNESCO Convention Concerning the World Heritage Convention Proposal to Establish a World Heritage Indigenous Peoples Council of Experts and Working Group, and World Intellectual Property Organization and United Nations Conference on Trade and Development.¹¹⁴

At the national level, efforts to involve indigenous and local communities in decision-making include the Philippines’ Executive Order No. 247 of 1995, which regulates prospecting of biological and genetic resources, and Australia’s Environment Protection and Biodiversity Conservation Act 1999.¹¹⁵ Australia’s Act establishes an Indigenous Advisory Committee to advise the Minister on the implementation of the Act, and establishes a Biological Diversity Advisory Committee with indigenous representatives.¹¹⁶ In addition, Canada has contracted with two members of the International Indigenous Forum on Biodiversity “to review the needs and assessments in Meso-America in regard to the implementation of a communities-based communications network for use among indigenous and local communities” and to assist them in carrying out their obligations under the CBD.¹¹⁷ Spain has conducted a similar study.¹¹⁸

In addition, although the CBD relates primarily to national implementation by individual Parties, many Parties, particularly developing countries with biological resources that are shared with neighboring countries, have joined together to take regional action to regulate traditional knowledge and access to genetic resources.¹¹⁹ Such regional or sub-regional strategies avoid competition between countries that share resources, enhance cooperation, and strengthen national institutions.¹²⁰ One example of a regional effort to regulate the use of traditional knowledge is Decision 391 of the Andean Pact Community regarding a Common Regime of Access to Genetic Resources.¹²¹ Decision 391 is an access and benefit-sharing legislative measure that “provides a common framework to all the Member Countries for regulating access to genetic resources,” promotes cooperation among the Andean Community members, and increases awareness of issues related to access to genetic resources.¹²² Similarly, the Association of South East Asian Nations’ draft Framework Agreement on

¹¹³ *Id.* at Task 2.

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.* (citing Environment Protection and Biodiversity Conservation Act, 1999, §§ 504, 505A).

¹¹⁷ CBD, *Composite Report*, *supra* n. 2.

¹¹⁸ *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81.

¹¹⁹ The Fridtjof Nansen Institute, *Regional Approaches to Implementing the Convention on Biological Diversity: The Case of Access to Genetic Resources* <<http://www.fni.no/ca/lasen-diaz.pdf>> (accessed Nov. 3, 2003).

¹²⁰ *Id.*

¹²¹ *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81. The Andean Community, comprising Bolivia, Columbia, Ecuador, Peru and Venezuela, adopted Decision 391 on July 2, 1996 and it became legally binding on July 17, 1996. *Regional Approaches to Implementing the Convention on Biological Diversity: The Case of Access to Genetic Resources*, *supra* n. 119.

¹²² *Id.* Decision 391 requires collectors seeking access to genetic resources within the Andean Community to apply to the Competent National Authority in the country where the resources are located and to enter into certain contractual arrangements. *Id.* Member countries have agreed to establish a database for access applications, contracts, national regulations and laws, to consider creating an Andean Fund for the conservation of genetic resources, and to study on the rights of indigenous and local communities in relation to the protection of their traditional knowledge. *Id.*

Access to Biological and Genetic Resources acknowledges “the common interest of ASEAN countries on their ecosystems and the urgent need to protect ASEAN interests in these biological and genetic resources ‘from biopiracy,’”¹²³ and model legislation by the Organization of African Unity has been designed to protect the rights of local communities, farmers, and breeders, and to regulate access to biological resources.¹²⁴

c. Capacity-building and the protection of traditional knowledge

The CBD has also stressed the importance of building the capacities of indigenous and local communities in the protection of traditional knowledge. The Working Group has therefore asked the COP to urge Parties and governments

to strengthen their efforts to support capacity-building aimed at the full and effective participation of indigenous and local communities in decision-making processes regarding the preservation, maintenance and utilization of traditional knowledge relevant for the conservation and sustainable use of biological diversity at all levels; . . . where indigenous and local communities and Parties and Governments deem appropriate, promote their participation in the management of biological diversity; and encourage the capacity-building efforts of indigenous and local communities in getting access to existing protections in national and international laws regarding the preservation, maintenance and utilization of their traditional knowledge.¹²⁵

The work programme requires Parties to build the capacity of indigenous and local communities “to be effectively involved in decision-making related to the use of their traditional knowledge, innovations and practices.”¹²⁶ Some Parties have incorporated these mechanisms into national legislation and/or regulations for the conservation and sustainable use of biodiversity.¹²⁷ For example, Brazil, Colombia, Costa Rica, Panama, and the Philippines are working to implement “measures requiring evidence of prior informed consent of indigenous and local communities when access to genetic resources and associated traditional knowledge are being sought.”¹²⁸ In addition, Panama’s legislature has established a Special Intellectual Property Rule on the Collective Rights of Indigenous Peoples to protect and defend the cultural identities and traditional knowledge

¹²³ *Id.*

¹²⁴ The Organization of African Unity (OAU) has developed an African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (Model Law) to “protect common resources with a common tool” and to “ensure that local communities, farmers and plant breeders, can contribute to and benefit from the sustainable development of the region.” *Id.* The goal of the Model law is “to ensure the conservation, evaluation and sustainable use of biological resources, including agricultural genetic resources, and knowledge and technologies in order to maintain and improve their diversity as a means of sustaining all life support systems.” *Id.* The Model Law attempts to help: a) prevent the disruption of African rural life and food production from the loss of seeds, traditional medicinal plants, and natural fibers and colors; b) promote the sharing of the benefits that Africa’s local communities provide to multinational corporations; c) protect “the vital interests of Africans against the consequences of globalisation”; and d) assist OAU Member States to fulfill their obligations under the TRIPS Agreement. *Id.* Principles of the Model Law also recognize the need to strengthen food security, the role of women; participation in decision-making; and a ban on patents over life forms and biological processes. *Id.*

¹²⁵ CBD, Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, *Report of the Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity on the Work of its second Meeting* <<http://www.biodiv.org/doc/meetings/cop/cop-06/official/cop-06-07-en.doc>> (accessed Nov. 3, 2003).

¹²⁶ *Report on Progress in the Integration of Relevant Tasks, supra* n. 81, at Task 1.

¹²⁷ *Id.*

¹²⁸ *Id.*

of Panama's indigenous people.¹²⁹ This legislation seeks to “protect the collective intellectual rights and traditional knowledge of indigenous peoples' creations.”¹³⁰ Panama's Legislative Assembly's Commission of Indigenous Issues has also established an Institute of Traditional Indigenous Medicine to “provide a legal framework for access to genetic resources that have medical applications” and a mechanism for benefit-sharing.”¹³¹

Parties are also developing traditional knowledge registers to document traditional wisdom.¹³² Traditional knowledge registers help protect the information from biopiracy—“the inappropriate granting of intellectual property rights”—because they provide evidence of traditional knowledge as prior art.¹³³ Registers can also heighten community awareness of the value of traditional knowledge, encourage the conservation of natural resources and related knowledge, and serve to better organize knowledge to facilitate the protection and management of traditional information.¹³⁴ For example, India has established a national system that is intended to “build a national register of innovations and network of community-based traditional knowledge registries.”¹³⁵ In addition, Venezuela has established BIOZULUA, a database that compiles “biodiversity-related traditional knowledge with the aim of protecting and commercializing it.”¹³⁶ Other countries, such as Bolivia, Ecuador, Colombia, and Namibia, are also considering developing systems to document traditional knowledge that include “registration and innovative patent systems; or the development of legal frameworks outside the existing patent system.”¹³⁷

In addition, a number of indigenous and local communities, including the Dene people and the Nunavik Inuit community of Canada, and groups in India, Peru, and the Philippines, have established their own traditional knowledge registers to protect traditional knowledge.¹³⁸

¹²⁹ Law No. 20 by Decree No. 12 (June 2000) (Pan.). *Assessment of the Effectiveness of Existing Subnational, National and International Instruments*, *supra* n. 74, at 13.

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81. The terms “register” or “registry” are used to refer to an “ordered collection or repository of information” and imply “that the information in the repository acquires a certain legal status by virtue of being included on the registry. . . . The registration of information in a registry puts that information “on the record” and records the fact that the registrant asserts a claim to that information.” *Assessment of the Effectiveness of Existing Subnational, National and International Instruments*, *supra* n. 74, at 15.

¹³³ *Assessment of the Effectiveness of Existing Subnational, National, and International Instruments*, *supra* n. 74, at 16. Biopiracy became an issue for indigenous peoples in the late 1980s, “when corporations intensified the bioprospecting of indigenous resources and knowledge. During this period, the U.S. government claimed patent over the DNA of an Indigenous individual from Papua New Guinea and another from Panama. University researchers, through the Human Genome Biodiversity Project (part of the Human Genome Organization or HUGO), and private laboratories collected samples of blood, tissue and hair from Indigenous people.” Cayuqueo, *supra* n. 60. Researchers and corporations also appropriate traditional plants, medicines, and related knowledge. *Id.* For example, a U.S. pharmaceutical company patented ayahuasca, a sacred plant for the Amazon. *Id.* “And this trend is on the rise. The multibillion dollar Genetic Engineering Industry, which is protected by the World Trade Organization, has taken control of crop seeds and medicinal plants many of which have been cultivated by Indigenous people for thousands of years. Accordingly, Indigenous people's agricultural systems are being devastated by the transgenic crop industry, placing the food security of Indigenous people at risk.” *Id.*

¹³⁴ *Assessment of the Effectiveness of Existing Subnational, National, and International Instruments*, *supra* n. 74, at 16.

¹³⁵ *Id.* at 11.

¹³⁶ *Id.* at 17.

¹³⁷ *Id.* at 13.

¹³⁸ *Id.* at 17.

d. National recognition of the customary systems of indigenous and local communities

The Working Group has recognized that “indigenous and local communities have their own systems for the protection and transmission of traditional knowledge as part of their customary law, which can contribute to the protection as well as the conservation and sustainable use of biological diversity.”¹³⁹ Articles 8(j) and 10(c) have influenced some national governments to adopt legislation that recognizes the customary laws of indigenous and local communities. For example, the Philippines has passed both the Aboriginal Rights Act 1997 and the Executive Order No. 247 to recognize customary laws.¹⁴⁰ In addition, the States of Sabah and Sarawak, East Malaysia, have “native customary laws [that are] administered and enforced by Native Courts established by relevant state laws.”¹⁴¹ In addition, national case law has also shown increased respect for customary laws. For example, in Australia, judges decision and damage awards related to Aboriginal artworks under the Copyright Act 1968 have taken into account the misappropriation of indigenous designs and artworks, and “the principles established in such decisions could be used for the protection of other aspects of traditional knowledge.”¹⁴² Similarly, Hawaii’s constitution and statutes support the customary subsistence, cultural and religious rights of native Hawaiians and seek to strike a balance “between the historical practices of indigenous peoples and modern property rights and development demands. Hawaii’s case law demonstrates that the doctrine of custom can be used within Anglo-American law as a basis for the protection of the traditional customs and practices of indigenous peoples.”¹⁴³

In addition, several Parties have passed laws or signed treaties that help to preserve traditional knowledge by protecting the rights, lands, self-governance, and cultures of indigenous and local communities.¹⁴⁴ For example, the United States has passed laws such as the American Indian Religious Freedom Act (protecting and preserving “for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions . . . including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites”)¹⁴⁵ and the Indian Arts and Crafts Act (designed to protect Native American artists by providing deterrents against misrepresenting their products).¹⁴⁶ Australia has also enacted provisions that include the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (enacted to protect significant traditional Aboriginal areas and objects),¹⁴⁷ and the Native Title Act of 1993 (defining communal, group, or individual rights to land and water for Aboriginal and Torres Strait Islanders).¹⁴⁸ In addition, Malaysia has passed the Aboriginal Peoples Act of 1954 (to Project the well-being and advancement of West Malaysia’s aboriginal peoples),¹⁴⁹ and the Philippines has enacted the Indigenous Peoples’ Rights Act of 1997 (“an Act to recognize, protect and promote the rights of indigenous cultural communities / indigenous peoples”).¹⁵⁰

¹³⁹ See generally CBD, Article 8(j): *Traditional Knowledge, Innovations and Practices Introduction* <<http://www.biodiv.org/programmes/socio-eco/traditional/>> (last updated Sept. 6, 2002).

¹⁴⁰ *Assessment of the Effectiveness of Existing Subnational, National, and International Instruments*, *supra* n. 74, at 15.

¹⁴¹ *Id.*.

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ 42 U.S.C. § 1996 et seq. (2000).

¹⁴⁶ 25 U.S.C. § 305 et seq.

¹⁴⁷ See Aboriginal and Torres Strait Islander Heritage Protection Act, 1984, ch. 79 (Austl.).

¹⁴⁸ See Native Title Act, 1993, ch. 110 (Austl.).

¹⁴⁹ Aboriginal Peoples Act, 1954, Act 134 (Malaysia); See <<http://www.laws ofmalaysia.com/English>> (accessed Nov. 11, 2003).

¹⁵⁰ See <<http://www.chanrobles.com/republicactno8371.htm>> (accessed Nov. 11, 2003).

Some Parties to the CBD have also incorporated recognition for the rights of indigenous and local communities into their national constitutions. For example, Peru published indigenous knowledge protections in October 1999 and August 2000.¹⁵¹

However, in spite these important accomplishments, the overall recognition of customary systems by Parties varies, and several Parties have provided limited or no recognition of traditional customary law systems.¹⁵² In fact, Namibia reports the erosion of customary laws and traditional lifestyles due to modernization and commercialization, and the lack of government recognition of customary systems.¹⁵³ Therefore, Namibia's draft access legislation is not applicable to customary uses in an effort to protect traditional practices.¹⁵⁴

e. Other strategies for the protection of local knowledge

Other innovative programs by Parties, NGOs, and other groups work on the ground to directly protect local practices and knowledge. For example, in Suriname, Conservation International has established the Shaman's Apprentice Program, a scientific and educational program that creates incentives for young members of the Tirio tribe to learn about the traditional uses of plants from elderly shamans (medicine men) in order to help keep indigenous knowledge within the tribe.¹⁵⁵

In Peru, several projects have promoted the use of traditional agricultural systems that protect biodiversity, thrive without chemical inputs, and produce year-round yields in an effort to reduce rural poverty and environmental degradation.¹⁵⁶ For example, in the early 1980s, the Proyecto Interinstitucional de Rehabilitacion de Waru-Waru en el Altiplano (PIWA), in Puno, Peru, turned to affordable, productive and ecologically sound small-scale agricultural alternatives based on local participation, skills and resources to increase the productivity of small farms while also conserving resources.¹⁵⁷ PIWA assisted local farmers in reconstructing ingenious systems of raised fields (waru-warus) that were originally developed in the Andes 3,000 years ago.¹⁵⁸ The waru-warus "produced bumper crops in the face of floods, droughts, and the killing frosts common at altitudes of almost 4,000 meters . . . This ancient technology is proving so productive and inexpensive that now it is actively being promoted throughout the Altiplano. It requires no modern tools or fertilisers, the main expense is for labour to dig canals and build up the platforms."¹⁵⁹

In addition, NGOs and government agencies have developed programs to restore abandoned terraces and build new terraces throughout Peru.¹⁶⁰ One program, the Programa de Acondicionamiento Territorial y Vivienda Rural (PRAVTIR) in the Colca Valley, offers peasant communities seeds or low-interest loans to restore areas of abandoned terraces.¹⁶¹ Though these and other projects demonstrate the benefits of utilizing traditional agricultural practices and local knowledge, some experts assert that "[r]ealistically, the search for sustainable agriculture models for the Andes will have to combine elements of both traditional and modern agroecology" because though traditional practices can stabilize production in risk-prone areas, modern practices

¹⁵¹ Ruiz M., *supra* n. 16, at prologue.

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ See Netherlands Organization for International Cooperation in Higher Education, *IK Pages*, <<http://www.nuffic.nl/ik-pages/index.html>> (accessed Nov. 3, 2003).

¹⁵⁶ Altieri, *supra* n. 57.

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

that enhance soil fertility, manage water, and allow for diversification may be necessary to further increase productivity.¹⁶²

Other efforts to protect traditional knowledge include programs to repatriate important objects and associated information from museums and other institutions to communities of origin, and the establishment of codes of ethics—to be determined by indigenous peoples—to guide researchers' conduct.

4. *Traditional Cultural Practices for Conservation and Sustainable Use*

The COP has asked Parties and Governments to take measures to conserve the cultural identities and environments that underlie the knowledge, innovations, and practices of indigenous and local communities.¹⁶³ One strategy for achieving this goal is the implementation of cultural, environmental, and social impact assessment procedures for all proposed development on sacred sites or on land and waters occupied or used by indigenous and local communities.¹⁶⁴ Several Parties have reportedly created policies for conducting impact assessments that “take into account the interests of indigenous and local communities as stakeholders where developments are proposed to take place within or adjacent to their traditional territories. Such policies and guidelines indicate that the involvement and participation of affected indigenous and local communities in the whole of the impact assessment process is mandatory.”¹⁶⁵

In addition, the Working Group has developed draft guidelines for impact assessments that are intended to help facilitate “appropriate participation and involvement of indigenous and local communities,” require developers to consider indigenous and local communities' cultural, environmental and social concerns, and incorporate traditional knowledge into environmental, social and cultural impact assessment processes.¹⁶⁶ The

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81, at Task 9; United Nations Environment Programme, *supra* n. 3. The Working Group held its second meeting in February 2002 in Montreal, Canada to prepare guidelines for impact assessments designed to protect indigenous lands from environmentally harmful or socially or culturally inappropriate activities. *Id.* Other sections of the CBD also deal with impact assessments and planning. Article 14 includes the requirements for contracting parties to conduct environmental impact assessments and minimize the adverse impacts from development on biodiversity. In addition, Article 10(a) requires Parties to consider conservation and sustainable use of biological resources in national decision-making, and Article 6(b) requires Parties to integrate conservation and sustainable use of biological diversity into relevant plans, programmes and policies. *Background to the Draft Guidelines or Recommendations for the Conduct of Impact Assessments*, *supra* n. 31.

¹⁶⁵ *Report on Progress in the Integration of Relevant Tasks*, *supra* n. 81. In addition, development projects receiving funding from the World Bank and other agencies must follow applicable agency policies related to indigenous and local communities. *Id.* Nevertheless, the Working Group has recommended that the COP invite international funding and development agencies to incorporate the Working Group's recommendations into agency policies for assessing proposed developments, as well as to consider providing assistance to indigenous and local communities “for the conduct of cultural, environmental and social impact assessments regarding any developments proposed to take place on sacred sites and land or waters occupied or used by indigenous and local communities,” and which take into account the recommendations in the annex to the present recommendation. CBD, Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, *Draft Guidelines or Recommendations for the Conduct of Cultural, Environmental, and Social Impact Assessments Regarding Developments Proposed to Take Place on Sacred Sites and on Lands and Waters Occupied or Used by Indigenous and Local Communities* (UNEP/CBD/WG8J/2/6) (Nov. 27, 2001) <<http://www.biodiv.org/doc/meetings/tk/wg8j-02/official/wg8j-02-06-en.pdf>> [hereinafter *Recommendations for the Conduct of Cultural, Environmental, and Social Impact Assessments*].

¹⁶⁶ *Id.* Impact assessment may help prevent development that environmentally harmful or socially and culturally inappropriate: it has been well documented that “when the lands used by indigenous people are subjected to development

Working Group has requested additional time to refine the guidelines, and has asked Parties to follow the draft guidelines until final guidelines are established.¹⁶⁷

The Working Group's draft guidelines recommend that cultural, environmental, and social impact assessments be integrated into a single process; that the role of women in the conservation and sustainable use of biological diversity and decision-making be considered in impact assessments; that capacity-building and the development of legal mechanisms for indigenous and local communities should be provided; and that all human rights—including social and cultural rights, rights related to the environment, and the customary laws and intellectual property rights of indigenous and local communities—be respected during impact assessment and development processes.¹⁶⁸ The guidelines also incorporate the precautionary principle, stating that where there is a threat of significant reduction or loss of biodiversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat.¹⁶⁹

In addition, the Working Group has created a document to accompany the draft guidelines that discusses other issues relevant to conducting impact assessments, including prior informed consent, the participation and capacity-building of affected communities, gender considerations, poverty issues, legal considerations,¹⁷⁰ ownership and control of traditional knowledge used in impact assessment processes, the ecosystem approach, the need for transparency, dispute resolution procedures, and reporting requirements.¹⁷¹

a. Cultural impact assessments

According to the Working Group, cultural impact assessments should examine the affected community's traditional and present way of life, and should identify issues that are of particular cultural concern, such as beliefs and religions, customary practices, forms of social organization, systems of natural resources use, including patterns of land use, places of cultural significance, sacred sites and ritual ceremonies, languages, customary law systems, political structures, roles and customs. Possible impacts on all aspects of culture, including sacred sites, should therefore be taken into consideration while developing cultural impact assessments.¹⁷²

In addition, the guidelines state that cultural impact assessments should explore the possible impacts of proposed projects on the affected community's continued customary use of biological resources; the respect, preservation and maintenance of traditional knowledge; sacred sites and associated ritual or ceremonial activities; the need for cultural privacy; and the exercise of customary laws.¹⁷³

by others, when participation by the indigenous people in the development decision is not allowed, and when prior study of the environmental impacts of the proposed development is not undertaken, the result is invariably environmental damage to the land, severe injury to the health and way of life of the indigenous people, and wholesale violations of their human rights." *Lhaka Honhat Aboriginal Communities Amici Curiae*, *supra* n. 46.

¹⁶⁷ *Recommendations for the Conduct of Cultural, Environmental, and Social Impact Assessments*, *supra* n. 165.

¹⁶⁸ *Id.*

¹⁶⁹ *Background to the Draft Guidelines or Recommendations for the Conduct of Impact Assessments*, *supra* n. 31.

¹⁷⁰ *Recommendations for the Conduct of Cultural, Environmental, and Social Impact Assessments*, *supra* n. 165. The legal considerations discussed in the document include the rights and responsibilities of Governments and indigenous and local communities under national and subnational laws, jurisdictional issues regarding the application of customary laws in area of proposed development, and issues of liability and redress with regard to development proposals. *Id.*

¹⁷¹ *Background to the Draft Guidelines or Recommendations for the Conduct of Impact Assessments*, *supra* n. 31.

¹⁷² *See Recommendations for the Conduct of Cultural, Environmental, and Social Impact Assessments*, *supra* n. 165.

¹⁷³ *Background to the Draft Guidelines or Recommendations for the Conduct of Impact Assessments*, *supra* n. 31; *Recommendations for the Conduct of Cultural, Environmental, and Social Impact Assessments*, *supra* n. 165.

b. Environmental impact assessments

The Working Group's guidelines state that the environmental impacts of proposed development projects should be assessed at ecosystem, species, and genetic levels, and that assessments should involve baseline studies, direct impacts on local biological diversity, indirect impacts on local biological diversity, and the risk of invasive species introduction.¹⁷⁴ In addition, environmental impact assessments "should, where adverse impacts are envisaged, identify alternative project designs (including rejection or the 'no-action' alternative) as well as mitigation measures or environmental safeguards that can be incorporated into the project design to reduce the adverse impacts."¹⁷⁵

c. Social impact assessments

According to the Working Group's guidelines, social impact assessments should examine factors affecting "the well-being, vitality and viability of a community—that is, the quality of life of a community as measured in terms of various socio-economic indicators, such as income distribution, employment levels and opportunities, health and welfare, education, and availability and standards of housing and accommodation, infrastructure, and services."¹⁷⁶ Social impact assessments should therefore include baseline and impact studies on these socio-economic indicators, as well as on traditional systems of land tenure and food production, gender and generational relations, mobility, health and safety, and social cohesion.¹⁷⁷

V. CRITIQUE OF THE CBD AND ITS PROTECTIONS FOR TRADITIONAL KNOWLEDGE

The CBD has achieved progress on the conservation of biodiversity,¹⁷⁸ focused international attention on the protection of traditional knowledge, collected information about the status of existing traditional knowledge retention and traditional knowledge protections, and begun to affect policy changes toward safeguarding traditional knowledge systems.¹⁷⁹ Nevertheless, this is too little to show for a decade of effort. Moreover, the CBD's focus on State control over biodiversity, failure to consistently involve indigenous peoples in traditional knowledge protections efforts, and economic-based conservation regime limit the Convention's ability to effectively protect traditional knowledge.

A. *National Focus / National Control*

First, the CBD has affirmed and reinforced State sovereignty over biological resources.¹⁸⁰ Because this focus on State control over the protection of biodiversity does not exclude the CBD's local knowledge provisions, the CBD places the responsibility for carrying out the CBD's traditional knowledge protections in

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

¹⁷⁶ *Id.*

¹⁷⁷ *Id.*

¹⁷⁸ In many ways, the CBD has achieved significant progress toward the protection of traditional knowledge in a relatively short time. Perhaps most importantly, the CBD has been a groundbreaking acknowledgement of the urgent need to for action to halt the rapid global loss of biodiversity—and of the importance traditional knowledge. *See generally* CBC, *Convention on Biological Diversity*, *supra* n. 4.

¹⁷⁹ *See id.*

¹⁸⁰ Wiersema, *supra* n. 1; CBD, *Convention on Biological Diversity*, *supra* n. 4, at Preamble, ¶ 4; art. 3. *See also id.* at Preamble, ¶ 5 (reaffirming that "[s]tates are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner.").

the hands of States. Therefore, though Parties can bring enforcement actions against other Parties, citizens have no recourse under the CBD and cannot require Parties to comply with the CBD's provisions.¹⁸¹ Furthermore, because the international system lacks the authority to enforce the CBD against Parties that fail to implement national programs and legislation in compliance with Article 8(j) and related provisions, many nations may lack the incentive to carry out the costly or unpopular changes necessary to comply with the CBD.¹⁸²

In addition, though the CBD emphasizes the protection of traditional knowledge and the equitable sharing of profits arising from the use and dissemination of traditional knowledge, States are charged with developing, implementing, and enforcing legislation to ensure that these provisions are carried out.¹⁸³ While Parties are legally obligated to comply with their duties under the CBD, governments nevertheless "rarely enforce[d]" laws that protect the land rights of indigenous peoples because the commercial exploitation of these lands and the resources found upon them is often highly profitable.¹⁸⁴

Moreover, States often fail to fight biopiracy and the patenting of medicinal plants and knowledge by transnational corporations because these corporations provide States with necessary financial resources.¹⁸⁵ In contrast to the power of transnational corporations in national biodiversity-related affairs, States often ignore the concerns or needs of the local and indigenous communities living within their borders, and "indigenous peoples are almost entirely not represented in the governance of their states."¹⁸⁶ Therefore, the CBD's reliance on States to ensure that indigenous peoples benefit equitably from the use of resources does not foster high optimism among most indigenous peoples, and for good reason.¹⁸⁷

Nevertheless, "the principle of sovereignty over natural resources in international law 'includes the duty to respect the rights and interests of indigenous peoples and not to compromise the rights of future generations,'" and that Parties are bound both by customary international law and ratified human rights treaties with respect to the land and resource rights of indigenous peoples living within their borders.¹⁸⁸

¹⁸¹ Cayuqueo, *supra* n. 60; Wiersema, *supra* n. 1.

¹⁸² Cayuqueo, *supra* n. 60.

¹⁸³ Wiersema, *supra* n. 1.

¹⁸⁴ Cayuqueo, *supra* n. 60.

¹⁸⁵ *Id.*

¹⁸⁶ Wiersema, *supra* n. 1. "Fortunately, Indigenous people have been organizing at the International level for over two decades and have made great progress forming alliances with other Indigenous groups and concerned individuals around the world." *Id.* Some of these coalitions include: the Indigenous Peoples' Biodiversity Network, the Alliance of Indigenous and Tribal Peoples of the Tropical Forests, the Coordinating Body of Indigenous Peoples of the Amazon Basin, and the Global Network of Indigenous Peoples. *Id.* At the Second Indigenous Forum in Bratislava, where indigenous people demanded a moratorium on the bioprospecting of the resources in their territories by transnational corporations, Senator Lorenzo Muelas, a Guambiano Indian from Colombia, observed that though indigenous groups can demand changes, "right now the corporations are going to our communities offering money in exchange for our resources. We need to make a global alliance with concerned citizens and contact our communities to inform them about the dangers of this new wave of colonization." *Id.*

¹⁸⁷ See Cayuqueo, *supra* n. 60. In fact, "indigenous peoples' calls for rights at the international level are all about autonomy and protection from the nation state. In the absence of a strong review process to which indigenous peoples have access, reliance on the state for just compensation of the use of traditional knowledge may do little to strengthen indigenous peoples' international legal rights." Wiersema, *supra* n. 1.

¹⁸⁸ Forest Peoples Programme, *The Convention on Biological Diversity, State Sovereignty and Indigenous Peoples' Rights* 1 (Nov. 2001) <<http://forestpeoples.gn.apc.org/briefings.htm>> (accessed Nov. 12, 2003) (quoting N. Schrijver, *Sovereignty Over Natural Resources: Balancing Rights and Duties* (Cambridge University Press 1997) (emphasis in original)).

B. *Indigenous and Local Participation in CBD Processes*

Related to the problems associated with the CBD's reliance on States is the CBD's failure to involve indigenous peoples effectively in its efforts to protect traditional knowledge. According to one commentator, indigenous peoples have recently come to regard the CBD

as one of the most important and problematic international instruments. On the one hand, Indigenous people support every effort to protect their rights and territories at the United Nations and affiliated international institutions. On the other hand, Indigenous people are not allowed to represent ourselves, to participate, nor to have any decision making power at international government meetings, even when the issues being discussed affect us directly.¹⁸⁹

Many commentators believe that “[i]ndigenous peoples have been largely disconnected from the CBD process,”¹⁹⁰ and point to failure of the CBD to provide an efficient and consistent mechanism for the participation of and contributions by indigenous peoples.¹⁹¹ For example, though indigenous delegates were permitted to participate in some sessions at COP 4, they “were not included in any of the debates where actual negotiations were taking place.”¹⁹² Similarly, indigenous delegates were granted only observer status at the November 1996 COP in Buenos Aires, Argentina.¹⁹³ “In response, about two hundred Indigenous delegates from all over the world organized an unofficial Forum on Biodiversity, and decided to make it a permanent forum at which to discuss the implications of the Convention and economic globalization.”¹⁹⁴

The text of Article 8(j) also fails to cover many of the concerns of indigenous communities relevant to the protection of local knowledge. Perhaps most importantly, Article 8(j) emphasizes *in-situ* conservation, while “many indigenous peoples are as concerned about the state using its coercive powers to remove them from an area to be preserved as a nature reserve, as they are about the state removing them from their land for the purposes of resource exploitation.”¹⁹⁵ Without territorial rights clearly defined, the protection of traditional knowledge may often be of secondary importance to indigenous communities.¹⁹⁶

In addition, while the Working Group has made significant progress toward the inclusion of indigenous peoples, “certain issues that were critical to strengthening the role of indigenous peoples in conserving biological diversity” remain absent from its work.¹⁹⁷ These issues include self-determination, the ownership

¹⁸⁹ Cayuqueo, *supra* n. 60.

¹⁹⁰ Argumedo, *supra* n. 29.

¹⁹¹ *Id.* Because the traditional knowledge of indigenous peoples is “crucial for the livelihood and survival of indigenous cultures as distinct peoples . . . it is imperative that processes dealing with the protection and promotion of indigenous knowledge involve the holders of such knowledge. In fact, such processes should not only involve indigenous peoples at all levels, but more importantly they should be defined and be led by indigenous peoples themselves.” *Id.*

¹⁹² Cayuqueo, *supra* n. 60. “When indigenous people protested, the COP 4 agreed to form a special Working Group between governments and Indigenous representatives. Despite these developments, the rights of Indigenous people to their traditional territories have not yet been considered by the Convention.” *Id.*

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ Wiersema, *supra* n. 1.

¹⁹⁶ Ruiz M., *supra* n. 15, at 17 n. 6. “Actions taken by indigenous peoples to defend their right to life have focused on the need to protect traditional territories. Displacement from ancestral domains and damage to the local environment invariably harm the well being of indigenous peoples, and lead to physical harm and the loss of life.” *Lhaka Honhat Aboriginal Communities Amici Curiae*, *supra* n. 46.

¹⁹⁷ At the close of the Montreal Working Group meeting, Fred Fortier of the Shuswap Nation, on behalf of the Seventh International Indigenous Forum on Biodiversity, stated that “the level of participation in the Ad Hoc Working Group

and control of ancestral lands and resources, customary laws, self-representation, prior informed consent, control of access to traditional knowledge and resources, the inability of existing intellectual property rights systems to adequately protect traditional knowledge, indigenous peoples' control of traditional knowledge registers, accountability, the North-South imbalance, the participation of women in the management of traditional knowledge, and the relationship between the CBD's Working Groups.¹⁹⁸

C. Focus on Commercial Use and Property Rights

Another criticism of the CBD relates to its focus on the commercial value of biological resources: the CBD reflects a belief that "increasing economic incentives for states and populations where the bulk of that biological diversity is found" is the best strategy for protecting biodiversity.¹⁹⁹ Ideally, under this reasoning, where a community that lives with biodiversity can benefit from profits gained from biotechnological uses of resources, the community will have an incentive to protect those resources, as well as other undiscovered sources of genetic materials. Acknowledgement of the value of traditional knowledge could also "help to create situations in which indigenous peoples and local communities are treated with more respect, subjected to less state interference, and have access to greater international aid."²⁰⁰

However, there are several flaws in and limits to the use of such a benefit-sharing strategy for biodiversity and local knowledge protection.²⁰¹ First, in many parts of the world, indigenous peoples are "under siege" by the governments of the States in which they live, or are viewed as requiring government-imposed modernization and development.²⁰² Therefore, the "expectation that a state-dominated Convention will promote and protect biological diversity through the recognition of traditional knowledge, may dangerously misrecognize local social realities."²⁰³

Critics have also argued that a benefit sharing-based conservation regime is based on four as-yet unproven assumptions:

- 1) the economic value of biotechnology will grow rapidly to a very high level;
- 2) biodiversity will be a valuable 'raw material' for biotechnology;
- 3) source countries of biodiversity will be able to capture a significant portion of the total value of biotechnology through benefit-sharing or as compensation for the contribution of biodiversity to the final product; and
- 4) compensation or a share of the benefits will flow back to source countries so as to promote conservation of biodiversity.²⁰⁴

Without any one of these assumptions, the whole rationale underlying the CBD—and the Convention's overall effectiveness in protecting local knowledge—will be seriously impaired.

In addition, the CBD's biodiversity protection rationale reflects a northern worldview wherein resources and knowledge are property that can be owned and traded under the rules of intellectual property rights

could serve as a model in other relevant forums where indigenous peoples issues were addressed." Working Group Report to COP 6, *supra* n. 98.

¹⁹⁸ *Id.*, quoting Fortier speech.

¹⁹⁹ Wiersema, *supra* n. 1.

²⁰⁰ Coombe, *supra* n. 35, at 280.

²⁰¹ See, e.g. Cayuqueo, *supra* n. 60; *Assessment of the Effectiveness of Existing Subnational, National and International Instruments*, *supra* n. 74; IAIP, *Charter of the Indigenous and Tribal Peoples of Tropical Forests*, art. 44 <<http://www.gn.apc.org/iaip/chart/char1.html#SCRL8>>; Wiersema, *supra* n. 1.

²⁰² Coombe, *supra* n. 35, at 280.

²⁰³ *Id.*

²⁰⁴ Hunter et. al, *supra* n. 52, at 978 (citing David Downes & Dana Clark, *What Price Biodiversity?* at Box 3 (CIEL 1995).

systems.²⁰⁵ The rights and profits intended to promote the protection of biological diversity under intellectual property systems often fail to translate into the reality of indigenous and local societies—societies for whom property is communally used rather than owned, and cared for rather than exploited.²⁰⁶ Many of these communities view resources and traditional knowledge as integrated and “integral parts of their existence. The distinctions between the material and abstract are blurred . . . and frequently no distinction is made between knowledge and the natural resource associated with it.”²⁰⁷ Moreover, because a “society’s knowledge, and its system for generating and maintaining that knowledge, are cornerstones of its culture,” additional incentives may be unnecessary for communities already struggling to protect biodiversity.²⁰⁸

Finally, serious problems have also emerged because “many aspects of indigenous knowledge cannot be categorized under patent law protection subject matter,”²⁰⁹ and with the equitable distribution of the benefit sharing, both within and between traditional knowledge holding communities.²¹⁰

VII. RECOMMENDATIONS FOR IMPROVING THE CBD’S EFFECTIVENESS IN PROTECTING TRADITIONAL KNOWLEDGE

The CBD has focused international attention on the importance of protecting the knowledge, innovations, and practices of indigenous and local communities, and its COPs have acknowledged that traditional knowledge plays a vital role in these societies, in international efforts to protect biodiversity, and in the development of important global resources.²¹¹ The CBD has also established the Working Group, which in just two years has taken significant steps to gather information about existing and developing traditional knowledge protections, develop guidelines for protecting traditional knowledge, and promote the participation of indigenous and local people in Working Group, CBD, and State processes.²¹² In addition, Parties, regions, and organizations have taken concrete steps to promote the protection of traditional knowledge through

²⁰⁵ Robert Lettington & Mita Manek, *Indigenous Knowledge Rights: Recognizing Alternative Worldviews Indigenous Knowledge Rights: Recognizing Alternative Worldviews*, Cultural Survival Q. 24.4 (Jan. 31, 2001). “It has been suggested that a recognition scheme that attempts to categorize indigenous knowledge in terms that suggest ‘ownership’ and commercialization is inapposite to the very idea of what indigenous knowledge stands to represent. However, it seems that without an enforcement mechanism in which this knowledge can be reduced to a practical value understood by both Western legal systems and others, there will be little effect to the enactment of this recognition system.” Miriam Latorre Quinn, *Protection for Indigenous Knowledge: An International Law Analysis*, 14 St. Thomas L. Rev. 287, 312 (Winter 2001).

²⁰⁶ Lettington & Manek, *supra* n. 205.

²⁰⁷ *Id.* “Northerners may debate the relative valuation of rights in material things, while for indigenous and local communities these discussions often involve the very meaning of life.” *Id.*

²⁰⁸ Moreover, the CBD fails to address many of the roots of biodiversity loss, including unsustainable consumption issues, international trade, etc. Ashish Kothari, *Beyond the Biodiversity Convention: A View from India*, in *Biodiplomacy: Genetic Resources and International Relations* 67 (Vincente Sánchez & Calestons Juma eds., Diane Publ. Co. 1994) (reprinted in Hunter, *supra* n. 52, at 979).

²⁰⁹ Quinn, *supra* n. 205, at 313.

²¹⁰ The equitable sharing of benefits under the CBD is a major issue for the convention, and is beyond the scope of this paper. However, for a basic discussion of the topic, see, e.g., *Medicinal Plants: Access, Use, and Benefit Sharing in Light of the CBD* <<http://www.sum.uio.no/bioprospecting/cbd.html>> (last updated Apr. 3, 2003); Katy Moran, *Bioprospecting: Lessons from Benefit-Sharing Experiences*, 2 Int. J. Biotechnology 132 (2000) <<http://www.environmental-center.com/magazine/inderscience/ijbt/art10.pdf>> (accessed Nov. 3, 2003); Chris Wold, *The Impact of Access Legislation on the Conservation, Exchange and Use of Plant Genetic Resources for Food and Agriculture: A Review of Access and Benefit Sharing Provisions* <<http://www.lclark.edu/org/ielp/accesspaper.html>> (last updated Oct. 3, 2000).

²¹¹ See *supra* pt. IV.

²¹² See *supra* pt. IV.B.

legislation designed to protect traditional knowledge and govern access to genetic resources, increased participation in decision-making by indigenous and local communities, the development of registers and other knowledge protection programs, and other mechanisms.²¹³

However, though key first steps in the protection of local knowledge, these successes are meager accomplishments for over ten years of effort. If the international community seriously wants to protect traditional knowledge—and protect it through the CBD framework, significant improvements can and should be made to the Convention. First, the CBD must develop a definition of “indigenous people” that truly protects traditional knowledge derived from and dependent upon biological diversity. Such a definition should protect the traditional knowledge of indigenous individuals (regardless of whether they live within an indigenous community), respect the rights of indigenous peoples to self-determination and cultural evolution, and exclude protection for knowledge systems based on extractive industries that lack a significant cultural connection to the land. This definition should include the following components: (1) a historical connection to a particular landscape; (2) economic and cultural systems linked to the environment and that promote stewardship of ecosystems; and (3) possession of holistic knowledge about their land and resources.

Second, many Parties have failed to carry out their reporting duties under the CBD—much less their substantive obligations to implement Article 8(j) and related provisions—and few Parties have indicated that they consider the protection of traditional knowledge to be a high priority.²¹⁴ The CBD must therefore establish penalties or incentives—perhaps including publicity campaigns that highlight the failure of Parties to comply with the Convention (as well as to promote international understanding of the need for preserving traditional knowledge, the cultures on which it is based, and to reduce unlawful or unjust appropriation of knowledge), public education about the importance of traditional knowledge,²¹⁵ or financial assistance with programs—to persuade Parties to fulfill their obligations under the Convention.

Third, Parties must develop and carry out plans to effectively involve indigenous and local communities at all levels of the CBD’s work. Better participatory mechanisms are necessary to give knowledge holders a voice in the protection of the resources on which their lives and livelihoods depend. Including these communities in the CBD’s decision-making processes will help make the Convention more responsive to the needs and realities of peoples that interact most closely with biodiversity, including territorial rights. More inclusive participation in the CBD could also raise State and international awareness of the customary resource use and protection systems of indigenous and local communities, and promote the implementation of these systems on a broader scale. Parties could increase the participation of these groups in their processes by providing travel stipends to representatives of indigenous and local communities to attend the COPs as observers, including these communities in all relevant CBD communications. Moreover, Parties could coordinate the election of a limited number of representatives of indigenous and local communities—by indigenous and local communities—to play an active and significant role in all of the CBD’s decision-making processes.

Fourth, though the CBD is based on State sovereignty over natural resources,²¹⁶ the CBD should remind Parties that sovereignty is not absolute and that States have obligations to indigenous and local communities under customary international law and human rights instruments.²¹⁷ By promoting awareness of the linkages between human rights and the environment, the CBD would be promoting the protection of culturally-

²¹³ *Id.*

²¹⁴ *See supra* pt. IV.B.1.

²¹⁵ The Working Group has called upon Parties “to integrate biological diversity concerns into education strategies, recognizing the particular needs of indigenous and local communities.” CBD, Decision IV/10 B, at ¶ 1(d) <<http://www.biodiv.org/decisions/default.asp?lg=0&dec=IV/10>> (last updated May 21, 2003).

²¹⁶ *See supra* pt. VI.A.

²¹⁷ *See supra* pt. III.A.2.

significant resources and associated traditional knowledge. Moreover, though the global decline in traditional knowledge is due in part to the annihilation or displacement of indigenous and local communities that create and maintain the knowledge, promoting international awareness of the linkages biological diversity and human rights could help to reverse the trend.

Fifth, the CBD should expand its efforts to promote and facilitate the exchange of information about innovative strategies for protecting traditional knowledge, such as traditional knowledge registers, programs to recover and maintain local languages, the application of traditional knowledge to conservation and sustainable use practices, and other community-focused and driven projects.²¹⁸ Such strategies work on-the-ground to protect, recover, and maintain traditional knowledge.

Finally, because the Working Group has made considerable progress toward the protection of traditional knowledge in only two short years, it is imperative that Parties maintain and expand their support of and cooperation with the Working Group.

VII. CONCLUSION

Thus, though the Convention on Biological Diversity has been a groundbreaking instrument acknowledging the need to protect the world's remaining traditional knowledge, several changes are necessary to make the CBD a more informed, inclusive, responsive, and effective tool for halting the loss of our world's biological diversity—and the invaluable knowledge, innovations, and practices of indigenous and local communities. It can be done, and is worth the effort.

²¹⁸ For example, the CBD could actively promote programs in which communities share the benefits on-site use of intact resources, such as Zimbabwe's CAMPFIRE program. CAMPFIRE seeks to "conserve bio-diversity outside of protected areas by creating financial, resource management, and utilization incentives for local communities," including profit-sharing mechanisms through which local residents benefit from revenues from safari hunting, photographic tourism, and culling programs. Gregory F. Maggio, *supra* n. 38, at 198. "The implementation of CAMPFIRE appears to have had a considerable impact on participating local community perceptions and behavior regarding wildlife resources. It has fostered a proprietary interest among locals over wildlife on their lands, resulting in a decline in both commercial and subsistence poaching in CAMPFIRE areas." *Id.* Though an in-depth discussion of benefit sharing is beyond the scope of this paper, it is important to note The CBD must also work to ensure that the basic assumptions underlying the Convention—that benefit sharing systems will create sufficient incentives to protect biodiversity and local knowledge—are realized.